Audit Report

Studo App Accessibility

Subject:	"Studo App" Version 4.16.0 (Android)
	"Studo App" Version 4.16.0 (iOS)
Type of test:	Audit
Basis:	WCAG 2.0 Guidelines
Test specifications:	Compliance with web accessibility guidelines
Period of assessment:	November 2021 to January 2022
Report date:	14.02.2022
Company:	Student & Campus Services GmbH
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Results: **The requirements of the audit are fulfilled.**

Introduction

"Web Content Accessibility Guidelines (WCAG) 2.0 define how to make web content more accessible to people with disabilities. Accessibility involves a wide range of disabilities, including visual, auditory, physical, speech, cognitive, language, learning, and neurological disabilities. Although these guidelines cover a wide range of issues, they are not able to address the needs of people with all types, degrees, and combinations of disability. These guidelines also make Web content more usable by older individuals with changing abilities due to aging and often improve usability for users in general.
WCAG 2.0 is developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally. WCAG 2.0 builds on WCAG 1.0 [WCAG10] and is designed to apply broadly to different Web technologies now and in the future, and to be testable with a combination of automated testing and human evaluation." - W3C, Web Content Accessibility Guidelines 2.0

Occasion

We have conducted an audit for the compliance of web accessibility guidelines for the Studo App operated by Student & Campus Services GmbH. Based on the WCAG 2.0 web accessibility guidelines, the Studo App is evaluated in regular intervals with the objective of continuous optimization.

Company

Studo is an educational technology company based in Düsseldorf (DE) and Graz (AT) and offers digitisation solutions for students and universities. Studo created an organisation app for students. The app is currently used by over 350,000 active users in Germany and Austria, most of whom are students, but also university employees. Twenty-nine universities are already cooperation partners of Studo. The app organises courses, timetables, and emails and offers a platform for students at the respective universities with the integrated chat and news feed functions.

Subject of the audit

The subject of the audit is the app "Studo", a mobile browser app which allows students to access the digital services of higher education institutions with their mobile device.
Disclaimer: With this review, Studo only refers to features and content created by Studo itself. No guarantee can be given for content from partner companies. However, Studo will seek contact with partner companies to advise them on how to optimise their content with regard to accessibility.

Audit concept

In accordance with the mandate, the audit intends to provide a statement on whether all technical measures have been taken to comply with general accessibility guidelines. The assessment is based on the WCAG 2.0 web accessibility guidelines.

Implementation

The testing period was November 2021 until January 2022. The app was tested against above mentioned guidelines. In addition, all amendments which have been introduced with respect to improved accessibility have been documented.

Terminology

The WCAG 2.0 web accessibility guidelines are divided into **four principles** that provide the foundation for web accessibility: *perceivable, operable, understandable,* and *robust*. The **12 guidelines** provide the basic goals that app providers should work toward in order to make content more accessible to users with different disabilities. The guidelines provide the framework and overall objectives to help providers understand the success criteria and better implement the techniques.

For each guideline, testable **success criteria** are provided to allow WCAG 2.0 to be used where requirements and conformance testing are necessary such as in design specification, purchasing, regulation, and contractual agreements. In order to meet the needs of different groups and different situations, three levels of conformance are defined: **level A** (lowest), **level AA**, and **level AAA** (highest). - W3C, Web Content Accessibility Guidelines 2.0

"OK" indicates points whose requirements have been checked with a positive result (no deviation, no finding).
"Done" indicates a subsequent adjustment in accordance with the given requirements, which resulted in a positive result in the course of a subsequent check.
"Failed" indicates points whose requirements have been checked with a negative result.

Results

Compliance with the requirements of the WCAG 2.0 web accessibility guidelines was checked on the basis of the practical use of the Studo App using all primary use-cases in the app and exploring via random sampling. Deviations, findings and recommendations resulting from this are presented below.

