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International Practices of Accessibility of Mobile Applications of the Public Sector Bodies

Research-Based
Report

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INTRODUCTION

For the last several years, Ukraine and other countries have been approaching digitalisation rapidly. One of the positive trends is that the political slogan “Your State in Your Smartphone” has been accompanied by the practical measures: Diia application, as well as a number of other applications that simplify provision of services of the governmental and local authorities, have been developed. Such actions are much needed and should be continued.

Digital provision of public services may be more convenient for persons with disabilities than a traditional method because the latter requires visiting the service centres and the way as well as the buildings themselves often have physical barriers, and paper documents have to be filled in, which is inaccessible for the people with vision impairment. Instead, the advanced digital technologies enable persons with disabilities to be provided a service without third-party assistance, for instance, by means of a smartphone.

Therefore, digital services are extremely helpful for persons with disabilities and can often be the only way to order a service without third-party assistance. However, it is true for inclusive digital services only.

Accessibility of digital services that can be provided via mobile applications is not governed by Ukrainian law today. Also, Ukraine has no standards for accessibility of mobile applications.

On 14 April 2021, the Cabinet of Ministers of Ukraine endorsed the¹ National Strategy for Barrier-Free Environment in Ukraine 2030, with the digital barrier free environment as one of its aspects. In particular, it is stated in the conclusions following the analysis of the present situation and establishment of the key issues in this area that digital public services (websites, applications, digital services) are poorly adapted for all the social groups, so they require development and introduction of respective standards. Also, the lack of system for adequate testing of public and social services is mentioned.

In order to achieve the strategic goal “Accessibility of digital services and public websites and applications for all citizens”, the strategy without limitation provides for the following tasks: to approve the requirements for accessibility of online resources and online content, in particular, accessibility of native mobile applications that have

¹ On Approval of the National Strategy for Barrier-Free Environment in Ukraine 2030.
URL: <https://zakon.rada.gov.ua/laws/show/366-2021-%D1%80#Text>

to be based on the latest version of WCAG standard and other common accessibility standards; to introduce testing of all public online resources and online content to check their conformity to the accessibility standards; to impose stricter liability and to improve the mechanism for control over adherence to the accessibility standards as to public online resources; to develop and submit to the Verkhovna Rada of Ukraine for consideration the draft law on obliging the local, judicial, executive and legislative authorities, municipal and state-owned enterprises and organisations to ensure conformity of their online content and online resources to the requirements of the accessibility standards.

Achieving these goals is of vital importance since the lack of accessibility of digital services may result in discrimination of persons with disabilities in Ukraine and their exclusion from the process of digital transformation of the state.

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TERMS USED IN THE REPORT

Digital accessibility means the ability of as many persons as possible, including persons with disabilities, to use digital services. It generally includes accessibility of websites, mobile applications and other information and communication technologies.

The **application (app)** means user software that enables accomplishing the particular practical tasks of a user.

The **web application** means the distributed application where a browser is the client and a web server is the server. The web application logic is focused on the server, and the browser's function is mostly to display the information downloaded from the server and transfer it back to the user data server.

The **mobile application** means the application designated for a mobile device, such as telephone, tablet or watch.

The **native application** means the application developed for the specific platform (iOS or Android), with account of the peculiarities of this platform and access to all of its resources.

The **hybrid application** means the native application that also uses web components.

Assistive technologies mean special software that is used to work with digital technologies by persons with vision, hearing, speaking, cognitive and motor impairment. One of the examples of assistive software is a screen reader.

The **screen reader** means the software used by the blind to read the text information by means of synthesised speech or Braille letters and to interact with the interface of the operating system and applications.

The **extranet** means the corporate network protected from unauthorised access that uses Internet technologies for internal corporate purposes as well as provision of some of the corporate information and corporate applications to the company's business partners. Contrary to the intranet, access to the extranet is not limited to the company's physical boundaries.

The **intranet** means the special network within the organisation that uses Internet technologies and protocols, but is accessible only to some users, for instance, company staff.

The **success criteria** mean the testable WCAG statements that are not technology-specific.

Reasonable adjustment means making case-specific necessary and adequate modifications and adjustments, where applicable, which do not impose a disproportional or unreasonable burden for the purposes of implementation or exercise of all the human rights and fundamental freedoms by persons with disabilities.

LIST OF ABBREVIATIONS

SSU

— means the State Standard of Ukraine.

ICT

— means information and communication technologies.

OS

— means the operating system.

SW

— means the software.

W3C

— means the World Wide Web Consortium.

WCAG

— means the Web Content Accessibility Guidelines.

SUMMARY OF THE RESEARCH

The purpose of the research is to find the best practices of mobile accessibility globally and to suggest recommendations on implementation of the proposed practices in the Ukrainian law. The research was conducted from May to August 2021. As the part of the research there was carried out the analysis of the policy for technical standards and guidelines on mobile accessibility of fourteen countries. The country selection methodology can be found in Appendix 1.

Examination of the law of fourteen countries has demonstrated that neither of them has specific legal acts governing accessibility of mobile applications; instead, accessibility of mobile applications in the law of all fourteen countries is a part of the concept of digital accessibility and web accessibility. All the EU member states have implemented Directive (EU) 2016/2102² into their own law, so the accessibility requirements are similar there.

Contrary to the law of the countries studied, the Ukrainian law (namely the Law “On Information”³ and Resolution of the Cabinet of Ministers “On the Procedure for Publication of Information on Activity of the Executive Bodies on the Internet”⁴) contains no references to the accessibility of mobile applications or digital accessibility and merely establishes the requirements to the accessibility of the information published on the website. Thus, the accessibility of mobile applications of the public sector bodies is not governed by the Ukrainian law.

Following the research, the recommendations were provided on how to improve the Ukrainian law by implementing Directive (EU) 2016/2102 or individual clauses thereof into the Ukrainian law. Appendix 2 contains a detailed overview of the law of Great Britain as an example of implementation of the Directive into the national law.

In thirteen out of fourteen countries (in all the countries except for the USA), the technical requirements for mobile accessibility are established by the harmonised standard 301 549⁵.

2 Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies. URL: <https://bit.ly/3hs4rIO>

3 On Information: Law of Ukraine dated 02.10.1992 No. 2657-XII as of 16.07.2020
URL: <https://zakon.rada.gov.ua/laws/show/2657-12#Text>

4 On the Procedure for Publication of Information on Activity of the Executive Authorities on the Internet.
URL: <https://zakon.rada.gov.ua/laws/show/3-2002-%D0%BF#Text>

5 EN 301 549 V2.1.2 (2018-08). URL: <https://bit.ly/3E6Vh85>

The standard EN 301 549 directly refers to the principles and success criteria of the Web Content Accessibility Guidelines (WCAG)⁶ and gives these criteria legal force, which enables referring thereto in the regulations.

The practices of Australia, which is not an EU member state, should also be considered because it has also adopted the European standard EN 301 549. The Australian law is studied in detail in Appendix 3.

As of May 2021, the most common version of the standard EN 301 549 V2.1.2 (2018-08) refers to WCAG 2.1.

Since the WCAG have been developed as the Web Content Accessibility Guidelines in the first place, its documents contain no examples of developing accessible native mobile applications, so for this purpose the other guidelines were found and examined during the research: Funka's Mobile guidelines (Funka is a Swedish company)⁷, Mobile Accessibility Guidelines by BBC⁸, and own recommendations given by the providers of mobile operating systems.

It was concluded following the research that the European standard 301 549 should be adopted in Ukraine and used to assess accessibility of mobile applications; the Mobile Accessibility Guidelines by BBC, with a detailed recommendations for developers on how to create accessible web and native mobile applications, include code examples for Android and iOS, could be of use for developers and designers of mobile applications in the first place. These recommendations should be translated into Ukrainian and distributed among developers of mobile applications.

Therefore, the main conclusion of the research is that Ukraine should implement Directive (EU) 2016/2102, adopt the standard EN 301 549 and translate the technical standards into Ukrainian.

6 Web Content Accessibility Guidelines. URL: <https://www.w3.org/WAI/standards-guidelines/wcag/>

7 Funka's Mobile guidelines. URL: <https://bit.ly/3hoxEOs>

8 Mobile Accessibility Guidelines. URL: <https://bbc.in/3tAqeg3>

ACCESSIBILITY GUIDELINES

This Section presents the results of the research into available Accessibility Guidelines that could be used in development of mobile applications.

WEB CONTENT ACCESSIBILITY GUIDELINES (WCAG)⁹

The Guidelines developed by World Wide Web Consortium (W3C) define accessibility of web content, namely text, images, audio, video, coding and markup, forms and other types of carriers. The purpose of accessibility is to overcome a wide range of restrictions: vision, hearing, physical, speech, perceptive, cognitive restrictions and learning disabilities.

The Guidelines include four basic principles based on:

- 1. Perceivable component.** Information and user interface components must be presentable to users in ways they can perceive.
- 2. Operable component.** Navigation must be accessible to all users, including the ones who use a keyboard or assistive technologies.
- 3. Understandable component.** Content and design of the user interface must be understandable to each user.
- 4. Robust component.** Content must be robust enough that it can be interpreted reliably by all the user software and applications, including assistive technologies.

The WCAG contain the success criteria, the testable statements at three conformance levels: A — the lowest one, AA — the medium one, and AAA — the highest one.

⁹ Web Content Accessibility Guidelines. URL: <https://www.w3.org/WAI/standards-guidelines/wcag/>

WCAG versions

WCAG 2.0 was published on 11 December 2008 and replaced version 1.0, which was published as W3C recommendations in May 1999. WCAG 2.0 considered a wide range of technologies that enabled the developers to make accessible all the web content rather than HTML content only. WCAG 2.0 was adopted as ISO standard¹⁰.

WCAG 2.1 was published on 5 June 2018. All the success criteria from 2.0 version are included in 2.1 version. Also, WCAG 2.1 presents seventeen additional success criteria with regard to mobile accessibility, accessibility for people with low vision, people with cognitive and learning disabilities. The additional success criteria in WCAG 2.1 that are not in WCAG 2.0 version are introduced in What's New in WCAG 2.1¹¹.

WCAG 2.2 is scheduled to be published in 2021. All the criteria of 2.0 and 2.1 versions will be included in WCAG 2.2.

Applicability of WCAG to mobile devices

Mobile Accessibility: How WCAG 2.0 and Other W3C/WAI Guidelines Apply to Mobile¹² describes how Web Content Accessibility Guidelines (WCAG) 2.0 and principles, recommendations and success criteria thereof can be applied to mobile web content, mobile web applications, native and hybrid applications. The document is of reference nature, but it establishes no requirements. The latest version of the document was published on 26 February 2015.

¹⁰ ISO/IEC 40500:2012. URL: <https://www.iso.org/en/standard/58625.html>

¹¹ New in WCAG 2.1. URL: <https://www.w3.org/WAI/standards-guidelines/wcag/new-in-21/>

¹² Mobile Accessibility: How WCAG 2.0 and Other W3C/WAI Guidelines Apply to Mobile.
URL: <https://www.w3.org/TR/mobile-accessibility-mapping/>

Application of WCAG to non-web ICT

Guidance on Applying WCAG 2.0 to Non-Web Information and Communications Technologies¹³ describes how exactly WCAG 2.0 can be applied to any information and communications technologies (ICT). The document furnishes recommendations on applying the principles, recommendations and success criteria of WCAG 2.0 to non-web technologies and any software.

WCAG2ICT is the W3C Working Group Note, which is not normative and does not establish any requirements; it is for reference only.

Therefore, WCAG can be treated as a basis for the requirements to the accessibility of native mobile applications, but one must consider that some of WCAG criteria are inapplicable to them.

GUIDELINES FOR THE DEVELOPMENT OF ACCESSIBLE MOBILE INTERFACES BY FUNKA

In a project funded by the Swedish Internet Fund, Funka¹⁴ has developed guidelines for the development of accessible mobile interfaces¹⁵. The Guidelines contain 48 recommendations divided into the following categories: **choice of solution, layout and design, interaction, content, and user settings**.

Some of the recommendations have references to WCAG, in particular, the success criteria that involve labelling non-text objects and success criteria relating to contrasts. Also, the Guidelines refer to the need to consider the accessibility criteria of the platform for which the application is developed.

