

Accessibility research 'Buiten-Beter' app for iOS

Client DigiToegankelijk TOP

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Executive summary

Abra has carried out accessibility research on behalf of DigiToegankelijk TOP. We have selected 6 screens through a structured sample. We have checked whether these screens comply with the EN 301 549 standard. This standard references 44 success criteria from the WCAG 2.1.

- We found 19 problems on 6 screens.
- The app passes 35 of the 44 succes criteria.
- The app does not pass the following success criteria:
 - 1. 🔄 Succes Criterion 1.1.1 Non-text Content
 - 2. 🗏 Succes Criterion 1.3.1 Info and Relationships
 - 3. AA Succes Criterion 1.4.4 Resize text
 - 4. 😤 Succes Criterion 2.4.3 Focus Order
 - 5. 💿 Succes Criterion 2.4.7 Focus Visible
 - 6. 🖉 Succes Criterion 2.5.3 Label in Name
 - 7. 🗟 Succes Criterion 3.2.2 On Input
 - 8. 🙄 Succes Criterion 4.1.2 Name, Role, Value
 - 9. 🔮 Succes Criterion 4.1.3 Status Messages

Version 6: Three key issues are: 1. The focus keeps shifting upwards after you enter data. 2. After filling in an answer, the focus moves to the next question. 3. Previous answers are no longer available to screen readers but remain visible visually.

Questions about this report can be asked via info@abra.nl ය. On our website abra.nl ය you can read more about our services.

1. Introduction

Abra has carried out accessibility research on behalf of DigiToegankelijk TOP. The evaluation method WCAG-EM was used, unless not applicable, in which case Appt-EM was used. We investigated whether the app complies with the EN 301 549 standard. This standard contains 44 success criteria from the WCAG 2.1 guidelines.

WCAG

WCAG stands for Web Content Accessibility Guidelines. The guideline was originally created for websites, but can also partly be applied to apps. Version 2.1 of the WCAG consists of 4 principles, 13 guidelines and 78 success criteria. The success criteria are divided into three levels: A, AA and AAA. Level A consists of 30 success criteria, level AA of 20 success criteria and level AAA of 28 success criteria. To meet level AA you must also meet level A.

EN 301 549

EN 301 549 is the European standard for digital accessibility. We applied version 3.2.1 of this standard for this research. Apps fall under the 'Software' chapter. For apps, 44 of the 50 success criteria from level A and AA of the WCAG 2.1 apply. Minor adjustments have been made to the notes or definitions for 13 success criteria, often keeping the context the same. The following success criteria are not mandatory for apps: 2.4.1, 2.4.2, 2.4.5, 3.1.2, 3.2.3 and 3.2.4.

Accessibility statement

Government agencies are required by law to optimize the accessibility of their apps. They are held accountable for how far they have progressed. For that accountability, government agencies must make and upload an <u>accessibility statement</u>. This report gives a good overview of the level of accessibility.

Support

Abra supports organizations that want to improve the accessibility of their apps. We provide services and software to improve the accessibility of apps. Our reports always contain solutions specifically for apps.

Questions about this report can be asked via info@abra.nl ය. On our website abra.nl ය you can read more about our services.

2. Research

Abra has carried out accessibility research on behalf of DigiToegankelijk TOP. This are the details:

App name

BuitenBeter

Operating system iOS

Tested version 2.2.119

Installation method Via Testflight

Research type WCAG 2.1 level AA

Applied standard EN 301 549 같 with WCAG 2.1 같

Research method WCAG-EM 샵 and Appt-EM 샵

Client DigiToegankelijk TOP

Researcher Paul van Workum

Reviewer Tanya van Workum

Date 23 december 2024

2.1. Scope

The research is based on a structured sample. Part of the app has been selected to draw conclusions about the entire app. Problems that occur several times on a screen might only be described once.

Overview of the selected screens

Nr	Screen Path	
1	Onboarding	Onboarding > Home
2	Home (Nieuwe melding)	Home
3	Meldingen en Berichten	Home > Meldingen en Berichten
4	Mijn gegevens	Home > Mijn gegevens
5	Over BuitenBeter	Home > Over BuitenBeter
6	Mijn meldingen	Home > Meldingen en Berichten > Mijn meldingen

2.2. Devices

The following devices were used during the research:

• iPhone SE, iOS 18.1.1

2.3. Techniques

The app has been developed with the following techniques:

• .net MAUI

3. Results

The research shows that the 'BuitenBeter' app meets 35 of the 44 success criteria from the guideline.