Results - 1. Perceivable

1.1 Text alternatives:
Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

	Guideline	Description	Success criteria	Comment	Evalua-tion
1.1.1	Controls, Input	If the non-text content is a control or accepts input from users, then it has a name that describes its purpose.	Level A		**OK**
1.1.2	Sensory	If non-text content is primarily intended to create a specific sensory experience, then text alternatives at least provide a descriptive identification of the non-text content.	Level A	In the chat overview: skipping the description of the emoji of each chat category (e.g. "Schule/School" - "Name of University", "Doktorhut" - "Name of study programme"). Alt texts for images in the newsfeed are missing.	**OK**
1.1.3	CAPTCHA	If the purpose of the non-text content is to confirm that a person and not a computer is accessing the content, then text alternatives are provided that identify the purpose of the non-text content. Alternative forms of CAPTCHAs are also provided that use output forms for different types of sensory perception to accommodate different disabilities.	Level A		**OK**
1.1.4	Decoration, formatting, invisible	If the non-text content is pure decoration, used only for visual formatting, or not presented to users at all, then the content is implemented in such a way that it can be ignored by assistive technology.	Level A		**OK**

1.2 Adaptable:
Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

	Guideline	Description	Success criteria	Comment	Evalua-tion

1.2.1	Info and relationships	Information, structure and relationships conveyed through the presentation can be determined by software or are available in text.	Level A	Calendar: The calendar did not automatically switch to daily view if a user uses a screen reader software. (Was fixed by the development team.)	**OK**
1.2.2	Meaningful sequence	When the sequence in which content is presented affects its meaning, a correct reading sequence can be programmatically determined.	Level A		**OK**
1.2.3	Sensory characteristics	Instructions provided for understanding and operating content do not rely solely on sensory properties of components such as shape, size, visual position, orientation or sound.	Level A	Chat: When there are longer messages, the user should be advised to click on the message to listen to the full message (e.g. "Click to read more").	**OK**

1.3 Distinguishable:

Facilitate users to see and hear content including separating foreground from background. These adjustments are made by the user in the system settings of the mobile device. The mobile app should react to these adjustments and adapt the design.

	Guideline	Description	Success criteria	Comment	Evalua-tion
1.3.1	Use of colour	Colour is not used as the sole visual means to convey information, indicate an action, prompt a response or distinguish a visual element	Level A	The Studo App reacts very well to all adjustments a user can make in the settings of its mobile device.	**OK**
1.3.2	Contrast (minimum	The visual presentation of text and images of text has a contrast ratio of at least 4.5:1 except for large text, incidental and logotypes.	Level AA		**OK**
1.3.3	Resize text	Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.	Level AA		**OK**
1.3.4	Images of a text	If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text.	Level AA	In the newsfeed, organizations often use images with text on them. They can be read with zooming in on the images. A visually impaired student can't read information on images due to the lack of alt texts.	**OK**
1.3.5	Contrast	The visual presentation of text and images of text has a contrast ratio	Level		

	(enhanced)	of at least 7:1, except for large text, incidental and logotypes.	AAA		
1.3.6	Visual presentation	For the visual presentation of text blocks, there is a mechanism to achieve the following: - Foreground and background colors can be selected by the user. - The width does not exceed 80 characters or glyphs (40 if CJK). - Text is not justified (aligned to both the left and the right margins). - Line spacing (leading) is at least space-and-a-half within paragraphs, and paragraph spacing is at least 1.5 times larger than the line spacing. - Text can be resized without assistive technology up to 200 percent in a way that does not require the user to scroll horizontally to read a line of text on a full-screen window.	Level AAA		
1.3.7	Images of a text	Images of text are only used for pure decoration or where a particular presentation of text is essential to the information being conveyed.	Level AAA		

Results - 2. Operable

2.1 Accessible for VoiceOver/TalkBack:
Make all functionality available for screen readers - VoiceOver (iOS) and TalkBack (Android).
Note: This part has been adapted to the system conditions of a mobile device.