13 WCAG2ICT Overview. URL: <https://www.w3.org/WAI/standards-guidelines/wcag/non-web-ict/>

14 Funka is the Swedish private company that provides accessibility testing services and develops accessibility standards. URL: <https://www.funka.com>

15 Guidelines for the development of accessible mobile interfaces. URL: <https://bit.ly/3hoxEOs>

BBC MOBILE ACCESSIBILITY GUIDELINES

BBC Mobile Accessibility Guidelines¹⁶ are a set of technology agnostic best practices for mobile web content, hybrid and native apps. The Guidelines are based on the requirements of [bbc.co.uk](https://www.bbc.co.uk) content developed for UK audiences and for use by BBC employees and suppliers to follow in the UK. However, they can also be referenced by anyone involved in mobile development.

The Guidelines are intended for use by anyone involved with the design, development or testing of mobile web and mobile web apps including, but not limited to content producers, user experience designers, developers and testers.

The Guidelines have three principles. These principles embody an approach to the design and development of inclusive mobile applications and websites for all.

1. Use platform and standards as intended. When standards and guidelines are implemented using non-standard techniques there is a risk that users who are dependent on platform specific accessibility features such as accessibility settings and screen readers will be excluded.
2. Use standard user interface controls where possible. Standard UI controls, objects, and elements should be used to ensure a greater level of accessibility. Custom controls tend to not implement accessibility as fully as standard platform controls. For example iOS standard controls will have traits assigned that are understood by VoiceOver, and information on the role and status of the control will be accessible by VoiceOver users.
3. Support platform accessibility. All content and functionality must work alongside, but not suppress native accessibility, features and settings.

The recommendations of the Guidelines are divided into eleven categories. Each of them contains techniques, examples and evaluation criteria for HTML, Android and iOS.

BBC Mobile Accessibility Guidelines include WCAG recommendations, recommendations for iOS and Android developers and are the most complete set of recommendations on mobile accessibility found during the research.

¹⁶ BBC Mobile Accessibility Guidelines. URL: <https://www.bbc.co.uk/accessibility/forproducts/guides/mobile/>

PLATFORM ACCESSIBILITY RECOMMENDATIONS

Android accessibility

Build more accessible apps section¹⁷ at the website for Android developers contains the principles for improving application accessibility¹⁸, detailed recommendations on accessibility testing¹⁹ and references to Accessibility²⁰ section of Material Design Project, which, in its turn, contains the rules for designers that are in many aspects equivalent to WCAG recommendations or directly refer thereto, in particular, as for the requirements for the contrast ratio and specific sensory target size.

iOS accessibility

Accessibility on iOS²¹ section at the website for Apple developers describes the principal special iOS capabilities and contains references to other accessibility documents, namely interface design recommendations with account of four main types of disability: vision, hearing, physical disabilities and motor skills, as well as literacy and learning²²; to technical accessibility documentation for UIKit²³ and documentation on UIAccessibility API²⁴.

The documentation for Android and iOS platforms sets no new accessibility requirements, but it furnishes technical recommendations on how to achieve specific goals related to the accessibility and platform tools.

As of June 2021, iOS does not include²⁵ the Ukrainian voice, which can complicate the use of VoiceOver (standard screen reader at iOS) with the Ukrainian interface.

17 Build more accessible apps. URL: <https://developer.android.com/guide/topics/ui/accessibility>

18 Principles for improving app accessibility. URL: <https://cutt.ly/TW0ukT8>

19 Test your app's accessibility. URL: <https://cutt.ly/rW0uvbj>

20 Accessibility. URL: <https://material.io/design/usability/accessibility.html>

21 Accessibility on iOS. URL: <https://developer.apple.com/accessibility/ios/>

22 Human Interface Guidelines: Accessibility. URL: <https://cutt.ly/gW0upO9>

23 Accessibility for UIKit. URL: <https://cutt.ly/5W0uzFd>

24 UIAccessibility. URL: <https://cutt.ly/4W0ugq3>

25 Languages supported by VoiceOver. URL: <https://support.apple.com/en-us/HT206175>

DIGITAL ACCESSIBILITY STANDARDS

This Section presents the standards that set requirements for accessibility of digital technologies.

Analysis of the standards has demonstrated that all the standards studied refer to WCAG.

Below is an overview of all the standards that have been analysed.

EN 301 549: ACCESSIBILITY REQUIREMENTS SUITABLE FOR PUBLIC PROCUREMENT OF ICT PRODUCTS AND SERVICES IN EUROPE

EN 301 549 is a set of standards for ICT products and services, including websites, electronic documents, software, namely mobile applications and digital devices. The standard EN 301 549 was published in 2014 by the European Telecommunications Standards Institute (ETSI) in response to the request of the European Commission and was last updated in March 2021 up to version 3.2.1.

EN 301 549 is based on WCAG 2.1 and establishes accessibility requirements at Level AA. The requirements for non-web electronic content and software are based on the non-normative document CAG2ICT. WCAG and related documents are listed in the Accessibility Guidelines Section.

EN 301 549 has given legal force to the recommendations in WCAG 2.1, which enables including the latest version of WCAG recommendations into regulatory acts and applying these recommendations to the software (including native applications) rather than websites only.

EN 301 549 requirements for accessibility of native mobile applications

Section 11 “Software” of the harmonised standard EN 301 549 is used for native mobile applications, i.e. the software downloaded from app stores such as Apple App Store or Google Play Store.

The requirements of Section 11 in EN 301 549 are associated with the requirements of WCAG 2.1 at Levels A and AA. However, the WCAG contain certain requirements that do not apply to software under EN 301 549 (they are labelled as void).

Thus, the following seven success criteria from WCAG 2.1 are not applied to native mobile applications:

- 2.4.1 Bypass Blocks
- 2.4.2 Page Titled
- 2.4.5 Multiple Ways
- 3.1.2 Language of Parts
- 3.2.3 Consistent Navigation
- 3.2.4 Consistent Identification
- 4.1.3 Status Messages

There may be other success criteria that are not applied since they are not supported by the operating system and/or assistive technologies at the smartphone. It means that the requirements for Android and iOS versions of the same application may differ.

Annex C to EN 301 549 describes the tests procedures and evaluation methodology that allow obtaining final results during the testing.

STANDARD 508 AND GUIDELINES 255 (USA)²⁶

These standards address access to information and communication technology under Section 508 of the US Rehabilitation Act and Section 255 of the US Communications Act.

Revised Standards 508 and 255 include references to Web Content Accessibility Guidelines (WCAG) 2.0.

Section 508 covers websites, intranets, text documents, portable format documents, software and requires conformance to the success criteria at Levels A and AA of WCAG 2.0. Part 1194.21 “Software applications and operating systems” describes accessibility of mobile applications.

The Section 255 Guidelines cover telecommunications equipment and customer-premises equipment — such as telephones, cell phones, routers, set-top boxes, and computers with modems, interconnected Voice over Internet Protocol products, as well as software integral to the operation of telecommunication functions of such equipment.

As for the ICT covered by Section 255, the electronic content and software integral to the operation of telecommunication equipment and customer premises equipment shall conform to the success criteria at Levels A and AA of WCAG 2.0.

The U.S. Access Board is now working to harmonise the US standards with the international standard EN 301 549. The harmonisation is carried out so that the respective accessibility conditions in these standards could be met concurrently and with no contradictions.

²⁶ Appendix A to Part 1194 – Section 508 of the Rehabilitation Act: Application and Scoping Requirements.
URL: <https://www.access-board.gov/ict/#about-the-ict-accessibility-standards>

ISO/IEC 40500:2012 WEB CONTENT ACCESSIBILITY GUIDELINES (WCAG) 2.0²⁷

The standard covers a wide range of recommendations on improving web content accessibility and is fully equivalent to WCAG 2.0. The success criteria of WCAG 2.0 are presented as statements independent of technology. The recommendations on conformance to the success criteria in the specific technologies as well as general information on interpretation of success criteria are presented in separate documents. Since the documents with information on interpretation of the criteria are not normative, application of this standard to the software that is not a website or web application requires additional standards.

This standard is in effect in Ukraine (full name: SSU ISO/IEC 40500:2015 “Information Technologies. Web Content Accessibility Guidelines²⁸”).

Note: Web Content Accessibility Guidelines WCAG 2.0 are considered in more detail in the Accessibility Guidelines Section of this report.

²⁷ ISO/IEC 40500:2012 "Information technology — W3C Web Content Accessibility Guidelines (WCAG) 2.0". URL: <https://www.iso.org/standard/58625.html>

²⁸ INFORMATION TECHNOLOGIES. W3CWEB CONTENT ACCESSIBILITY GUIDELINES (WCAG) 2.0. URL: <https://bit.ly/3E8KqKV>

GUIDELINES AND STANDARDS: PRELIMINARY CONCLUSIONS

Most accessibility guidelines and standards have criteria similar to the WCAG or directly refer to the WCAG, as stated in the title: WCAG are the web content guidelines.

W3C's Web Accessibility Initiative (WAI) defines web content as follows:

“The WCAG documents explain how to make web content more accessible to people with disabilities. Web content generally refers to the information in a web page or web application, including:

- natural information such as text, images, and sounds;
- code or markup that defines the structure, presentation, etc.”

Given the above, one can claim that WCAG cannot be directly used to assess native mobile applications. However, they can be subject to the European standard EN 301 549, which in its turn is based on WCAG 2.1. This standard applies WCAG 2.1 to the software.

Ukraine only has the standard SSU ISO/IEC 40500:2015, which refers to WCAG 2.0. This standard is inapplicable to mobile applications.

ANALYSIS OF THE LAWS AND REGULATIONS ON DIGITAL ACCESSIBILITY

This Section presents the findings of the research into the European law and law of fourteen selected countries that establish requirements for accessibility of mobile applications.

LAW OF THE EUROPEAN UNION

The principal document that governs the requirements for digital accessibility in the EU is Directive (EU) 2016/2102 of the European Parliament and of the Council on the accessibility of the websites and mobile applications of public sector bodies²⁹.

Directive 2016/2102 establishes the requirements for accessibility of the ICT developed by the public sector bodies in the EU Member States, namely websites, mobile applications, intranets, software, operating systems and electronic documents. The entities covered by Directive 2016/2102 include the state, regional and local authorities and bodies governed by public law. The commercial companies that participate in public procurement shall also adhere to this document. This Directive does not apply to public service broadcasters or non-governmental organisations that provide services that are not essential to the public or services that do not specifically address the needs of persons with disabilities.

The Directive does not contain immediate criteria to be met by websites and mobile applications. The criteria are established by the standard EN 301 549, which in its turn refers to the criteria of WCAG 2.1 at Level AA. The information on WCAG is presented in the Accessibility Guidelines Section of this Report.

In addition to the mandatory conformance to WCAG, the Directive also contains the requirement for making public the accessibility statement, which shall include the following:

²⁹ Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies. eur-lex.europa.eu. URL: <https://bit.ly/3hs4r1O>

- an explanation concerning those parts of the content that are not accessible, and the reasons for that inaccessibility and, where appropriate, the accessible alternatives provided for;
- a feedback mechanism enabling any user to notify of inaccessible content;
- a link to the enforcement procedure to which recourse may be had in the event of an unsatisfactory response to the notification or the request.

This Directive temporarily or permanently does not apply to certain categories of content, including office file formats published before 23 September 2018, time-based pre-recorded media published before 23 September 2020; live time-based media; online maps and mapping services, as long as essential information is provided in an accessible digital manner; and third-party content. These exceptions will be revised during the update of this Directive with account of the future technological advances.

According to Article 5 of the Directive, public sector bodies shall apply the accessibility requirements set out therein to the extent that those requirements do not impose a disproportionate burden on the public sector bodies. In other words, a public sector body may turn out to be unable to make the content fully accessible in reasonable cases. Measures that would impose a disproportionate burden should be understood as measures that would impose an excessive organisational or financial burden. Lack of priority, time or knowledge should not be considered as legitimate reasons.

If a facility or institution fails to meet the accessibility requirements of Directive 2016/2102, according to Council Directive 2000/78/EC, the UNCRPD and other related laws, they shall fulfil the requirements for reasonable adjustment, in particular, in the working and learning environment.

Directive 2016/2102 also requires development of the methodology to monitor conformance of websites and mobile applications to the established requirements. It has been made possible owing to Commission Implementing Decision (EU) 2018/1524³⁰, which establishes the monitoring methodology and reporting mechanisms.

The EU Member States were supposed to bring the laws, resolutions and administrative guidelines necessary to implement the Directive into force by 23 September 2018. Applicability to mobile applications of public sector bodies enters into force on 23 June 2021.