Success crite- rion	Level	Title	Result
灵 1.1.1	А	Non-text Content	🗙 Does not pass
 1.2.1	A	Audio-only and Video-only (Prerecorded)	Passes
ایک 1.2.2	A	Captions (Prerecorded)	Passes
[] ^{AD)))} 1.2.3	A	Audio Description or Media Alternative (Pre- recorded)	✓ Passes
1.2.4 (ش)	AA	Captions (Live)	Passes
AD)) 1.2.5	AA	Audio Description (Prerecorded)	Passes
≣ 1.3.1	А	Info and Relationships	🗴 Does not pass
°;° 1.3.2	А	Meaningful Sequence	Passes
<u>≭</u> 1.3.3	А	Sensory Characteristics	Passes
🗐 1.3.4	AA	Orientation	Passes
œ•••⊚ 1.3.5	AA	Identify Input Purpose	Passes
℘ 1.4.1	А	Use of Color	Passes
	A	Audio Control	Passes
_⊤ ∲ 1.4.3	AA	Contrast (Minimum)	Passes
AA 1.4.4	AA	Resize text	🗙 Does not pass
्रिं 1.4.5	AA	Images of Text	Passes
	AA	Reflow	Passes

Success crite- rion	Level	Title	Result
	AA	Non-text Contrast	✓ Passes
Å ₁ 1.4.12	AA	Text Spacing	✓ Passes
글 1.4.13	AA	Content on Hover or Focus	✓ Passes
i 📷 2.1.1	А	Keyboard	✓ Passes
〕2.1.2	А	No Keyboard Trap	✓ Passes
A 2.1.4	А	Character Key Shortcuts	✓ Passes
Q ₀ 2.2.1	А	Timing Adjustable	✓ Passes
⁽) 2.2.2	А	Pause, Stop, Hide	✓ Passes
k 2.3.1	А	Three Flashes or Below Threshold	✓ Passes
2 .4.3	А	Focus Order	🗙 Does not pass
☑ 2.4.4	А	Link Purpose (In Context)	✓ Passes
1 2.4.6	AA	Headings and Labels	✓ Passes
@ 2.4.7	AA	Focus Visible	🗙 Does not pass
டு 2.5.1	А	Pointer Gestures	✓ Passes
& 2.5.2	А	Pointer Cancellation	✓ Passes
2.5.3	А	Label in Name	🗙 Does not pass
°© 2.5.4	А	Motion Actuation	Passes
亮 3.1.1	AA	Language of Page	✓ Passes
ത് 3.2.1	А	On Focus	✓ Passes
₿ 3.2.2	А	On Input	🗙 Does not pass

Success crite- rion	Level	Title	Result
≙ 3.3.1	А	Error Identification	Passes
Name 3.3.2	А	Labels or Instructions	Passes
æ 3.3.3	AA	Error Suggestion	Passes
⊗⊗ 3.3.4	AA	Error Prevention (Legal, Financial, Data)	Passes
4.1.1	А	Parsing	Passes
€ 4.1.2	А	Name, Role, Value	Ooes not pass
@ 4.1.3	AA	Status Messages	X Does not pass

The following pages contain an explanation of each success criterion and an overview of the findings.



🕅 Succes Criterion 1.1.1 - Non-text Con-

tent

Ensure that alternative text is available for all content without text. These include images, icons and graphs. Describe what there is to see. People who are blind have this description read aloud through their screen reader. Alternative text can also be useful for anyone who is unsure about the meaning of the content.



🗙 Does not pass

Solution for success criterion 1.1.1

Nr	Screen	Problem	Screenshot
1	Home (Nieuwe melding)	The decorative image is read aloud by the screen reader. Make sure all deco-rative images are hidden.	Pod 📚 14:13
		It is about the icon " icoon van een uitroepteken ". Tip. Group the icon with the text.	Let op! Het is niet mogelijk om eerder ingevulde gegevens te × wijzigen door terug te scrollen. Je kunt later bij (

Succes Criterion 1.2.1 - Audio-only and Video-only (Prerecorded)

Ensure a transcript is provided when information is only conveyed by audio or images. With podcasts, the information is conveyed only through audio. People who are deaf cannot hear what is being said. In animation films, the information is often only conveyed through images. People who are blind cannot see the images. By making a transcript available, the information can be read instead.



Additional information about success criterion 1.2.1

Succes Criterion 1.2.2 - Captions (Prerecorded)

Ensure captions are provided for all videos with sound. People who are hard of hearing, deaf or deafblind depend on captions to understand what is being said. Captions are also useful for anyone who is temporarily unable to perceive sound, for example inside a quiet zone.



Additional information about success criterion 1.2.2

Succes Criterion 1.2.3 - Audio Description or Media Alternative (Prerecorded)

Ensure a transcript or audio description is provided for videos where you can't hear what is displayed. The content can then be read in case of a transcript, or heard in case of audio description. If you choose to add a audio description, you also meet success criterion 1.2.5.



Additional information about success criterion 1.2.3 🗹



Succes Criterion 1.2.4 - Captions (Live)

Ensure real-time captions are available for all live videos with audio. This allows people who need subtitles to directly access the spoken information.



Additional information about success criterion 1.2.4 🗹

AD)) Succes Criterion 1.2.5 - Audio Description (Prerecorded)

Ensure audio description is available when important information is shown which you cannot hear. An extra sound track must be provided where where the visual information is described. This allows people who are blind or have difficulty processing visual information to also understand the content.



Additional information about success criterion 1.2.5

Succes Criterion 1.3.1 - Info and Relationships

Ensure that the information and relationships on the screen are not only conveyed visually.

Information on the screen must be conveyed to assistive technologies. For example, make sure that headings are not only bold, but also marked as headings in the code.