	Guideline	Description	Success criteria	Comment	Evalua-tion
2.1.1	Screen reader	All functionality of the content is operable through a screen reader without requiring specific timings for individual actions, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints.	Level A		**OK**
2.1.2	No screen reader trap	If screen reader focus can be moved to a component of the page, then focus can be moved away from that component using only that same method, and, if it requires more than unmodified arrow or tab keys or other standard exit methods, the user is advised of the method for moving focus away.	Level A	When in the sidebar menu, it is hard for users to come back to the other sections (newsfeed and Co.). The user has to swipe with two fingers to the left to get back to the other sections. When clicking "back" in the navigation bar, the app closes.	**OK**
2.1.3	Screen reader (not an exception)	All functionality of the content is operable through a screen reader interface without requiring specific timings for individual actions.	Level AAA		**OK**

2.2 Enough time:
Enough time for users to read and use content.

	Guideline	Description	Success criteria	Comment	Evalua-tion
2.2.1	Pause, stop, hide	For moving, blinking, scrolling, or auto-updating information, all of the following are true: - For all moving, flashing or scrolling information that starts automatically, lasts longer than 5 seconds and is presented in parallel with other content, there is a mechanism for users to pause, stop or hide it unless the movement, flashing or scrolling is part of an action where it is indispensable. - For all auto-updating information	Level A		**OK**

			Success criteria	Comment	Evalua-tion
		that starts automatically and is presented in parallel with other content, there is a mechanism for users to pause, stop or hide the update or control the frequency of the update, unless the auto-update is part of an action where it is essential.			
2.2.2	Re-authenticating	When an authenticated session expires, users can continue the action after re-authentication without losing data.	Level AAA		**OK**

2.3 Seizures:

Do not design content in a way that is known to cause seizures.

	Guideline	Description	Success criteria	Comment	Evalua-tion
2.3.1	Three flashes or below threshold	Web pages do not contain anything that flashes more than three times in any one second period, or the flash is below the general flash and red flash thresholds.	Level A		**OK**
2.3.2	Three flashes	Web pages contain nothing that flashes more than three times in any one second period.	Level AAA		**OK**

2.4 Navigable:

Support for users to navigate, find content and determine where they are.

	Guideline	Description	Success criteria	Comment	Evalua-tion
2.4.1	Bypass blocks	There is a mechanism to bypass blocks of content that are repeated on multiple Web pages.	Level A		**OK**
2.4.2	Page titled	Web pages have titles that describe topic or purpose.	Level A		**OK**
2.4.3	Focus order	If a web page can be navigated sequentially and the navigation sequences affect meaning or operation, focusable components receive focus in an order that preserves meaning and operability.	Level A		**OK**
2.4.4	Link purpose (in context)	The purpose of each link can be determined by the link text alone or by the link text together with its	Level A	In the news feed, it is not clear where the link of a posting leads to.	

			software-determined link context except in cases where the purpose of the link would be ambiguous to users in general.			
2.4.5	Multiple ways	More than one way is available to locate a web page within a set of Web pages except where the Web Page is the result of, or a step in, a process.	Level AA		**OK**
2.4.6	Headings and labels	Headings and labels describe a topic or purpose.	Level AA		**OK**
2.4.7	Focus visible	Any user interface that can be operated by screen reader has an operating mode where the focus is visible.	Level AA		**OK**
2.4.8	Location	There is information about the users' position within a set of web pages.	Level AAA	There could be more info about the location e.g. in the chat, when the user is in a chat room and in the thread of a message.	**OK**
2.4.9	Link purpose (link only)	There is a mechanism to identify the purpose of each link by the link text alone, unless the link purpose would be ambiguous to users in general.	Level AAA		
2.4.10	Section headings	Section headings are used to organise the content.	Level AAA	With headings in the sidebar menu all the links could be more organised (e.g. "uni services" with all the links to CMS/LMS, "student services…)	**OK**