³⁰ Arrangements for reporting by Member States in accordance with Directive (EU) 2016/2102 of the European Parliament and of the Council on the accessibility of the websites and mobile applications of public sector bodies. URL: <https://bit.ly/3z7NNht>

OVERVIEW OF THE LAWS OF FOURTEEN COUNTRIES

When the list of the countries was made, the E-Government Development Index and the Digital Accessibility Rights Evaluation Index (DARE) were considered. The countries that are current or former EU Member States were given priority.

Fourteen countries in total had their law studied.

Australia

The principal Australian accessibility law is Disability Discrimination Act 1992³¹, which requires equal access for persons with disabilities.

This requirement applies to³² any individual or organization developing a website or other web resource in Australia or placing or maintaining a web resource on an Australian server.

This Law covers websites and other resources associated with employment, education, services, including professional banking, insurance, financial telecommunication, public transport and public services, sale or lease of real estate, entertainment and leisure, sport and voluntary bodies.

According to Section 5 of the Law, inaccessible web content discriminates persons with disabilities treating them "less favourably" than people without disabilities. Moreover, failure to make reasonable adjustments on the website for accessibility thereof by persons with disabilities is considered to be discriminatory.

The main part of the Australian web accessibility support policy was the National Transition Strategy (NTS)³³.

In 2009, the Secretaries' ICT Governance Board endorsed the Australian Government's transition to WCAG 2.0. It required all Australian Government websites to implement WCAG 2.0 to meet Level AA over a four-year period. NTS presented the strategy and three-phase plan for implementation of WCAG 2.0. until 2014.

31 Disability Discrimination Act 1992. URL: <https://www.legislation.gov.au/Details/C2016C00763>

32 International Web Accessibility Laws and Policies. URL: <https://bit.ly/392Eh4v>

33 Australian Government Web Accessibility National Transition Strategy. URL: <https://bit.ly/3k4q9Oj>

According to the Australian web accessibility policy, WCAG 2.0 is applicable to all online government information and services, including all internet, intranet and extranet sites. Moreover, “Agencies that do not implement WCAG 2.0 for their intranet must accept they may be at greater risk of complaint under the Disability Discrimination Act 1992 and other anti-discrimination Acts.”

In December 2016, Australia adopted the standard AS EN 301 549³⁴. It specifies the functional accessibility requirements applicable to ICT products and services, together with a description of the test procedures and evaluation methodology for each accessibility requirement in a form that is suitable for use in public procurement within Australia.

The current version of the standard AS EN 301 549³⁵ is identical to the European standard EN 301 549: 2019 (V3.1.1), which establishes the requirement at Level AA of Web Content Accessibility Guidelines WCAG 2.1.

The Digital Transformation Agency of Australia recommends developing digital services so that they will be accessible to the persons with disabilities and the elderly, with reference to WCAG 2.1 and standard AS 301 549. It is also recommended to provide the non-digital alternative service to those who cannot use the digital one.

Austria

The EU Web Accessibility Directive (Directive 2016/2102) was ratified by the Austrian Parliament and the Federal Council by adopting the Web Accessibility Law (WZG)³⁶. WZG stipulates³⁷ that websites must be created in accordance with the international accessibility guidelines, the WCAG, conformance level AA. Its aim is to ensure that nobody is excluded from the web in the future by making information and services on the Internet more accessible in general.

The WZG applies to all websites and mobile applications of the federal government as well as public law institutions that can be assigned to the federal government, and

34 Web Accessibility Laws in Australia & New Zealand in 2021.

URL: <https://siteimprove.com/en-au/blog/web-accessibility-laws-in-australia-new-zealand-in-2021/>

35 AS EN 301549: 2020. URL: <https://bit.ly/3C5nw4Z>

36 Bundesgesetz über den barrierefreien Zugang zu Websites und mobilen Anwendungen des Bundes (Web-Zugänglichkeits-Gesetz – WZG). URL: <https://bit.ly/3n33pQB>

37 WACA: WACA initiative welcomes adoption of Austrian Web Accessibility Act.

URL: <https://waca.at/en/waca-austrian-web-accessibility-act>

it does not cover websites and mobile applications of public service broadcasters and their branches. The other requirements, namely for publication of the accessibility statement, as well as content type exceptions are generally equivalent to the respective web accessibility requirements of the EU Directive.

The law enters into force for mobile applications on 23 June 2021.

In addition to WZG, the federal body responsible for monitoring and considering complaints has been established at the Austrian Research Promotion Agency (FFG)³⁸. Establishment of the body is one of the requirements of EU Directive 2016/2102.

UK

All public sector bodies have to meet the³⁹ requirements of Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018⁴⁰, unless they are exempt. In the UK, public sector bodies include central government and local government organisations as well as some charities and other non-government organisations.

The Act does not apply to non-government organisations like charities - unless they are mostly financed by public funding, provide services that are essential to the public or aimed at disabled people as well as public sector broadcasters and their subsidiaries.

The Clauses are based on the Equality Act 2010⁴¹ and Disability Discrimination Act 1995 in Northern Ireland⁴², according to which all the service providers in the UK have a legal obligation to make reasonable adjustments for disabled people⁴³.

A website or mobile application will meet Accessibility Regulations 2018 if they meet the requirements of WCAG 2.1 at Level AA and publish an accessibility statement that explains how accessible their website or mobile application is within their resources.

38 Servicestelle zur digitalen Barrierefreiheit. URL: <https://www.ffg.at/barrierefreiheit/beschwerdestelle>

39 Understanding accessibility requirements for public sector bodies. URL: <https://bit.ly/3EfMvo2>

40 Public Sector Bodies (Websites and Mobile Applications) (No. 2) Accessibility Regulations 2018. URL: <https://bit.ly/2XcjRU6>

41 Equality Act 2010. URL: <https://bit.ly/3nycAcp>

42 Disability Discrimination Act 1995. URL: <https://www.legislation.gov.uk/ukpga/1995/50/contents>

43 Duty to make reasonable adjustments for disabled people. URL: <https://bit.ly/390jEpw>

In general, the Accessibility Regulations conform to the requirements of the EU Directive.

Denmark

The Law on Accessibility of Websites and Mobile Applications of Public Sector and Governmental Bodies was published on 8 June 2018 as Law No. 692⁴⁴. It implements⁴⁵ Directive (EU) 2016/2102 on the accessibility of the websites and mobile applications of public sector bodies.

The law applies to all the public sector bodies and bodies governed by public law. These bodies are responsible for ensuring conformance of their websites and mobile applications to the law. It also applies to their subsites, themed websites etc.

Public service broadcasters as well as certain private schools and private institutions are exempt from the law.

Mobile applications shall meet the requirements of the law starting from 23 June 2021.

The requirement for publication of the accessibility statement as well as content type exceptions are generally equivalent to the respective web accessibility requirements of the EU Directive.

Estonia

Regulation EE 2019/20⁴⁶ and Section 32 of the Estonian Public Information Act⁴⁷ implement Directive (EU) 2016/2102. The Act conforms to the European law, but it additionally does not apply to the following entities⁴⁸:

- Bodies providing media services.

44 LOV nr 692 af 08/06/2018. URL: <https://www.retsinformation.dk/eli/ta/2018/692>

45 Digital Public Administration Factsheets – Denmark. URL: <https://bit.ly/3ljglzv>

46 Requirements for the accessibility of websites and mobile applications, and the rules for publishing information describing accessibility. URL: <https://www.riigiteataja.ee/en/eli/512042019003/consolide>

47 Public Information Act. URL: <https://www.riigiteataja.ee/en/eli/ee/503012019004/consolide/current>

48 Estonian digital accessibility legislation. URL: <https://wunder.io/wunderpedia/accessibility/legislation/estonian-legislation/>

- Schools and pre-school child care institutions, except for disclosure of general information, including information on admissions, location and contact details.
- Bodies that have a dominant position in the market, have special or exclusive rights or are natural monopolies.
- Sole proprietors, non-profit associations, foundations, and companies that perform public duties with government funds.

According to the accessibility requirements, websites and mobile applications meet the accessibility requirements if they are consistent with the European standard EN 301 549 V2.1.2 (2018-08). The information on the standard is presented in the Accessibility Standards Section.

Italy

Italian federal law dated 9 January 2004 No. 4 (4/2004) “Provisions to support the access to information technologies for the disabled” or Stanca Act⁴⁹ addresses accessibility considerations in Italy^{50,51}. The Stanca Act states that the government protects each person’s right to access all sources of information and services independent of disability. The law clarifies and extends the rights of disabled to access public services via the Internet in line with the principles of equality established in Article 3 of the Italian Constitution.

The Stanca Act applies to public sector organizations, regional municipal companies, public assistance and rehabilitation agencies and ICT services contractors working with public agencies. The provisions of the law do not apply to private sector organizations, except those in the transport or telecom sector that have partial government ownership.

In 2018, Italy implemented Directive (EU) 2016/2102 with Legislative Decree No. 106 amending and supplementing Law 4/2004. Alongside with the implementation of the European Directive, the Digital Agency Italy (AGID) published the Guidelines on

49 Legge 9 gennaio 2004, n. 4 "Disposizioni per favorire l'accesso dei soggetti disabili agli strumenti informatici" (Legge Stanca). URL: <https://www.camera.it/parlam/leggi/04004l.htm>

50 International Web Accessibility Laws and Policies. URL: <https://cutt.ly/AW0uwq4>

51 Digital Accessibility Laws in Italy. URL: <https://www.levelaccess.com/accessibility-regulations/italy/>

Accessibility of IT Tools⁵², which helps public agencies provide accessible services. According to Directive (EU) 2016/2102, the technical requirements of the Guidelines refer to the technical standard EN 301 549 V2.1.2, which is also available in Italian as UNI EN 301 549: 2018. The information on EN 301 549 is presented in the Accessibility Standards Section.

The requirements for mobile applications enter into force on 23 June 2021.

Ireland

S.I. No. 358/2020 - European Union (Accessibility of Websites and Mobile Applications of Public Sector Bodies) Regulations 2020⁵³ dated 23 September 2020 bring into force⁵⁴ Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies.

Regulations 2020 are based on the existing duties to give access to websites and services as proposed to the public pursuant to Disability Act 2005⁵⁵ and the Code of Practice on Accessibility of Public Services and Information Provided by Public Bodies⁵⁶.

According to Regulations 2020, public sector bodies shall make their websites and mobile applications accessible in accordance with the respective clauses of the harmonised European standard EN 301 549 V2.1.2 (2018-08), i.e. conform to all the success criteria of WCAG 2.1, Level AA; publish and regularly update the Statement of Accessibility of their websites and mobile applications.

Regulations 2020 apply to most public sector bodies.

Regulations 2020 do not apply in respect of websites and mobile applications of public service broadcasters and their subsidiaries, websites and mobile applications of non-governmental organisations (NGOs) that do not provide services that are

52 Linee guida sull'accessibilità degli strumenti informatici. URL: <https://cutt.ly/oTtpFdD>

53 SI No 358/2020. URL: <https://bit.ly/3EbVkiT>

54 European Union (Accessibility of Websites and Mobile Applications of Public Sector Bodies) Regulations 2020. URL: <https://bit.ly/3tDXza0>

55 Disability Act 2005. URL: <https://bit.ly/3lltgAR>

56 Code of Practice on Accessibility of Public Services and Information Provided by Public Bodies. URL: <https://bit.ly/3k3cGGK>

essential to the public, or services that specifically address the needs of, or are meant for, persons with disabilities.

The other requirements and exceptions are generally the same as the ones in Directive (EU) 2016/2102.

They shall become applicable to mobile applications on 23 June 2021.

Malta

According to the Accessibility of the Websites and Mobile Applications of Public Sector Bodies Regulations (S.L. 418.03)⁵⁷, public sector bodies in Malta shall take the necessary measures to make their websites and applications accessible to everyone, regardless of disability. The Regulations implements Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016.

The Regulations require the Malta Communications Authority to regularly control websites and mobile applications of public sector bodies and guarantee their conformance to the requirements of the above Regulations.

The Regulations are based on the European standard EN 301 549. While checking conformance of the website to EN 301 549, public sector bodies may refer to the requirements of WCAG 2.1 at Level AA.

Netherlands

The Governmental Temporary Decree on Digital Accessibility⁵⁸ has been in force since 1 July 2018. According to the Decree, websites and mobile applications of public sector bodies shall meet the accessibility requirements⁵⁹. It shall be considered in the accessibility statement to be published by all the public sector bodies on their official websites.