Relationships on the screen must be usable with assistive technologies. Elements in a list must be navigable one by one. Elements in a table must be navigable by rows and columns.

🗙 Does not pass

Solution for success criterion 1.3.1 🗗

Nr	Screen	Problem	Screenshot
2	Over Buiten- Beter	A list is read in one go by a screen reader. This list is not seperately navi- gable. Make sure list can be navigated seperately. Make sure list items are read separate- ly.	<page-header></page-header>

Nr	Screen	Problem	Screenshot
3	Home (Nieuwe melding)	A list is read in one go by a screen reader. This list is not seperately navi- gable. Make sure list can be navigated seperately. It is about the list in the pop-up de- scribing how you can give the app per- mission to use the camera.	Image: Pod Time 11:24 BuitenBeter X Image: Straatverlichting defect X
4	Mijn meldin- gen	On this screen, there are headings that are not marked-up as headings. Make sure that assistive technology recog- nizes headings as headings. It is about the heading "Categorie". Group "Categorie" with the text "Straatverlichting" or mark "Categorie" as heading.	(€) 1/52 € Mijn meldingen Straatverlichting 0 ng 0 Doorgestuurd 1 Lisztgaarde 5, 5344EA Oss Meldingsnummer #3366838 Categorie Straatverlichting Subcategorie Categorie

quence

Ensure that the order which assistive technologies follow reflect the meaning of the content. Otherwise, users of assistive technology may misunderstand the content. Most content is presented from left to right, from top to bottom. The information should also be presented to users of assistive technologies in this way.



Additional information about success criterion 1.3.2



Succes Criterion 1.3.3 - Sensory Characteristics

Ensure instructions can be understood by everyone. Instructions that only use shape, size, location, orientation or sound are not understandable for everyone. For example, people who are blind cannot see shape. Combine multiple properties to allow everyone to understand the instructions.



Additional information about success criterion 1.3.3

Succes Criterion 1.3.4 - Orientation

Ensure that the screen content rotates with the device display. All screens of an app must be usable in all orientations. Users in wheelchairs sometimes have their device mounted horizontally. People who use an enlarged font also often rotate their device so that more words fit on the screen.



Additional information about success criterion 1.3.4 🗹

Succes Criterion 1.3.5 - Identify Input

Purpose

Ensure it is clear what information is expected from users inside input fields. Set the correct input type to allow auto-completion, e.g. for e-mail addresses. This is faster for everyone and prevents errors for users of assistive technology.



Additional information about success criterion 1.3.5 🗹

ℜ Succes Criterion 1.4.1 - Use of Color

Ensure colour isn't the only way information is conveyed. Information which is conveyed only by colour cannot be perceived by everyone. For example, also use shape to give instructions, e.g. reference a green checkmark or red cross. Inside a legend, use numbers in addition to colour, to allow people who are colour blind to find what they are looking for.



Additional information about success criterion 1.4.1

🛞 Succes Criterion 1.4.2 - Audio Control

Ensure that audio which lasts longer than three seconds can be paused or stopped. It is disturbing if audio cannot be paused, especially for people who use a screen reader. As a result, they can no longer hear the screen reader's voice properly. For people who have difficulty concentrating, it is also nice if audio can be paused. This allows them to focus better on the other information.



Additional information about success criterion 1.4.2 Z

T^{\oplus} Succes Criterion 1.4.3 - Contrast (Mini-

mum)

Ensure that the contrast ratio between the text colour and background colour is at least 4.5:1. For bold and large text, a ratio of 3:1 is sufficient. By maintaining these ratios, visually impaired and colour blind users can usually read the text well. In addition, this makes an app easier for everyone to use, for example outside in the sun.



Additional information about success criterion 1.4.3 🗹

AA Succes Criterion 1.4.4 - Resize text

Ensure that the text in your app supports resizing. Users specify their preferred font size in the system settings. Text in your app should resize according to the preferred font size. This is especially important for visually impaired users because otherwise they might not be able to read the text. Text should not be abbreviated with dots.

🗙 Does not pass

Solution for success criterion 1.4.4 🗹

Nr	Screen	Problem	Screenshot
5	Home (Nieuwe melding)	(Parts of) text on this screen are no longer visible when the text is magni- fied to 200%. Make sure that all text remains available to users who use the app with an enlarged text. It is about the text "Afstands tot".	Geen simkaart 09:43 BuitenBeter X rpelaan 24/7 ? spertisebut ? System ? Soogle ? Beethovengaarde 36, 5344CJ Oss ? Afstand tot adres: 10 m Deze locatie gebruiken speldAfstand tot adres: 10 m



$\overline{ op}$ Succes Criterion 1.4.5 - Images of Text

Ensure images are not used to display text. Always use plain text to allow the text to be adapted to the user's preferences. The font size inside an image often scales to a limited extent or not at all. As a result, the text cannot be read by everyone.

Exception: If an image of text does scale or if text as image is specifically needed to convey information.



Additional information about success criterion 1.4.5

Succes Criterion 1.4.10 - Reflow Ē₿

Ensure that all content on the screen remains readable even with the largest font. Content should be readable without having to scroll in two directions. Because the text is displayed larger, it can push other elements off the screen. Ensure content can still be reached, for example, by scrolling vertically.