Results - 3. Understandable

3.1 Readable:
Readable and understandable text content.

	Guideline	Description	Success criteria	Comment	Evalua-tion
3.1.1	Page language	The default human language of each web page can be determined by software.	Level A		**OK**
3.1.2	Language of parts	The human language of any section or sentence in the content can be determined by software except for proper nouns, technical terms, words of obscure language and words or phrases that have become part of the jargon of the immediately surrounding text.	Level AA		
3.1.3	Unusual words	There is a mechanism to detect specific definitions of words or phrases used in an unusual or restricted way, including idioms and jargon.	Level AAA		
3.1.4	Abbreviations	A mechanism for identifying the expanded form or meaning of abbreviations is available.	Level AAA		
3.1.5	Reading level	When text requires reading ability more advanced than the lower secondary education level after removal of proper names and titles, supplemental content, or a version that does not require reading ability more advanced than the lower secondary education level, is available.	Level AAA		
3.1.6	Pronunciation	A mechanism is available for identifying specific pronunciation of words where meaning of the words, in context, is ambiguous without knowing the pronunciation.	Level AAA		

3.2 Predictable:
Make Web pages appear and operate in predictable ways.

	Guideline	Description	Success criteria	Comment	Evalua-tion

3.2.1	On focus	When any component receives focus, it does not initiate a change of context.	Level A		**OK**
3.2.2	On input	Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component.	Level A		**OK**
3.2.3	Consistent navigation	Navigation mechanisms that are repeated on multiple web pages within a set of web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.	Level AA		**OK**
3.2.4	Consistent identification	Components that have the same functionality within a set of web pages are identified consistently.	Level AA		**OK**
3.2.5	Change on request	Changes of context are initiated only by user request or a mechanism is available to turn off such changes.	Level AAA		

3.3 Input assistance
Help for users to avoid and correct mistakes.

	Guideline	Description	Success criteria	Comment	Evalua-tion
3.3.1	Error identification	If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text.	Level A	When writing an email, check whether an email address is valid. (Users get a warning when there's no subject, maybe add a valid-email-warning)	**OK**
3.3.2	Labels or instructions	If the content requires user input, labels or instructions are provided.	Level A		**OK**
3.3.3	Error suggestion	If an input error is automatically detected and recommendations for correction are known, then these recommendations will be provided to users unless this would compromise the security or purpose of the content.	Level AA		**OK**
3.3.4	Error prevention (legal, financial, data)	For websites that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit	Level AA		**OK**

		user test responses, at least one of the following is true: - Reversible: Submissions are reversible. - Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them. - Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalising the submission.			
3.3.5	Help	Context-sensitive help is available.	Level AAA		**OK**
3.3.6	Error prevention (all)	For websites that require users to submit information, at least one of the following applies: - Reversible: Submissions are reversible. - Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them. - Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.	Level AAA		**OK**

Results - 4. Robust

4.1 Compatibility:
Maximize compatibility with current and future user agents, including assistive technologies.

	Guideline	Description	Success criteria	Comment	Evalua-tion
4.1.1	Parsing	In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.	Level A		**OK**
4.1.2	Name, role, value	For all user interface components (including but not limited to: form elements, links, and scripted components), name and role may be determined by software; states, properties, and values that may be set by users may be set by software; and notification of changes to these elements is available to user agents, including assistive techniques.	Level A		**OK**

Summary

The compliance with the accessibility guidelines of the Studo App (Operating systems: Android, iOS) was examined and audited. The test used the requirements of the WCAG 2.0 Web Accessibility Guidelines.

The result of the accessibility audit of "Studo" is as follows:

The Studo App operated by Student & Campus Services GmbH provides the technical requirements for accessibility compliance.

Deficits in the implementation of the accessibility regulations were found in isolated cases, but these do not fundamentally affect the overall level of accessibility.

Graz, 14.02.2022

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Isabella Zick