57 Subsidiary legislation 418.03 "Accessibility of the websites and mobile applications of public sector bodies regulations". URL: <https://legislation.mt/eli/sl/418.3/eng/pdf>

58 Besluit van 3 mei 2018, houdende tijdelijke regels betreffende de toegankelijkheid van de websites en mobiele applicaties van overheidsinstanties (Tijdelijk besluit digitale toegankelijkheid overheid). URL: <https://bit.ly/3z6L0F2>

59 Accessibility. URL: <https://www.government.nl/accessibility>

According to Article 3 of the Temporary Decree on Digital Accessibility, public sector bodies make their websites and mobile applications accessible by using the standard EN 301 549. Thus, the Digital Accessibility Requirements are based on Web Content Accessibility Guidelines (WCAG) 2.1.

These requirements will also cover mobile applications starting from 23 June 2021.

USA

American with Disabilities Act (ADA) 1990⁶⁰ prohibits discrimination and ensures the same (equal) opportunities to persons with disabilities during employment, in state and local government services, public and commercial buildings and transport.

Section II⁶¹ of the American with Disabilities Act applies to all activities of state and local governments, regardless of the size of the entity or federal financial assistance. It requires all the state and local governments to provide persons with disabilities with the same (equal) opportunities to use all the programs, services and activities: for instance, public education, employment, transport, leisure, health care, social services, town meetings etc.

Although the ADA does not contain specific requirements for digital accessibility, many claims regarding accessibility of websites in the United States refer to the ADA as a basis for a lawsuit.

Section 508⁶² of the Rehabilitation Act requires the US federal government to consider accessibility during procurement of information technologies: websites, telephones, copiers, computers and other technologies, including both software and hardware.

Section 508 applies only to the US federal governmental entities, but also influences the entire information technology area since private entities have to propose accessible goods and services for procurement by the federal government.

Part 1194.21 “Software applications and operating systems” describes accessibility of mobile applications.

60 Information and Technical Assistance on the Americans with Disabilities Act. URL: <https://www.ada.gov/>

61 Title II of the Americans with Disabilities Act. URL: <https://www.ada.gov/reg2.html>

62 Section 508. URL: <https://section508.gov/>

Section 508 was updated in January 2017. The essential amendment is that the criteria of WCAG 2.0 at Levels A and AA are directly referred to in this standard. Before the update, Section 508 had included its own list of the requirements, which were modified criteria of WCAG 1.0.

The information on Standard 508 is presented together with the description of Guidelines 255 in the Accessibility Standards Section of this report.

The Online Accessibility Act was submitted to the US Congress on 12 February 2021⁶³. The Act is identical to the Bill to amend the Americans with Disabilities Act submitted last year (2020), which was not adopted at the Congress session. The purpose of the act is to improve accessibility of the Internet and to reduce the quantity of lawsuits in connection with accessibility of websites.

Some of the US human rights defenders are concerned about this bill and refer to its shortcomings⁶⁴. In particular, the amendments limit the civil rights of disabled people in the digital space since the expanded procedure for filing a lawsuit against the organisation that fails to meet the requirements under the Bill can become overcomplicated. Before a lawsuit is filed, an individual is supposed to inform the private owner or operator that its activity fails to conform to the effective accessibility laws. If the owner fails to bring its website or application into conformity to the requirements, the individual may file a complaint to the Department of Justice (DOJ). A complaint can be filed within 90 days upon expiration of the initial period of 90 days. The Department of Justice has 180 days to decide whether the accessibility law has been breached. Only after the individual completes the above-mentioned process, a private lawsuit against the legal entity may be filed. Therefore, according to the human rights defenders, the updated act may make it more complicated for citizens to file lawsuits.

Finland

In Finland, Directive (EU) 2016/2102 is implemented as Law FI 306/2019⁶⁵. Except being applied to the digital services of public sector bodies, this act also does apply to the digital services of⁶⁶:

63 Online Accessibility Act. URL: <https://bit.ly/2YRRLhH>

64 Law Office of Lainey Feingold. URL: <https://bit.ly/3tDXSbG>

65 Laki digitaalisten palvelujen tarjoamisesta 306/2019. URL: <https://cutt.ly/TTL1KJ>

66 Finnish digital accessibility legislation. URL: <https://bit.ly/3C9Wf1h>

- Private bodies that are at least 50% funded by public bodies.
- Public and private bodies providing electronic identification and payment systems.
- Public and private bodies operating in the water, energy, transport, and postal services sectors.
- Public and private bodies involved in financial investment and lending activities.

It is stipulated in Section 3 of the Law that the accessibility requirements are established by the harmonised standards or parts thereof published by the European Commission in the Official Journal of the European Union.

The other requirements and exceptions are generally the same as the ones in Directive (EU) 2016/2102.

France

According to Article 47 of Law No. 2005-102 dated 11 February 2005 “On Equal Rights and Opportunities, Participation and Citizenship of Disabled People”⁶⁷, the public digital services for the citizens that are provided by public organisations, organisations delegated with a public service mission, private organisations with revenues exceeding 250 million euros and some other organisations must be accessible to disabled people⁶⁸.

The requirements do not apply to providers of audio visual media services and non-profit organisations that do not provide essential services to the public or services that are specially addressed to persons with disabilities.

In order to simplify introduction of digital accessibility, the Inter-Ministerial Digital Directorate (DINUM) has been publishing the General Digital Accessibility Requirements (RGAA) developed in pursuance of Article 47 of Disability Act 2005 and Amendment Decree 2019 since 2009. It is regularly updated with account of changes in the digital technologies as well as in accordance with amendments to the standards and guidelines.

67 Loi n° 2005-102 du 11 février 2005 pour l'égalité des droits et des chances, la participation et la citoyenneté des personnes handicapées. URL: <https://bit.ly/3C6Tiid>

68 Digital Accessibility Laws Around the Globe. URL: <https://www.lflegal.com/2013/05/gaad-legal/>

RGAA version 4.1 was published on 16 February 2021 to maintain maximum conformance to the European and international digital accessibility standards⁶⁹. According to RGAA, the digital services that conform to the European standard EN 301 549 V2.1.2 (2018-08) are deemed consistent with the legislative accessibility requirements.

The accessibility requirements shall be binding until they impose a disproportionate burden on the respective organisation. The concept of the disproportionate burden is described in Directive (EU) 2016/2102 at the beginning of the section “Analysis of the Laws and Regulations on Digital Accessibility” in this report. The other requirements and exceptions, are also equivalent to the ones prescribed by the Directive.

Czech Republic

Law 99/2019 on Accessibility of Websites and Mobile Applications and Amendments to Law No. 365/2000 on the Information Systems of Public Administration and Amendments to Some Other Acts as Amended and Supplemented⁷⁰ implements Directive (EU) 2016/2102.

According to Article 6 “Ensuring Accessibility of Mobile Applications” of the Law, mobile applications shall be deemed perceivable, operable, understandable and robust (accessible) if they meet the requirements of the harmonised standard or a part thereof, reference to which was published in the Official Journal of the European Union in accordance with Article 6 of Directive (EU) 2016/2102. If references to the harmonised standard or a part thereof are not published in the Official Journal of the European Union, mobile applications are deemed accessible if they meet the requirements of the implementation acts of the European Commission that establish technical specifications. Where there are no acts available, mobile applications will be deemed accessible if they meet the requirements of the European standard EN 301 549 V1.1.2 (2015-04).

Therefore, the effective accessibility standard in the Czech Republic is the latest version of the standard EN 301 549.

69 RGAA 4.1. URL: <https://www.numerique.gouv.fr/uploads/rgaa/RGAA-v4.1.pdf>

70 Zákon č. 99/2019 Sb. Zákon o přístupnosti internetových stránek a mobilních aplikací a o změně zákona č. 365/2000 Sb., o informačních systémech veřejné správy a o změně některých dalších zákonů, ve znění pozdějších předpisů. URL: <https://www.zakonyprolidi.cz/cs/2019-99>

The other requirements that without limitation include publication of the accessibility statement, monitoring and reporting as well as exceptions in connection with the disproportionate burden are generally consistent with Directive (EU) 2016/2102.

Sweden

Sweden has the effective⁷¹ Law on Accessibility of Digital Public Services (DOS Law)⁷², which has implemented Directive (EU) 2016/2102. The Law is of general character and does not establish detailed requirements. The Regulations on Accessibility of Digital Public Services (MDFFS 2019: 2)⁷³, published by the Swedish Digital Administration Agency (DIGG), establishes the following technical requirements: the digital public service shall be perceivable, operable, understandable and robust. In order to meet the requirements, the digital service shall meet the requirements specified in Annex A to the European standard EN 301 549 V2.1.2 (2018-08). The recommendations are presented in Swedish, but DIGG has also developed a brief presentation in English⁷⁴.

Thus, these regulations are exactly the same as all the requirements of Directive (EU) 2016/2102.

DIGG has also developed several interactive tools to assess websites and mobile applications and to create accessibility statements:

Monitoring Manual under the Law on Accessibility of Digital Public Services⁷⁵

This Manual describes how DIGG carries out supervision in accordance with the Swedish Law (2018: 1937) on Accessibility of Digital Public Services. Moreover, the Manual contains a detailed technique for assessing accessibility of websites, office documents and mobile applications.

Accessibility Statement Generator⁷⁶

This tool helps draw up a website or mobile application accessibility statement in

71 All public sector websites must now be fully accessible. URL: <https://bit.ly/3ntqOeC>

72 Lag (2018:1937) om tillgänglighet till digital offentlig service. URL: <https://bit.ly/2XcJI47>

73 Föreskrifter om tillgänglighet till digital offentlig service (MDFFS 2019:2). URL: <https://bit.ly/3E5q0Ci>

74 Official guidelines for web development. URL: <https://webbriktlinjer.se/en/>

75 Manual för tillsyn enligt lagen om tillgänglighet till digital offentlig service. URL: <https://trg.digg.se/manual/>

76 Skapa eller redigera en redogörelse. URL: <https://trg.digg.se/asg.php>

Swedish or English. Five steps and fields are necessary to create the statement: specify the name and contact details of the organisation, give links to the feedback mechanism, describe the service and accessibility thereof, describe the evaluation method and provide information on the service's conformance to the accessibility standards (for instance, WCAG 2.1, Level AA). Then this tool generates the detailed statement based on the data provided.

CONCLUSIONS AND RECOMMENDATIONS

The research has analysed the law of fourteen countries, eleven of which are the EU Member States, one is the former EU Member State (the UK) as well as Australia and the USA, as regards digital accessibility, in particular, accessibility of native mobile applications in the EU. The detailed overview of the law of the UK and Australia can be found in Appendices 2 and 3 hereto.

CONCLUSIONS

The following conclusions have been made based on the findings of the research. In all the countries, the requirements for accessibility of mobile applications are regulated by the same regulations as the ones for accessibility of websites. All the EU Member States have implemented Directive (EU) 2016/2102, so their regulations contain the same requirements but for some exceptions. Most countries have also created web resources with simple explanations on the digital accessibility requirements.

Instead, the Ukrainian law (namely the Law “On Information”⁷⁷ and Resolution of the Cabinet of Ministers “On the Procedure for Publication of Information on Activity of the Executive Authorities on the Internet”⁷⁸) contains no references to the accessibility of mobile applications or digital accessibility and merely establishes the requirements to the accessibility of the information published on the website. Therefore, accessibility of mobile applications for persons with disabilities, namely accessibility of digital services provided with a mobile application, is not governed by the Ukrainian law.

The regulations of thirteen out of fourteen countries (all the EU Member States analysed, the UK and Australia) refer to the European standard EN 301 549 as a technical standard. As of May 2021, the most common version of the standard

77 On Information: Law of Ukraine dated 02.10.1992 No. 2657-XII as of 16.07.2020
URL: <https://zakon.rada.gov.ua/laws/show/2657-12#Text>

78 On the Procedure for Publication of Information on Activity of the Executive Authorities on the Internet.
URL: <https://zakon.rada.gov.ua/laws/show/3-2002-%D0%BF#Text>

EN 301 549 is version 2.1.2 (2018-08), which refers to Web Content Accessibility Guidelines (WCAG) 2.1.

Section 11 “Software” is used in the harmonised standard EN 301 549 for native mobile applications.