Additional information about success criterion 1.4.10 ₽

-👾 Succes Criterion 1.4.11 - Non-text Con-

trast

Ensure that the content on the screen has a contrast of at least 3:1 with the surrounding colour. Think of graphic elements such as icons, buttons and input fields. By keeping this ratio, visually impaired and colour blind users can distinguish the content well. In addition, this makes an app easier for everyone to use, for example outside in the sun.



Additional information about success criterion 1.4.11

$\frac{A}{\Delta \uparrow}$ Succes Criterion 1.4.12 - Text Spacing

Ensure there is enough space between paragraphs, letters and words. People with dyslexia can read faster as a result. People who are visually impaired can also read the text more easily. White space can also help people with a cognitive impairment to distinguish parts from each other.



Additional information about success criterion 1.4.12

Succes Criterion 1.4.13 - Content on

Hover or Focus

Ensure it possible to hide content which appears automatically when touching an element. It often happens that an element is touched accidentally. If new content appears, it may affect the completion of a task. Automatic content mainly causes problems for users of assistive technologies.



Additional information about success criterion 1.4.13 🗹

👼 Succes Criterion 2.1.1 - Keyboard

Ensure that all functionality in the app can be used with assistive technologies. People who are blind use the screen reader. People with a motor disability use switch control, voice control and/or the keyboard. These assistive technologies are built into the operating system.

Passes

Additional information about success criterion 2.1.1 2



📷 Succes Criterion 2.1.2 - No Keyboard

Trap

Ensure users of assistive technologies can't get stuck anywhere in the app. It is especially common that overlays cannot be closed. Many assistive technologies do not support clicking next to an overlay. As a result, the user gets stuck. You must include a close button which assistive technologies can activate.



Additional information about success criterion 2.1.2 🗹



Succes Criterion 2.1.4 - Character Key Shortcuts

Ensure that shortcuts cannot be accidentally activated when using assistive technologies. Many assistive technologies mimic keystrokes to perform actions. This can result in unwanted shortcuts being activated. Make it possible to change or disable shortcuts.



Additional information about success criterion 2.1.4 2

🗘 Succes Criterion 2.2.1 - Timing Adjustable

Ensure everyone has enough time to complete tasks. People with disabilities sometimes need more time to navigate through a screen. Operating an app with assistive technologies is often slower compared to touch. People with learning disabilities, dyslexia and cognitive impairments may also need more time. If there are time limits, then the time limit should be adjustable. It's best to make sure there are no time limits.



Additional information about success criterion 2.2.1

Ensure it is possible to pause, stop or hide moving parts on the screen. Users of assistive technologies may find it difficult to use animated elements. After pausing or stopping animations, interaction is often possible. Flashing content makes it more difficult for people with attention disorders to stay focused. Hiding the distracting content makes it easier for them to use an app.



Additional information about success criterion 2.2.2 🗹

Succes Criterion 2.3.1 - Three Flashes or Below Threshold

Ensure no more than three flashes per second are shown anywhere in the app. This can cause an epileptic seizure. Warnings do not work well, because they are often overlooked. This is especially the case with children who cannot read yet.



Additional information about success criterion 2.3.1

Succes Criterion 2.4.3 - Focus Order

Ensure assistive technologies use a logical focus order when navigating. The order of navigating a screen is usually from left to right, from top to bottom. Make sure assistive technologies use an equivalent focus order. The difference with success criterion 1.3.2 is that this only concerns the focus order.

🗙 Does not pass

Solution for success criterion 2.4.3 ⊿

Nr	Screen	Problem	Screenshot
6	Meldingen en Berichten	The focus order of the elements on the screen is not the same as the visual or- der of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. Visually you see questions and an- swers. With screenreader those are not announced at all after finalizing. Be- cause of this navigating is hard and you cannot check what you have answered.	17:18 BuitenBeter Image: Stratubule Image: Stratubule Image: Stratubule Straatverlichting Image: Stratubule Stratubule Image: Stratubue

Nr	Screen	Problem	Screenshot
7	Home (Nieuwe melding)	The focus order of the elements on the screen is not the same as the visual or- der of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. After emptying the input field the focus cannot be moved to the element any more. Make sure you can search for a location as an alternative for using the map.	Ceen simkaart
8	Mijn meldin- gen	The focus order of the elements on the screen is not the same as the visual or- der of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. The title "Mijn" is not read out by the screen reader and skipped altogether.	Af In behan val deling Beethovenga arde 36, 5344CJ Oss Meldingnum mer

☑ Succes Criterion 2.4.4 - Link Purpose (In Context)

Ensure links are clear without the surrounding content. Users of assistive technologies can request an overview of all links on the screen. It is important that the purpose of each link is clear. A common mistake is to name a link 'here'. Without the surrounding text it is not clear what you will read more about.



Additional information about success criterion 2.4.4 🗹

T∃ Succes Criterion 2.4.6 - Headings and

Labels

Ensure to use descriptive headings and labels.

Descriptive headings are important to understand how the content is constructed. Blind users can navigate through headings using a screen reader.