Thus, the standard EN 301 549 is the universally applicable standard that may be used to assess accessibility of any ICTs, in particular, websites, office documents and mobile applications.

As for the development of accessible mobile applications, the WCAG can be a basis for development thereof. However, one should consider that the WCAG have been developed for web content in the first place, and their documents contain no examples of a code for native applications, so detailed technical recommendations should be found in the special recommendations, certain platforms, or BBC Mobile Accessibility Guidelines, which give specific recommendations for developers on how to develop accessible applications, including examples of a code for two platforms, Android and iOS.

RECOMMENDATIONS ON ESTABLISHMENT OF THE UKRAINIAN REQUIREMENTS FOR ACCESSIBILITY OF THE MOBILE APPLICATIONS DEVELOPED AND MAINTAINED BY PUBLIC SECTOR BODIES

As it has already been stated, the Ukrainian law currently contains no requirements for accessibility of mobile applications, including the ones developed and maintained by the central and local authorities. Lack of such requirements may result in discrimination of persons with disabilities and, therefore, violation of Article 9 of the UN Convention on the Rights of Persons with Disabilities⁷⁹, which emphasises the need to take “appropriate measures to ensure to persons with disabilities access, on an equal basis with others, ... to information and communications, including information and communications technologies and systems, and to other facilities and services”.

In addition to the absence of legislative framework, Ukraine also lacks resources in

⁷⁹ UN Convention on the Rights of Persons with Disabilities. URL: <https://cutt.ly/sTLzYmb>

Ukrainian that would describe the digital accessibility criteria and recommendations for developers on how to develop accessible mobile applications. Given these gaps in the Ukrainian law, below are the recommendations on implementation of digital (namely mobile) accessibility requirements in Ukraine.

1. Recommendations on improvement of the law

As the law of most of the countries studied is based on Directive (EU) 2016/2102, it can be recommended to implement this Directive or certain clauses thereof into the Ukrainian law as promptly as possible.

- 1.1.** To adopt the harmonised standard EN 301 549 as the State Standard of Ukraine and to establish requirements for the mandatory conformance of the websites and mobile applications developed by the central and local authorities to the standard EN 301 549 by adopting new laws (for instance, the law on digital services with the article on accessibility or the law on digital accessibility) or making respective amendments to the effective laws of Ukraine.
- 1.2.** To appoint the public sector body responsible for introduction and implementation of digital accessibility. The tasks of this body may include legislative initiatives, controlling adherence to the accessibility requirements by all the bodies, updating standards, conducting or ordering accessibility monitoring etc.
- 1.3.** To develop and adopt the requirements for the feedback procedure that would enable anyone to inform the respective body of website or mobile application accessibility issues. To establish the deadline by which the website or mobile application owner (central or local authority, company or organisation subject to the digital accessibility requirements) is bound to respond. Owners have to respond to the notification or request within the legal time frames.
- 1.4.** To develop the enforcement procedure to be applied in case of unsatisfactory response to the request. The supervisory authority shall be responsible for enforcement (Clause 1.2).
- 1.5.** To consider applicability of the digital accessibility requirements to the websites and mobile applications developed or maintained by state-owned companies or companies with the state interest of more than 50%, municipal enterprises as well as private entities participating in public procurement or obtaining public funding. Also, to consider applicability of the requirements

to the websites and mobile applications developed by private entities, which are generally used to obtain public or municipal services, for instance, doctor appointment, fare payment applications etc.

- 1.6.** To establish requirements for owners of the websites and mobile applications that are subject to the accessibility requirements as to the mandatory publication of the accessibility statement. The accessibility statement for mobile applications shall be provided in the accessible format at the website of the authority that has developed the mobile application or next to the description of the application in the platform's application store.

The statement shall contain the following information:

- list of the inaccessible parts of the content as well as reasons for their inaccessibility and, where applicable, description of the available alternatives;
- description of and link to the feedback mechanism that enables anyone to notify the respective public sector body of non-conformance of its website or mobile application to the accessibility requirements and to demand the provision of inaccessible information in the accessible format;
- link to the enforcement procedure which may be used in the event of an unsatisfactory response to the request.

W3C has developed the tool⁸⁰ that helps create the accessibility statement for a website, mobile application or other digital content. The sample accessibility statement can also be found in the detailed description of the UK digital accessibility law (Appendix 3).

- 1.7.** To establish the requirement for mandatory alternatives to the inaccessible content. Every time inaccessible content is added, owners of the websites have to provide accessible alternatives at their websites or mobile applications to a possible extent. For instance, when a graphic map is used to publish the address, accessible information in the text format may be necessary for the persons who cannot use visual information.
- 1.8.** To develop and approve the methodology for auditing conformity of public web resources and public mobile applications to the accessibility standards.

⁸⁰ Developing an Accessibility Statement. URL: <https://www.w3.org/WAI/planning/statements/>

An example of such methodology could be the Manual⁸¹ developed by the Swedish Digital Administration Agency (DIGG). To develop and approve the templates of the monitoring and reporting documents.

2. Technical recommendations

- 2.1. To develop the Ukrainian resource with the simplified description of the Ukrainian law on digital accessibility, with the summary of the accessibility criteria and requirements.

There are two examples of fundamental and well-structured resources that describe the accessibility requirements in detail, such as the Section “Accessibility Improvement Framework”⁸² at the website of the French Inter-Ministerial Digital Directorate (DINUM) and the document “Understanding accessibility requirements for public sector bodies”⁸³ developed by the British Central Digital and Data Office.

- 2.2. To translate Web Content Accessibility Guidelines (WCAG) 2.1 and 2.2 (when they are published) as well as the standard EN 301 549 into Ukrainian, and to endorse the official version of the translation into the state language.
- 2.3. To develop the digital service rules, which include without limitation digital accessibility recommendations. These recommendations can apply not only to websites, but also mobile applications, chat bots, self-service terminals, ATMs, self-service cash desks in supermarkets etc.

3. Organisational recommendations

- 3.1. To take necessary actions to increase digital accessibility awareness. To introduce regular digital accessibility trainings for the staff responsible for accessibility of websites and mobile applications. To consult experts and stakeholders during development of the trainings or to engage them into preparation of the training programme content.
- 3.2. To endeavour to resolve the issue of lack of the Ukrainian voice in iOS.

81 Manual för tillsyn enligt lagen om tillgänglighet till digital offentlig service. URL: <https://trg.digg.se/manual/>

82 Référentiel général d'amélioration de l'accessibilité. URL: <https://bit.ly/3EdDaNF>

83 Understanding accessibility requirements for public sector bodies. URL: <https://bit.ly/393ISoa>

APPENDIX 1.

RESEARCH METHODOLOGY

Research methodology for development, testing and update of mobile applications funded by the state, in order to facilitate accessibility and universal design principles.

SCOPE OF THE RESEARCH

The research involved:

1. Search, overview and comparison of the international best practices of accessibility requirements and applicability thereof to the mobile applications via which citizens are provided public e-services.
2. Comparison of the accessibility standards developed on the basis of the accessibility requirements.
3. Analysis of legal acts or drafts thereof that endorse or approve accessibility standards as mandatory/recommended in foreign jurisdictions.

SEARCH, OVERVIEW AND COMPARISON OF INTERNATIONAL BEST PRACTICES OF ACCESSIBILITY REQUIREMENTS

This stage of the research found the best recommendations on accessibility of mobile applications; technical recommendations were of priority.

The following recommendations were analysed:

- WCAG and related documents;
- BBC Mobile Accessibility Guidelines;
- Funka's Mobile Guidelines;
- own accessibility recommendations by Google and Apple.

Applicability of these recommendations in general and to mobile applications as well as availability of verifiable criteria were studied.

EXAMINATION OF THE ACCESSIBILITY STANDARDS

The existing accessibility standards, including SSU/ISO/IEC 40500:2015, EN 301 549 and others, were analysed. Applicability of those standards to mobile applications was considered.

Analysis of Legal Acts

When the list of the countries was made, the E-Government Development Index⁸⁴ and the Digital Accessibility Rights Evaluation Index (DARE)⁸⁵ were considered. The countries that are current or former EU Member States were given priority.

Total number of the countries which legislation was studied: 14.

List of the countries

Six EU Member States or former Members States with the highest E-Government Development Index:

- Denmark;
- Estonia;
- Finland;
- Sweden;
- United Kingdom;
- Netherlands.

Six EU Member States or former Member States with the highest Digital Accessibility Rights Evaluation Index (DARE):

- Italy;

84 UN E-Government Survey 2020. URL: <https://bit.ly/3ntu6hC>

85 Digital Accessibility Rights Evaluation Index (DARE Index). URL: <https://bit.ly/3ImGBJ9>

- France;
- Ireland;
- Malta;
- Austria;
- Czech Republic.

Two countries that are concurrently in TOP10 of the countries with the high E-Government Development Index and the high Digital Accessibility Rights Evaluation Index (DARE):

- Australia;
- The USA.

Following the examination of the legal acts of all the countries on the list, the law on digital accessibility was described, including the following data:

- title of the law or regulation;
- entities subject to the law or regulation (for instance, public sector bodies, public sector, private business etc.);
- coverage (for instance, websites, mobile applications, other ICT);
- standard conformance requirements;
- respective WCAG version (if applicable);
- requirements for publication of the information that describes accessibility (where necessary);
- types of content that are not subject to the accessibility rules;
- control over adherence;
- other data according to the research findings.

Information was summarised. The detailed description of the regulations of two countries can be found in the Appendices to the main report.

Recommendations

Following the research, recommendations were given on possible ways to improve the Ukrainian legislative framework as to the accessibility of mobile interfaces and introduction of monitoring of conformance of websites and mobile applications to the accessibility standards.

ANNEX 2.

UK DIGITAL ACCESSIBILITY LAW

EFFECTIVE LAW

This Sub-section summarises the UK regulations that may be a basis for a digital service inaccessibility complaint for persons with disabilities.

Equality Act 2010

The Equality Act 2010⁸⁶ legally protects people from discrimination in the workplace and in wider society. It replaced previous anti-discrimination laws with a single Act, making the law easier to understand and strengthening protection in some situations.

It is against the law to discriminate against anyone because of⁸⁷ age, gender reassignment, being married or in a civil partnership, being pregnant or on maternity leave, disability, race including colour, nationality, ethnic or national origin, religion or belief, sex, or sexual orientation.

Public Sector Equality Duty

The public sector equality duty⁸⁸ entered into force on 5 April 2011. It says that the public authority shall have due regard to all persons when a policy is developed or services are provided. The public sector equality duty in the UK applies to all the public authorities and any organisation delegated public functions.

86 Equality Act 2010. URL: <https://www.gov.uk/guidance/equality-act-2010-guidance>

87 Discrimination: your rights. URL: <https://www.gov.uk/discrimination-your-rights>

88 Public Sector Equality Duty. URL: <https://www.legislation.gov.uk/ukpga/2010/15/section/149>

Disability Discrimination Act 1995 in Northern Ireland

The Disability Discrimination Act⁸⁹ bans employers discriminating against jobseekers and employees with disabilities, and by service providers against discriminating against service-users with disabilities⁹⁰.

It places a duty on employers and service providers to make reasonable adjustments for people with disabilities to help them to overcome barriers they may face in gaining and remaining in employment and in accessing and using goods and services.

DIGITAL ACCESSIBILITY REQUIREMENTS

Accessibility of the Websites and Mobile Applications of Public Sector Bodies Regulations 2018

The accessibility regulations came into force for public sector bodies on 23 September 2018. They say you must make your website or mobile app more accessible by making it “perceivable, operable, understandable and robust”. Public sector bodies also need to include and update an accessibility statement.

Intranet and extranet websites and mobile applications which disabled employees working in or with the public sector may use are also covered by the accessibility regulations.

The accessibility regulations are based on the effective duties of the public sector bodies to persons with disabilities, namely under the Equality Act 2010 (or Disability Discrimination Act 1995 in Northern Ireland). They demand all the UK service providers to make “reasonable adjustments” for persons with disabilities.

The Central Digital and Data Office⁹¹ has created the resource “Understanding accessibility requirements for public sector bodies”⁹², which helps understand why the

89 Disability Discrimination Act 1995. URL: <https://www.legislation.gov.uk/ukpga/1995/50/contents>

90 Protection against disability discrimination. URL: <https://bit.ly/3hsDRsL>

91 Central Digital and Data Office. URL: <https://bit.ly/3E6Uvld>

92 Understanding accessibility requirements for public sector bodies. URL: <https://bit.ly/3tzKYV4>

website and mobile application accessibility rules must be met. One of the arguments for accessibility is that people may not have a choice when using a public sector website or mobile app, so it's important they work for everyone.