Descriptive labels help users identify content. Voice control users speak the labels to perform actions.



Additional information about success criterion 2.4.6 🗹



🐼 Succes Criterion 2.4.7 - Focus Visible

Ensure that elements focused by assistive technologies are clearly indicated. Focus is often shown by placing a box around the element. Make sure that the placement is correct and that the colour is clearly visible. For apps it is not possible to adjust the colour of the frame. However, it is possible to give elements a different background colour when they have focus.

🗙 Does not pass

Nr	Screen	Problem	Screenshot
9	Home (Nieuwe melding)	The focus lands on invisible elements. Make sure that the focus only lands on visible elements. It is about the button "Grofvuil niet opgehaald" and all elements below that.	Ceen simkaart 17:10 BuitenBeter X BuitenBeter X melding? Zoek categorie ~ Afval Afvalcontainer vol/niet geleegd Ø Dumping afval/ grof vuil Ø Gevaarlijk afval Annuleren OK Mijn onderwerp staat er niet tussen Grofvuil niet opgehaald. Ø Grofvuil niet opgehaald.

Solution for success criterion 2.4.7 ⊿

Succes Criterion 2.5.1 - Pointer Gestures

Ensure an alternative is provided for all gesture-triggered actions. People with a motor disability cannot perform all gestures. For example, not everyone is able to move two fingers apart to zoom. Add an alternative, such as a button, to allow users to zoom in without gestures.



Additional information about success criterion 2.5.1

Succes Criterion 2.5.2 - Pointer Cancellation

Ensure it is possible to cancel touches. Buttons may only be activated with a click and not with a touch. This gives the user the option to cancel the touch.



Additional information about success criterion 2.5.2 2

Succes Criterion 2.5.3 - Label in Name

Ensure the technical name of elements contain the visual name. A button with the text 'Log in' must be able to be activated by voice control via this name. This is not possible if the technical name is different. For visually impaired people using a screen reader, it is also confusing when they hear a different name compared to what they see on the screen.

🔀 Does not pass

Solution for success criterion 2.5.3 🗗

Nr	Screen	Problem	Screenshot
10	Home (Nieuwe melding)	Because visible text on the button does not appear in the accessible name of the button, this button cannot be activated with voice. Make sure the accessible name contains the visual name. The button "Annuleren" has a name "Sluit het venster".	Geen simkaart 13:42 tes Geen resultaten gevonden. Probeer opnieuw te typen of pas uw zoekopdracht aan. Annuleren bericht. Je melding Gereed q w e r t y u i o p a s d f g h j k l Z x c v b n m ⊗ Sluit het venster, Knop

Succes Criterion 2.5.4 - Motion Actuation

Ensure an alternative is provided for motion-triggered actions and make it possible to disable them. For users with limited hand function, shaking is often not possible. Provide an alternative, such as a button. For users with spasms, the actions can be triggered inadvertently. Make it possible to disable motion-triggered actions.



Additional information about success criterion 2.5.4 2

Succes Criterion 3.1.1 - Language of

Page

Ensure the language is set for all content. A screen reader reads all text that appears on the screen. The pronunciation of the words depends on the language that has been set. When the language is not set, or a wrong language is set, the pronunciation is unclear. A correctly set language also helps to display letters and to display subtitles.



Additional information about success criterion 3.1.1 🗹

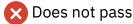
Ensure it is predictable what happens when you move the focus. When users move their finger over a button, it should not be activated unexpectedly. If the last field of a form is filled in, it should not be sent unexpectedly. These types of actions should only be performed automatically if users are notified in advance. By making focus behavior predictable, you help people with a visual, cognitive or motor impairment.



Additional information about success criterion 3.2.1

Succes Criterion 3.2.2 - On Input

Ensure it is predictable what will happen when entering data. In case the focus moves automatically on correct input, this should be indicated in advance. Indicate if a new screen will be opened when submitting a form. Unexpected actions can confuse users with visual or cognitive impairments.



Solution for success criterion 3.2.2 🗹

Nr	Screen	Problem	Screenshot
11	Home (Nieuwe melding)	When the user enters data in the input field, the data is sent automatically. Make sure the user is informed about this behavior in advance. After answering a question the focus automatically goes to the next ques- tion. This behavior must be announced to the user to avoid confusion.	Pod * 21:26 BuitenBeter X Wat is de locatie van de melding? X Ocatie van de melding? I Ocatie van a.x. Z Deze Iruiken Atie toe te voegen

Succes Criterion 3.3.1 - Error Identification

Ensure a clear error message is shown when data has been entered incorrectly. It often happens that data is entered incorrectly. Clearly indicate which input is incorrect and explain why. It is important that error messages are also clear for user of assistive technologies. Ensure errors are also indicated in text to allow everyone to perceive them.



Additional information about success criterion 3.3.1 2

Succes Criterion 3.3.2 - Labels or In-

structions

Ensure clear instructions are provided in places users have to input data. Add a label to the input fields, for example 'First name'. Mark whether fields are required or optional. Indicate if data must be entered in a specified order. All users benefit from clear instructions. Clear instructions are indispensable for users with cognitive impairments.



Additional information about success criterion 3.3.2 🗹

Succes Criterion 3.3.3 - Error Sugges-

Ensure suggestions are provided when data has been entered incorrectly. Users regularly make mistakes when entering data. Help users to fix these errors by providing suggestions. For example, when a date has been entered incorrectly, indicate in which order the day, month and year are expected.



Additional information about success criterion 3.3.3 🗹

Succes Criterion 3.3.4 - Error Prevention (Legal, Financial, Data)

Ensure data is submitted intentionally. Allows users to undo, correct or confirm a submission. At least one of these options must be provided for submissions that cause a legal obligation, financial transaction, or loss of data. These options reduce the chance of unforeseen consequences.



Additional information about success criterion 3.3.4 🗹

</> Succes Criterion 4.1.1 - Parsing

Ensure the source code of the app does not contain any errors and does not use any deprecated functions. Assistive technologies may not behave as expected when code is not updated to modern standards. Adhere to the standards of the platforms which are supported. heck that the app works on all versions of the supported operating systems.



Additional information about success criterion 4.1.1

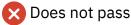
Succes Criterion 4.1.2 - Name, Role, Value

Ensure it is clear for users of assistive technologies what actions can be performed.

Set a name. The name is used for identification. By setting a name, assistive technologies such as voice control can perform targeted actions.

Set a role. With the role "button" it is clear that an action takes place upon activation. With the role "link" it is clear that you will be referred to another location. By setting a role, it is clear to users of assistive technologies what they can do.

Set a value. A check box should have the value "selected" or "not selected". With a volume control, the value can be "50%". By setting a value, this text value can be passed to assistive technologies.



Solution for success criterion 4.1.2 🗹

Nr	Screen	Problem	Screenshot
12	Meldingen en Berichten	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the list item "Probleem met ".	 TestFlight ♥ 18:54 BuitenBeter neldingen In de buurt #3366811 Beethovenga arde 36, 5344CJ Oss 03-12-24 Knop

Nr	Screen	Problem	Screenshot
13	Home (Nieuwe melding)	The input field does not have an accessible name. When tapping this input field, the assistive technology does not read out which data must be entered here. Provide a correct name. After typing the placeholder text disappears. After this the input field does not have a name.	Geen simkaart 09:15 Gemeente Achtkarspelen Twijzel, Twijzelerheide Gemeente Assen Ter Aard Gemeente Barneveld Terschuur Gemeente Breda Teteringen Annuleren Gegevens in dit veld Zoels een Gereed Q W e r t y u i o p a s d f g h j k l It z x c v b n m (x) 123 ⊕ 0, space done Lateveld Bewerkbaset linvacenund aan eind
14	Home (Nieuwe melding)	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the button "Afval".	Geen simkaart 09:20 BuitenBeter X BuitenBeter X melding? X © Zoek een onderwerp X V Afval Afvalcontainer Vol/niet geleegd X Afvalcontainer Yol/niet geleegd Straatverlichting Gefect Mijn onderwerp staat er Knop

Nr	Screen	Problem	Screenshot
15	Home (Nieuwe melding)	The accessible name of this menu but- ton does not describe whether the content that this button toggles/ex- pands is visible or not. Make sure that this information is read by the assistive technology. It is about the button "Afval".	Geen simkaart ? 09:20 BuitenBeter X BuitenBeter X melding? X Coek een onderwerp X Image: Coek een onderwerp X
16	Home (Nieuwe melding)	This interactive element does not have a proper role. This element looks and behaves like a button. Make sure the screen reader announces the correct role of this element. It is about the button or search field "Beethovengaarde".	Geen simkaart ? 09:40 BuitenBeter X rpelaan 24/7 ? Expertisebut ? ? Expertisebut ? ? Van Viet ? Google ? Beethovengaarde 36, 5344CJ Oss ? Afstand tot adres: 10 m Deze locatie gebruiken Beethovengaarde 36, 53 *

Nr	Screen	Problem	Screenshot
17	Mijn meldin- gen	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the button "#3366811".	Ceen simkaart 09:48 ■ BuitenBeter neldingen In de buurt #3366811 Beethovenga arde 36, 5344CJ Oss 09:47 09:47
18	Mijn meldin- gen	This element has been given a role. This is unnecessary. Delete this role. It is about the camera button.	Ceen simkaart

Succes Criterion 4.1.3 - Status Messages

Ensure that status messages are also passed to assistive technologies. A blind user cannot see new information appearing anywhere on the screen. By providing a status message, the screen reader can announce that new information is available.

🗙 Does not pass

Solution for success criterion 4.1.3 🗗

Nr	Screen	Problem	Screenshot
19	Home (Nieuwe melding)	After finishing the process, a message appears showing the result of this ac- tion. This message is not read aloud. Make sure this information is accessi- ble. It is about the error message "Let op! Het is niet mogelijk".	Geen simkaart

4. Recommendations

To comply with the standard, the app needs to be improved on the following points:

🔀 Succes Criterion 1.1.1 - Non-text Con-

tent

Ensure that alternative text is available for all content without text. These include images, icons and graphs. Describe what there is to see. People who are blind have this description read aloud through their screen reader. Alternative text can also be useful for anyone who is unsure about the meaning of the content.