This resource summarises the accessibility requirements and has links to the accessibility laws and guidelines.

In particular, it is stated that a website or a mobile application will meet the legislative requirements if it conforms to WCAG 2.1 AA (however, there may be essential legal reasons for non-conformance to the accessibility statement) and if it has published an accessibility statement.

Technical digital accessibility standard

The technical standard for websites and mobile applications is EN 301 549 v2.1.2⁹³. The criteria of the standard are consistent with Level AA of Web Content Accessibility Guidelines (WCAG) 2.1, but there are exceptions for mobile applications: some of the criteria are inapplicable to mobile applications. If the application uses extended or special functions for mobile devices, such as biometrics or video conferences, there are additional accessibility criteria to be met. Detailed information on EN 301 549 can be found in the Digital Accessibility Standards Section of the main part of this report.

Who is bound to meet the accessibility regulations

All public sector bodies have to meet the 2018 accessibility regulations, unless they are exempt.

The UK public sector bodies include:

- central government and local government organisations;
- some charities and other non-government organisations.

Also, according to the Equality Act 2010 and the Disability Discrimination Act 1995 (in Northern Ireland), all the service providers in the UK have a legal obligation to make reasonable adjustments for disabled people.

⁹³ Public sector website and mobile application accessibility monitoring: Technical standard for digital accessibility. URL: <https://bit.ly/394Xbri>

When you may be exempt from accessibility regulations

The following organisations are exempt from the accessibility regulations:

- non-government organisations like charities - unless they are mostly financed by public funding, provide services that are essential to the public or aimed at disabled people;
- public sector broadcasters and their subsidiaries.

The following organisations are partially exempt from the accessibility regulations:

- primary and secondary schools or nurseries - except for the content people need in order to use their services, for example a form that lets you outline school meal preferences.

Partially exempt organisations would need to publish an accessibility statement on their website or mobile app.

EXCEPTIONS

Disproportionate Burden

Some organisations may not need to fully meet accessibility standards. This is the case if the impact of fully meeting the requirements is too much for an organisation to reasonably cope with. The accessibility regulations call this a 'disproportionate burden'.

If the organisation wants to declare that making particular things accessible is a disproportionate burden, it is required to carry out an assessment. In the assessment the organisation weighs up:

- the burden that making those things accessible places on the organisation;
- the benefits of making those things accessible.

When making the assessment, the organisation needs to think about:

- organisation's size and resources;
- the nature of the organisation (for example, does the organisation have

- services aimed at people who are likely to have a disability?);
- how much making things accessible would cost and the impact it would have on the organisation;
- how much disabled users would benefit from making things accessible.

The organisation cannot take things like lack of time or knowledge into account in the assessment - or argue that making things accessible is a disproportionate burden because the organisation has not given it priority.

The organisation may consider that the benefits of making some things accessible would not justify its cost to the organisation. In that case, the organisation can claim it would not be reasonable for the organisation to make those things accessible because it's a disproportionate burden.

If the organisation decides that fixing some issues would be a disproportionate burden, it should be stated in the accessibility statement published on the organisation's website or mobile app.

Even if an organization is exempt from the accessibility regulations, or consider that meeting them would be a disproportionate burden, under the Equality Act 2010 or the Disability Discrimination Act 1995 (in Northern Ireland) the organisation is still legally required to make reasonable adjustments for disabled people when they're necessary - for example, by providing the information they need in another, more accessible format.

Exemptions for certain types of content

Website or mobile application owners do not need to fix the following types of content because they're exempt from the accessibility regulations:

- pre-recorded audio and video published before 23 September 2020;
- live audio and video;
- heritage collections like scanned manuscripts;
- PDFs or other documents published before 23 September 2018 - unless users need them to use as a service (for example a form that lets you request school meal preferences);
- maps - but you'll need to provide essential information in an accessible format like an address;

- third party content that's under someone else's control if the organisation did not pay for it or develop it itself - for example, social media 'like' buttons;
- content on intranets or extranets published before 23 September 2019 (unless you make a major revision after that date);
- archived websites if they're not needed for services your organisation provides and they are not updated.

Website and mobile application owners will need to explain in their accessibility statement that they have not made things like this accessible because they are exempt.

AUDIT AND MONITORING

Accessibility Audit

The Central Digital and Data Office has published recommendations on checking accessibility of websites or mobile applications and on publication of the accessibility statement⁹⁴. The content of this part is based on the above-mentioned recommendations.

The recommendations suggest four steps to conduct an audit and fix problems:

STEP 1. Decide how to check the accessibility problems

The first thing for the website or mobile application owner to do is to check the website or mobile app for accessibility problems. This does not mean checking every page. Instead, you need to check a sample that shows the variation in content and functionality of your website or mobile app. By finding problems in a sample, you should be able to fix any issues across the whole website or mobile app.

There are a few different ways of checking your sample. All methods involve checking your sample against WCAG 2.1 AA - in a different way depending on the resources that the organisation has. Some types of content are exempt from meeting accessibility

⁹⁴ Make your website or app accessible and publish an accessibility statement. URL: <https://bit.ly/3hrNist>

standards - you will not need to include those in your sample.

CHECKING METHODS:

Method 1. Do a detailed audit independently.

If somebody within your team or organisation has the technical skills to do it, they should do a detailed audit to see if your sample content and functionality is WCAG 2.1 AA compliant.

Method 2. Pay a third party to do a detailed audit for you.

If there's nobody in your organisation with the skills to audit your content and functionality is WCAG 2.1 AA compliant, you can pay a third party to do a detailed audit instead.

The cost of an accessibility audit can vary widely. The details we give are examples based on previous costs. You could expect to pay a third party £3,000 to £7,000.

A contractor can be found at the service provider catalogue (Digital Marketplace)⁹⁵.

Method 3. Do a basic check if a detailed WCAG 2.1 check is a disproportionate burden.

If you cannot reasonably afford to pay an external supplier to do a detailed WCAG 2.1 audit, you can do a basic check for accessibility without any technical knowledge. There is a check list⁹⁶ with the description of tests for self-check for this purpose. If your organisation is very small, you might want to find a volunteer with a basic knowledge of websites to help you.

STEP 2. Make a plan to fix any accessibility problems

Once you've identified any problems in your sample, you need to make a plan to fix these across the whole website or mobile app. This involves talking to people who know how long it will take to have things fixed and how complicated each fix might be.

95 Digital Marketplace. URL: <https://www.digitalmarketplace.service.gov.uk>

96 Doing a Basic Accessibility Check. URL: <https://bit.ly/2XlbgP5>

Talk to:

- suppliers, about the technology behind your website;
- developers who know about the code for your website;
- content editors, publishers or people who edit the text and documents on your website.

Think about the impact of each thing you're fixing to help you prioritise. For example, it's probably better for your users that essential services meet accessibility standards than out-of-date campaigns.

Include accessibility improvements into your organizational processes, budgeting and long term planning.

Once priorities are set, website or mobile application owners need to make a roadmap to show how accessibility improving is going to take place. .

STEP 3. Publish your accessibility statement

All the organisations subject to the accessibility requirements need to publish an accessibility statement to explain how accessible their website or mobile app is. Most people looking at your statement will not be accessibility experts, so make sure it's written in plain English that everyone can understand. This will also make it easier for users with a disability (who might have a cognitive impairment or learning disability) to understand how they can best use your website or mobile app.

Your statement needs to cover:

- whether your website or mobile app is 'fully', 'partially' or 'not' compliant with accessibility standards;
- if it's not fully compliant, which parts of your website or mobile app do not currently meet accessibility standards and why (for example, because they are exempt or it would be a disproportionate burden to fix things);
- how people can get alternatives to content that's not accessible to them;
- how to contact you to report accessibility problems - and a link to the website that they can use if they're not happy with your response.

Owners should describe their website or mobile app as fully compliant if it meets accessibility standards in full, partially compliant if it meets most requirements, and not compliant if it does not meet most of the requirements.

You could also include information on how you evaluated your website or mobile app's accessibility and your plan to fix any accessibility problems.

For mobile apps, make the statement available in the app store, on your website or both. Make sure it's in an accessible format that everyone can use.

Website or mobile application owners need to review and update their statements regularly (when there are major changes and at least once a year).

The sample accessibility statement has been developed by the Central Digital and Data Office⁹⁷.

The sample statement is based on the model statement published by the EU⁹⁸, which details what information you must put in an accessibility statement; it is also based on own research by the Central Digital and Data Office.

STEP 4. Make sure new content and features are accessible

Website or mobile application owners need to make sure any new content and features that they publish meet accessibility standards (unless it is exempt).

The people who edit the website or mobile app have a responsibility to make content and features accessible. This means:

- making any new PDFs or other documents they create accessible;
- writing good link text;
- structuring content well;
- publishing accessible images and videos;
- checking new features work on assistive technologies.

97 Sample accessibility statement (for a fictional public sector website). URL: <https://bit.ly/391KayG>

98 Commission Implementing Decision (EU) 2018/1523 of 11 October 2018 establishing a model accessibility statement in accordance with Directive (EU) 2016/2102 of the European Parliament and of the Council on the accessibility of the websites and mobile applications of public sector bodies. URL: <https://www.legislation.gov.uk/eudn/2018/1523/2020-12-31>

Website and mobile application owners need to make sure they have the processes and software to allow people to do these things easily.

Monitoring

The Central Digital and Data Office (CDDO) conducts annual monitoring of the public sector bodies' adherence to the accessibility requirements by studying the selection of public sector websites and mobile applications⁹⁹. CDDO may request information and demand access to intranets, extranets, programmes or any website of public sector bodies.

The European Commission Directive on the accessibility of public sector websites (Directive (EU) 2016/2102) contains a sampling process and monitoring method used to make sure that reporting is comparable across countries.

The Directive defines 2 kinds of test:

1. 'simplified' accessibility tests - mainly using automated testing;
2. 'in-depth' accessibility audits - manual assessment.

The sample must be:

- diverse;
- representative;
- geographically-balanced;
- inclusive of a broad range of public services.

The sample size is determined by the monitoring period and population of the UK.

The first monitoring period runs from 1 January 2020 to 22 December 2021. During this time, the UK government will conduct:

- 1395 simplified tests;
- 80 detailed audits;
- 24 mobile application audits.

99 Public sector website and mobile application accessibility monitoring. URL: <https://bit.ly/2XbwUF9>

HOW TO CONDUCT MONITORING

Accessibility monitoring includes testing against WCAG 2.1 criteria up to level AA. Also the accessibility statement that is required by the accessibility regulations shall be reviewed.

Simplified testing

For a simplified test, we choose some core pages, such as the home page, alongside a sample of other pages chosen from across the site. The number will vary depending on the size of the website.

Pages are tested using automated accessibility tools. Axe is currently used. The testing tools and method will be reviewed as technologies advance. Manual tests are also done, including keyboard navigation and zoom to find the most common barriers to users with accessibility needs.

Simplified tests do not show every accessibility error and only a sample of pages is tested.

If a simplified test finds major accessibility issues with a site (meaning a user group is not able to use the site or service), the site is likely to have a detailed audit.

Detailed auditing

Detailed audits take a more in-depth look at a website or mobile app. It will test against the full range of WCAG 2.1 success criteria up to level AA. Assistive technology will be used to check compliance as well as the automated and manual methods used in simplified testing.

The priority order of detailed auditing will be based on social impact (for example size of population covered or site/service usage) and complaints received.

A report detailing accessibility issues found is sent to the public sector body that runs the website. They are given reasonable time to fix issues. If accessibility issues remain, the report will be passed to the Equality and Human Rights Commission (EHRC) in England, Scotland and Wales or ECNI in Northern Ireland, who are responsible for enforcement of equality and non-discrimination laws.

LAW ENFORCEMENT

The Equality and Human Rights Commission (EHRC) in England, Scotland and Wales or the Equality Commission for Northern Ireland (ECNI) enforce laws to ensure fulfilment of the obligation to make a public sector website or mobile application accessible (i.e. perceivable, operable, understandable and robust).

The public sector bodies that fail to meet the accessibility requirements or to provide a satisfactory response to the request for information in an accessible format are deemed to be in breach of the Equality Act 2010 and the Disability Discrimination Act 1995. In this case, the EHRC and ECNI may exercise their powers in respect of the offending organisations, including investigation, notification of illegal actions and court actions.