- Solution for success criterion 1.1.1 ⊿
- Definition of success criterion 1.1.1 ₽
- Explanation of success criterion 1.1.1 ₽

Succes Criterion 1.3.1 - Info and Rela-

tionships

Ensure that the information and relationships on the screen are not only conveyed visually.

Information on the screen must be conveyed to assistive technologies. For example, make sure that headings are not only bold, but also marked as headings in the code.

Relationships on the screen must be usable with assistive technologies. Elements in a list must be navigable one by one. Elements in a table must be navigable by rows and columns.

- Solution for success criterion 1.3.1
- Definition of success criterion 1.3.1
- Explanation of success criterion 1.3.1 ⊿

$_{\tt A} \mbox{\it A}$ Succes Criterion 1.4.4 - Resize text

Ensure that the text in your app supports resizing. Users specify their preferred font size in the system settings. Text in your app should resize according to the preferred font size. This is especially important for visually impaired users because otherwise they might not be able to read the text. Text should not be abbreviated with dots.

- Solution for success criterion 1.4.4 🗗
- Definition of success criterion 1.4.4
 Z
- Explanation of success criterion 1.4.4 ⊿

Succes Criterion 2.4.3 - Focus Order

Ensure assistive technologies use a logical focus order when navigating. The order of navigating a screen is usually from left to right, from top to bottom. Make sure assistive technologies use an equivalent focus order. The difference with success criterion 1.3.2 is that this only concerns the focus order.

- Solution for success criterion 2.4.3 🗹
- Definition of success criterion 2.4.3
- Explanation of success criterion 2.4.3 🗹

Succes Criterion 2.4.7 - Focus Visible

Ensure that elements focused by assistive technologies are clearly indicated. Focus is often shown by placing a box around the element. Make sure that the placement is correct and that the colour is clearly visible. For apps it is not possible to adjust the colour of the frame. However, it is possible to give elements a different background colour when they have focus.

- Solution for success criterion 2.4.7 🗹
- Definition of success criterion 2.4.7
 Z
- Explanation of success criterion 2.4.7 🗹

Succes Criterion 2.5.3 - Label in Name

Ensure the technical name of elements contain the visual name. A button with the text 'Log in' must be able to be activated by voice control via this name. This is not possible if the technical name is different. For visually impaired people using a screen reader, it is also confusing when they hear a different name compared to what they see on the screen.

- Solution for success criterion 2.5.3 🗗
- Definition of success criterion 2.5.3
- Explanation of success criterion 2.5.3 ⊿

Succes Criterion 3.2.2 - On Input

Ensure it is predictable what will happen when entering data. In case the focus moves automatically on correct input, this should be indicated in advance. Indicate if a new screen will be opened when submitting a form. Unexpected actions can confuse users with visual or cognitive impairments.

- Solution for success criterion 3.2.2 🗹
- Definition of success criterion 3.2.2
- Explanation of success criterion 3.2.2 🗗

Succes Criterion 4.1.2 - Name, Role, Value

Ensure it is clear for users of assistive technologies what actions can be performed.

Set a name. The name is used for identification. By setting a name, assistive technologies such as voice control can perform targeted actions.

Set a role. With the role "button" it is clear that an action takes place upon activation. With the role "link" it is clear that you will be referred to another location. By setting a role, it is clear to users of assistive technologies what they can do.

Set a value. A check box should have the value "selected" or "not selected". With a volume control, the value can be "50%". By setting a value, this text value can be passed to assistive technologies.

- Solution for success criterion 4.1.2 ⊿
- Definition of success criterion 4.1.2 ☑
- Explanation of success criterion 4.1.2 ⊿

🔮 Succes Criterion 4.1.3 - Status Messages

Ensure that status messages are also passed to assistive technologies. A blind user cannot see new information appearing anywhere on the screen. By providing a status message, the screen reader can announce that new information is available.

- Solution for success criterion 4.1.3 🗹
- Definition of success criterion 4.1.3 ☑
- Explanation of success criterion 4.1.3

Appendix A: Findings per screen

In total we made 19 findings on 6 screens.

Overview	of the	findings	per	screen
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Nr	Screen	Amount of findings
1	Onboarding	0
2	Home (Nieuwe melding)	12
3	Meldingen en Berichten	2
4	Mijn gegevens	0
5	Over BuitenBeter	1
6	Mijn meldingen	4
	Total	19

The following pages list all the findings per screen.

1. Onboarding

We have not made any (new) findings this screen. This screen may contain recurring findings that have already been reported on other screens.

2. Home (Nieuwe melding)

We detected 12 findings on this screen.