User Notification of Accessibility Issue

If a user detects an accessibility issue at the public sector website or application, he or she shall first notify the respective public sector body thereof by using the contact details specified in the accessibility statement.

The public sector body shall respond to the user's complaint within an adequate period of time.

If a user is dissatisfied with the response, he or she may request assistance from the Equality Advisory and Support Service (EASS) in England, Scotland and Wales and the Equality Commission for Northern Ireland (ECNI).

If the user believes that the issue still persists, he or she may contact the EHRC (ECNI in Northern Ireland).

PRACTICAL EXAMPLES OF IMPLEMENTATION OF DIGITAL ACCESSIBILITY IN THE UK

This Section contains practical examples of improvement of accessibility of the government services in the UK.

How they made GOV.UK more accessible

GOV.UK hosts half a million web pages, lots of documents and receives an average of 5.1 million visits a day. People come to GOV.UK to find government services and information, like learning to drive or viewing lockdown guidance.

In the UK, at least 1 in 5 people have a long-term illness, impairment or disability, and many more have a temporary or situational disability. The Accessibility Team's job on GOV.UK is to make sure GOV.UK can be used by the largest possible audience¹⁰⁰.

How exactly they improved GOV.UK accessibility

Finding the accessibility problems

To improve the accessibility of GOV.UK, we needed to find where the problems were. For as big a site as GOV.UK, and with the number of people and departments contributing to it, this was quite a challenge. So, the Accessibility Team undertook a manual accessibility audit of more than 60 representative pages of GOV.UK - these are pages that are reflective of most of the site. This helped us to identify where the issues were, and which pages did not meet the international Web Content Accessibility Guidelines [WCAG] 2.1 AA accessibility standard.

They determined the highest priority problems by asking 3 main questions:

- does it meet the WCAG standards?
- what is the impact on the user's ability to use GOV.UK?
- how often did the problem occur or how likely is it that a user will experience this problem?

For each accessibility issue they found, they reviewed it to identify why it had happened. Some problems occurred in many pages across GOV.UK and had different origins.

100 How we made GOV.UK more accessible. URL: <https://bit.ly/3tAoGTh>

The Accessibility Team worked with the GOV.UK Data Labs Team¹⁰¹ to find out how many times the issue occurred, and then they analysed the causes to determine the best way to fix them.

The causes broadly fall into 3 categories:

- technical - those the team could fix on GOV.UK because they were caused by GOV.UK's design/structure;
- content - those they could guide departments to fix by updating guidance and highlighting where the content itself was causing problems;
- complex - those that were caused by a mix of content and technical issues or both, and required analysis to identify the cause and solution.

FIXING THE ACCESSIBILITY PROBLEMS

Technical issues

GOV.UK uses the GOV.UK Design System¹⁰² and GOV.UK Publishing Components¹⁰³ to build pages. Using these systems means things are more likely to be accessible and when improvements are made, that improvement can immediately be applied everywhere the component or template is used.

For example, buttons that look like links but behave like a button can cause screen readers to miss information or can make it more difficult for voice control users to activate the button. They changed most instances of this in the GOV.UK publishing components so the accessibility improvement was reflected across GOV.UK, and fixes on the outstanding instances are underway too.

Content issues

The Accessibility Team updated the publishing guidance for GOV.UK¹⁰⁴ to include how to make content more accessible and provided departments with reports to show exactly where their content issues were so they could fix them, for example, pages with duplicate titles that did not indicate the page's topic or purpose.

101 Introducing the GOV.UK Data Labs. URL: <https://bit.ly/3tP5X6F>

102 GOV.UK Design System. URL: <https://design-system.service.gov.uk/>

103 GOV.UK Publishing Component. URL: <https://bit.ly/3A9vLfR>

104 Content design: planning, writing and managing content. URL: <https://bit.ly/392oNNP>

They also updated guidance for publishing accessible documents. This included important changes to guidance if publishing PDFs¹⁰⁵. The Accessibility Team also updated information about images, tables, videos, headings, titles and translations. The Team is working on pulling these things together into a collection so that all the accessibility guidance for publishing teams was easier to find.

Complex issues

For complex problems, the Accessibility Team analysed them to identify the different causes. When they were caused by a mix of content and technical issues, they fixed the technical problem and then engaged departments on how to fix the content.

One example of a complex issue they detected was that tables should always have column headers and sometimes row headers to explain the content. Doing this allows screen reader users to understand a table's structure as a screen reader can read which headings are for which of the table's cells.

The Accessibility Team worked with the GOV.UK Data Labs Team to find all the pages on GOV.UK that have tables without column and/or row headers. They updated their publishing tools to allow row headers, and then they updated the guidance on publishing accessible tables¹⁰⁶ and asked departments to review their tables.

Another example of a complex issue they detected were language attributes. Assistive technologies need to be able to identify the language in which the content is written and identify any changes in the default written language of the content. When the language attribute is missing or incorrect, the language is not understandable by assistive technologies like screen readers.

The Accessibility Team worked with the GOV.UK Data Labs Team and found all the places on GOV.UK where non-English content was used but not identified as non-English. They analysed the causes, updated guidance, updated the publishing tools and then informed departments which pages they needed to fix.

Other examples of problems the Accessibility Team found and fixed or asked other departments to fix were:

- images without adequate descriptions (alt-text);
- inaccessible documents or attachments;

105 Publishing accessible documents. URL: <https://www.gov.uk/guidance/publishing-accessible-documents>

106 Content design: planning, writing and managing content: Tables. URL: <https://bit.ly/3nptDgA>

- content that looked like headings but was not, which meant the way it was presented would not be preserved for screen reader users or users who used their own styles.

CHALLENGES AND LESSONS LEARNED

It is not just about meeting the regulations; it is about making GOV.UK accessible for everyone

It's important to the Accessibility Team that they do not stop at meeting the standards. GOV.UK should be accessible for everyone so the Accessibility Team is aiming to fix the other accessibility issues they detected, even if they are not covered by WCAG.

On a big platform like GOV.UK, data analysis is invaluable for finding accessibility issues

The manual accessibility audit only checked representative pages on GOV.UK. To find a lot of the problems, they needed a more effective way of finding repeat content or complex problems.

The GOV.UK Data Labs Team helped them by creating a tool that looked through all the GOV.UK pages and identified pages that had specific accessibility problems. For a big platform like GOV.UK, having an automated way to check all pages helped the Accessibility Team find those problems effectively so they could fix them and tell others where there were concerns.

Making GOV.UK accessible is a cross-government task

Departments across government publish content on GOV.UK. The GOV.UK Accessibility Team is responsible for providing the tools and guidance needed to make content accessible but departments are responsible for making their content accessible. The Accessibility Team helped departments identify issues through reports and guided them on how to fix stuff too.

The content community¹⁰⁷ has included this new guidance in the required training for new GOV.UK publishers. They are also running workshops focused on creating accessible content.

¹⁰⁷ Content community. URL: <https://www.gov.uk/service-manual/communities/content-community>

Accessibility is a user need and should be considered from the beginning

When building services, creating components/templates and creating content, accessibility needs to be considered from the onset as a user need.

This reduces the need to retrofit changes for accessibility later in the process and significantly reduces the effort required. This is why it is the Accessibility Team's sixth design principle: This is for everyone¹⁰⁸.

The Accessibility Team will keep working to make sure GOV.UK remains as accessible as possible and urges to contact them for additional information.

HMRS move from outsourced to in-house accessibility audits and new challenges in COVID-19 times

At the start of 2020 HM Revenue & Customs (HMRC)¹⁰⁹ began moving from mainly outsourced audits to an in-house team¹¹⁰. Initially, their audit process was like that of external audit companies. A service would approach the HMRC just before they went into Public Beta. Audit findings would be compiled into a report and sent to the team. They wanted to improve both service team accessibility knowledge and lessen the pressure to fix issues against a Public Beta deadline by having those issues identified earlier.

The HMRC also introduced a set of pre-audit activities designed to help teams increase their own knowledge and awareness of accessibility. The aim was to have teams perform their own assessments to make sure they were ready for an audit.

Then the HMRC created a list of the most common issues found during previous audits to help new services avoid the same. Alongside this was the ability for service-wide automated accessibility and HTML validation checks to be run throughout development. The HMRC now asks services to provide the report generated from this as part of their audit request.

Next, the HMRC began to perform a pre-audit review of each service to flag any of the more common issues the developers' team may have missed. It also provides teams with additional time to resolve more complex issues.

108 Government Design Principles: 6. This is for everyone. URL: <https://bit.ly/3k43HoH>

109 HM Revenue & Customs. URL: <https://www.gov.uk/government/organisations/hm-revenue-customs>

110 Bringing accessibility audits in-house. URL: <https://bit.ly/3zdgXvG>

New challenges in COVID-19 times

When it came to COVID-19 services, such as the Job Retention Scheme, or the Statutory Sick Pay Rebate Scheme, the HMRC faced a different need - services still in development needing an audit a matter of days before launch.

Due to lockdown, service teams now no longer sat together in digital delivery centres. They were working from home, adapting to a new way of working just like everyone else. Working longer hours than normal, under massive pressure to deliver, they needed immediate detailed feedback on what was wrong and how to fix it. They couldn't wait for a full audit to be conducted before starting to implement changes.

To cope with the schedule constraints, the HMRC decided constant communication with the service teams was necessary. They set up private Slack accessibility channels with each service team where they recorded any issues found along with the solutions. Each issue was then tagged by the service team as soon as it was fixed, which meant the HMRC could easily retest.

The HMRC accessibility team has experienced front-end developers who have been on service teams themselves previously. This meant that they were able to step in to help teams out directly, acting as additional service team members. They could find the accessibility issues, develop solutions and then push code directly to the code repository to fix them, taking some of the pressure off the delivery team.

As the Slack channels enabled them to invite everyone from the team, the HMRC representatives had access to the BA, PM, QA, developers, UX and content designers. This meant that they could approach the exact person they needed to ask about an issue, raise a concern, find a solution which everyone was happy with and then validate the eventual fix right there. In the HMRC, this discussion is one of the most valuable things to have come out of this change in the process.

During the first 6 months of lockdown, the HMRC accessibility team carried out 18 audits of COVID-19 services - both public-facing and internal. As this was in addition to most of our normal workload they also looked at streamlining their standard audits, both to help find efficiencies and to improve our interactions with non-COVID-19 teams.

The HMRC published some of their internal audit task processes so teams who wanted to upskill could see how the HMRC would audit their service and replicate some of it themselves. They also began creating self-guided learning modules on using assistive technology to test government services.

Conclusions and lessons learned

The success of the Slack channels led the HMRC accessibility team to adopt this approach for all of their service audits. Besides the time benefits they experienced with COVID-19 teams, this also meant accessibility becoming more of a whole team conversation rather than a checkpoint at the end of delivery.

Their end-of-audit report to teams changed too, becoming a technical summary. Teams were getting detailed issue reports during the audit and, by the time the report was sent, most of the issues were fixed, so long reports were unnecessary.

Summary

The HMRC started to evolve their internal audit processes when COVID-19 and the lockdown began. The increased time pressures and needs of the service teams certainly shaped how this developed but in the end, has benefited all of their service teams in creating a more responsive audit process which the HMRC will continue to improve upon.

ANNEX 3. AUSTRALIAN DIGITAL ACCESSIBILITY LAW

EFFECTIVE LAW

This Sub-section summarises the Australian regulations that may be a basis for a digital service inaccessibility complaint for persons with disabilities.

Disability Discrimination Act 1992 (DDA)

The Disability Discrimination Act 1992¹¹¹ protects people from discrimination based on disability. It applies to both the private and the public sector. DDA makes it unlawful to discriminate against a person, in many areas of public life, including employment, education, getting or using services, renting or buying a house or unit, and accessing public places. In particular, Section 24 explicitly prohibits providers of goods, services, and facilities to discriminate against users on the ground of their disability¹¹².

DDA covers people who have temporary and permanent disabilities: physical, intellectual, sensory, neurological, learning and psychosocial disabilities, diseases or illnesses, physical disfigurement, medical conditions, and work-related injuries.

DDA protects people with disabilities who may be discriminated against because they are accompanied by an assistant or interpreter; they are accompanied by a guide dog; or they use equipment or aid, such as a wheelchair or a hearing aid.

The law does not establish specific requirements for digital accessibility, but it can be a basis for a lawsuit due to inaccessibility of digital services.

Disability Inclusion Act 2018 in South Australia

In 2018, the Disability Inclusion Act was adopted¹¹³; it was the first legislative act adopted by the new government of the State of South Australia. This law emphasises the importance of equal access and inclusion for persons with disabilities and requires

111 Disability Discrimination Act 1992. URL: <https://www.legislation.gov.au/Details/C2018C00125>

112 Web Accessibility Laws in Australia & New Zealand in 2021. URL: <https://bit.ly/3hLLbQz>

113 Disability Inclusion Act 2018. URL: <https://bit.ly/2XfTDQh>

the government to develop the new State Disability Inclusion Plan.

State and local government institutions shall also draw up and report on their disability accessibility and inclusion plans. It should be done in permanent consultation with persons with disability.

According to the Disability Inclusion Act 2018, state authorities in South Australia are required to develop their own Disability Access and Inclusion Plans (DAIPs)¹¹⁴. These are due to be completed by October 2020.

ACCESSIBILITY STANDARDS AND REQUIREMENTS

National Transition Strategy

The Web Accessibility National Transition Strategy of the Australian Government (NTS)¹¹⁵ required all the governmental web resources to achieve conformance level A WCAG 2.0 until 31 December 2012 and conformance level AA until 31 December 2014.

Digital Service Standard

The Digital Service Standard¹¹⁶ is a set of best-practice principles for designing and delivering government services. It helps digital teams to build services that are simple, clear and fast.

The Standard is made up of 13 criteria to design and deliver governmental services¹¹⁷. It is stated in criterion No. 9¹¹⁸ that the service shall be accessible and inclusive to all users regardless of their ability and environment. This criterion refers to

114 State Disability Inclusion Plan. URL: <https://bit.ly/3lpZxXQ>

115 Web Accessibility National Transition Strategy. URL: <https://bit.ly/3A9et2D>

116 About the Digital Service Standard. URL: <https://bit.ly/3z7xHUP>

117 Digital Service Standard criteria. URL: <https://bit.ly/3C8e3Ks>

118 Digital Service Standard criteria: 9. Make it accessible. URL: <https://bit.ly/3A2ZGq5>

WCAG 2.0 as legislative requirement and recommends satisfying the requirements of WCAG 2.1, and also gives detailed instructions on the introduction of accessibility at each service development stage.

Standard AS EN 301 549: Accessibility requirements for ICT products and services

In 2016, Australia adopted the standard AS EN 301 549: Accessibility requirements for ICT products and services.

The standard establishes the accessibility criteria for ICT products and services (such as equipment, software and other technologies with which people can interact. Software and, therefore, native mobile applications are subject to the criteria of Section 11 “Software”).

The updated standard AS EN 301 549: 2020¹¹⁹ is identical to the European standard EN 301 549: 2019 (V3.1.1), which in its turn refers to WCAG 2.1. The standard applies to the state, private and non-commercial sectors.

Who Is Bound to Meet the Digital Accessibility Requirements

The Disability Discrimination Act prescribes provision of information and online services in an accessible format¹²⁰. It applies to any area where such information and services can be reasonably provided.

This requirement applies to any individual or organisation developing a website or other web resource in Australia, or placing or maintaining a web resource on an Australian server. This includes web pages and other resources related to:

- employment;
- education;
- provision of services including government services, banking, insurance or financial services, entertainment or recreation, telecommunications services, public transport services;

119 AS EN 301549: 2020. URL: <https://bit.ly/3zhW8zf>

120 World Wide Web Access: Disability Discrimination Act Advisory Notes ver 4.1 (2014). URL: <https://bit.ly/2YRgsLc>

- sale or rental of real estate;
- sport;
- activities of voluntary associations.

In addition to these specific areas, provision of any other information or other goods or services through the internet is in itself a service, and as such, discrimination in the provision of this service is covered by the DDA. The DDA applies to services whether provided for payment or not.

Exceptions

The obligations under the DDA as to equal access are limited by the concept of a disproportionate burden.

In response to the complaint, the resource owner may demonstrate that satisfaction of accessibility requirements imposes a disproportionate burden upon it. Web designers and content providers should note that a disproportionate burden ought to be demonstrated rather than assumed.

According to Section 11 of the Disability Discrimination Act, the court must take into account all relevant circumstances of the particular case, including the following:

- the nature of the benefit or detriment likely to accrue to, or to be suffered by any person concerned;
- the effect of the disability of any person concerned;
- the financial circumstances, and the estimated amount of expenditure required to be made by the person claiming a disproportionate burden;
- the availability of financial and other assistance to the person claiming a disproportionate burden.

The benefits to be taken into account include:

- immediate benefits for persons with disabilities;
- benefits for other users whose browsers, equipment and communication channels have restrictions and therefore benefit from alternatives;
- benefit for providers by covering more users, which may reduce the need to implement more expensive accessibility tools that may be required under the law.

The forms of the detriment to be taken into account can include:

- hardships in achieving compatibility between different accessibility requirements;
- delay in publication caused by the conversion of one format into another one.

These factors may influence how accessibility has to be implemented, but shall not be an excuse for non-implementation thereof.

Complaints and Law Enforcement

The Australian Human Rights Commission (AHRC) is an independent third party that investigates complaints against discrimination and violation of human rights.

Many complaints that the Australian Human Rights Commission receives are resolved through conciliation¹²¹.

Conciliation is an informal, flexible approach to resolving complaints – matters can be settled by an exchange of letters, a telephone negotiation between the Commission and the people involved, a telephone conciliation conference or a face to face conciliation conference.

The conciliation conference is not a public hearing, a court of law or a tribunal. That means parties do not have to prove or disprove the complaint. Instead, conciliation allows people to state their point of view, discuss the issues in dispute and settle the matter on their own terms.

The Commission is an impartial third party during the conciliation process. Its role is to assist the parties to consider different options to resolve the complaint and provide information about possible terms of settlement. It can also help write up the conciliation agreement.

Outcomes will vary depending on the nature of the complaint. However, agreements can include an apology, reinstatement to a job, compensation for lost wages, changes to a policy or putting in place anti-discrimination policies.

If the complaint can't be resolved through conciliation, a person can apply to have the matter heard in the Federal Court of Australia or the Federal Circuit Court of Australia.

121 Conciliation – how it works. URL: <https://bit.ly/3hs5OAY>

PRACTICAL EXAMPLES OF IMPLEMENTATION OF DIGITAL ACCESSIBILITY IN AUSTRALIA

This Sub-section considers practical examples of implementation of digital accessibility in Australia.

Engaging Persons with Disabilities into Development of the New Digital Accessibility Policy in South Australia

An estimated one in five Australians lives with disability. With more and more essential services being accessed online, the importance of digital accessibility grows each day. The question remains though, what is the best way to ensure organisations, both big and small, achieve this?

- Should we mandate that websites and digital resources meet accessibility standards?
- Or should more education, support and tools be provided?

The answer may come from South Australia.

Supported by new legislation, the state government (in partnership with Vision Australia, Royal Society for the Blind (SA) and a wide range of other organisations and bodies) has developed a range of resources¹²². The aim is to help create an environment where inclusion and accessibility are a key focus and achievement.

New accessibility laws

In 2018, the Disability Inclusion Act was adopted; it was the first legislative act adopted by the new government of the State of South Australia. This law emphasises the importance of equal access and inclusion for persons with disabilities and requires the government to develop the new State Disability Inclusion Plan. Information on the law can be found at the beginning of Appendix 3.

122 Push and pull: Why South Australia leads the way in online accessibility.
URL: <https://www.visionaustralia.org/south-australia-online-accessibility>

Reviewing the old web accessibility policy

The Department of the Premier and Cabinet saw the need for positive action. Vision Australia's Digital Access team¹²³ were asked to review the South Australian Government's old web accessibility policy. The review found the policy needed to be updated to reflect the intention of the new Act. A new policy was needed to define modern requirements for their online presence. The review also showed that people who experienced disability should be part of planning the new policy.

Consulting stakeholders

The policy was developed in partnership with Vision Australia, Royal Society for the Blind (SA) and people with lived experience of disability. In particular, opinions of the following were considered:

- 50 Members from the Local Government Access and Inclusion Network;
- 450 Members from the South Australian Disability Engagement Group;
- 600 Members from the South Australian disability sector;
- 57,339 YourSAy subscribers (the SA Government's community engagement platform);
- 1,000 government staff;
- 900 Members from the Australian Government communities of practice¹²⁴;
- 11,756 Facebook users;
- 150 Unique items of feedback incorporated into the final policy.

Developing the new policy

A government working group developed a draft policy. This aligned to the new Act, other accessibility guidelines and government standards, including Web Content Accessibility Guidelines (WCAG) 2.0 and 2.1, Australian standard AS EN 301 549, Government Digital Service Standards and other key standards.

- The Digital Access team supported the government to move the draft policy through to public consultation.
- Royal Society for the Blind (SA) represented the needs of people living with disability in South Australia.

123 Digital Access Consulting. URL: <https://www.visionaustralia.org/services/digital-access>

124 Communities of practice. URL: <https://community.digital.gov.au/>

- The Department of Human Services ensured the work aligned with the intent of the new Act.

The South Australian Government's Online Accessibility Policy was released on 16 May 2019, Global Accessibility Awareness Day (GAAD), and is mandatory for all agencies. It provides a standard for digital channels across all levels of government in South Australia.

The policy is also supported with the following resources:

- Easy Read guide¹²⁵;
- South Australian Government Online Accessibility Toolkit¹²⁶;
- South Australian Government Website Design System¹²⁷.

Accessible Mobile Application ABC News

Mobile application ABC News¹²⁸ by the Australian national public broadcasting corporation (ABC)¹²⁹ was named the Accessible App of the Year and the Government App of the Year at Australian Access Awards 2019¹³⁰.

On Australian Access Awards

The Australian Access Awards are held every 2 years and celebrate organisations that have implemented accessibility in their digital campaigns or resources. The first ceremony was held in 2019. The next one will take place in 2021.

125 Easy Read. URL: <https://bit.ly/3AjZxOY>

126 Online Accessibility Toolkit. URL: <https://accessibility.sa.gov.au>

127 Website Design System. URL: <https://www.designsystem.sa.gov.au>

128 ABC App. URL: <https://www.abc.net.au/app/>

129 Australian Broadcasting Corporation. URL: <https://www.abc.net.au>

130 Announcing the winners of the first ever Australian Access Awards. URL: <https://www.accessibility.org.au/award-winners-2019/>

Why the app was named accessible

According to the press release¹³¹, ABC works extensively to ensure its content is accessible and inclusive. The ABC NEWS App has been designed for use by everyone, including viewers with impaired sight, hearing, mobility and cognition.

The app is fully operable with Voiceover, Apple's inbuilt screen reader, making it accessible for people who are blind. It also revolves to suit user needs (landscape or portrait mode) for people with limited mobility.

The ABC's app was also a finalist for Government App of the Year and Gerry Neustatl, ABC's Digital Accessibility and Inclusive Design Lead, was a finalist for Accessibility Person of the Year.

How ABC implements accessibility

According to the accessibility statement¹³², the application owners are committed to making their websites and mobile applications usable by all people, whatever their abilities or disabilities. To achieve this, they strive to comply with the Web Content Accessibility Guidelines (WCAG) 2.1.

Accessibility elements implemented

According to the accessibility statement, ABC website and mobile applications provide the following features for persons with disabilities:

- ABC applications and documents are optimised for use with assistive technologies like screen readers, magnifiers, navigation switches and speech recognition software.
- Captions. Captions are mostly prepared in advance for accuracy. However, sometimes publishing information fast is considered more important than absolute accuracy, such as breaking news.
- Audio descriptions are available for people with impaired vision. They explain visual elements on the screen and are available on a range of shows across ABC TV.

131 ABC NEWS named Accessible App of the Year. URL: <https://ab.co/3k4quk3>

132 Accessibility Statement. URL: <https://about.abc.net.au/accessibility-statement/>

Limitation of accessibility

While ABC authors have done a lot to ensure the content is accessible, users may find some limitations.

- The content authors always aim to communicate clearly and simply. This is not always possible when discussing technical subjects.
- Many ABC stories have rich media like audio and video that have not all been captioned, transcribed or audio described yet.
- Some of ABC's web content has not yet been fully tested by people with diverse abilities.
- Some of the games on ABC's websites are acquired games. As such, some of these games may not be accessible.