Nr	Success criterion	Problem	Screenshot
1	⊠ <u>1.1.1</u> Non-text Content	The decorative image is read aloud by the screen reader. Make sure all decorative images are hidden. It is about the icon " icoon van een uitroepteken ". Tip. Group the icon with the text.	Image: Pod Text of the second of the seco
3	≣ <u>1.3.1</u> Info and Relation- ships	A list is read in one go by a screen reader. This list is not seperately navigable. Make sure list can be navigated seperately. It is about the list in the pop-up describing how you can give the app permission to use the cam- era.	Image: Pod The second secon

Nr	Success criterion	Problem	Screenshot
5	₄A <u>1.4.4 ⊡</u> Resize text	(Parts of) text on this screen are no longer visible when the text is magnified to 200%. Make sure that all text remains available to users who use the app with an enlarged text. It is about the text "Afstands tot ".	Geen simkaart 09:43 BuitenBeter X rpelaan 24/7 ? Expertisebut 10 Van Viet Van Viet Google Image: Coogle Beethovengaarde 36, 5344CJ Oss State 10 m Deze locatie gebruiken speldAfstand tot adres: 10 m
7	2.4.3 ⊡ Focus Order	The focus order of the elements on the screen is not the same as the visual order of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. After emptying the input field the focus cannot be moved to the element any more. Make sure you can search for a loca- tion as an alternative for using the map.	Ceen simkaart Carlos 17:31 BuitenBeter

Nr	Success criterion	Problem	Screenshot
9	@ <u>2.4.7</u> Focus Visible	The focus lands on invisible ele- ments. Make sure that the focus only lands on visible elements. It is about the button "Grofvuil niet opgehaald" and all ele- ments below that.	Question 1210 BuitenBeter X BuitenBeter X meiding? X Qoek categorie X Afval Afvalcontainer vol/niet geleegd Dumping afval/ grof vuil Dumping afval/ grof vuil Gevaarlijk afval Annuleren OK Mijn onderwerp staat er niet tussen Mijn onderwerp staat er Grofvuil niet opgehaald. K
10	⁽) ² .5.3 ^I ² ¹ Label in Name	Because visible text on the but- ton does not appear in the ac- cessible name of the button, this button cannot be activated with voice. Make sure the accessible name contains the visual name. The button "Annuleren" has a name "Sluit het venster".	Geen simkaart 13:42 Image: tes Image: Geen resultaten gevonden. Probeer opnieuw te typen of pas uw zoekopdracht aan. Image: descent for the second seco

Nr	Success criterion	Problem	Screenshot
11	i <u>3.2.2</u> <u>7</u> On Input	When the user enters data in the input field, the data is sent auto- matically. Make sure the user is informed about this behavior in advance. After answering a question the focus automatically goes to the next question. This behavior must be announced to the user to avoid confusion.	PPd 21:26 Image: Comparison of the sector of the sect
13	[●] <u>4.1.2 ^I</u> Name, Role, Value	The input field does not have an accessible name. When tapping this input field, the assistive technology does not read out which data must be entered here. Provide a correct name. After typing the placeholder text disappears. After this the input field does not have a name.	Geen simkaart 09:15 • t • t • Gemeente Achtkarspelen Twijzel, Twijzelerheide Gemeente Assen Ter Aard Gemeente Barneveld Terschuur Gemeente Breda Teteringen Annuleren Gegevens in dit veld zoals een Gereed q w e r t y u i o gg v i x i o gg v e r t y u i o p a s d f g f s g f e s f f f

Nr	Success criterion	Problem	Screenshot
14	A.1.2 A	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the button "Afval".	Geen simkaart ? 09:20 BuitenBeter X BuitenBeter X Imelding? X Zoek een onderwerp X Imelding? X Val X Afval Afvalcontainer Vol/niet geleegd X Annuleren OK X Straatverlichting defect Mijn onderwerp staat er Knop
15	♥ <u>4.1.2</u> Name, Role, Value	The accessible name of this menu button does not describe whether the content that this button toggles/expands is visi- ble or not. Make sure that this information is read by the assis- tive technology. It is about the button "Afval".	OB:20 BuitenBeter Streature Coek een onderwerp Coek een onderwerp </td

Nr	Success criterion	Problem	Screenshot
16	A.1.2 A	This interactive element does not have a proper role. This ele- ment looks and behaves like a button. Make sure the screen reader announces the correct role of this element. It is about the button or search field "Beethovengaarde".	Geen simkaart BuitenBeter rpelaan 24/7 rpelaan 24/7 rpelaan 24/7 rpelaan 24/7 Repertisebu Van Viet Beethovengaarde 36, 5344CJ Oss Afstand tot adres: 10 m Deze locatie gebruiken Beethovengaarde 36, 55
19	Provide Attack and a second s	After finishing the process, a message appears showing the result of this action. This mes- sage is not read aloud. Make sure this information is accessi- ble. It is about the error message "Let op! Het is niet mogelijk".	Geen simkaart

3. Meldingen en Berichten

We detected 2 findings on this screen.

Nr	Success criterion	Problem	Screenshot
6	² .4.3 ⊡ ⁴ Focus Order	The focus order of the elements on the screen is not the same as the visual order of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. Visually you see questions and answers. With screenreader those are not announced at all after finalizing. Because of this navigating is hard and you can- not check what you have an- swered.	17:18 BuitenBeter Image: Colspan="2">Colspan="2">Colspan="2">Image: Colspan="2">Image: Colspan="2" Texture Image: Colspan="2" Colspan="2" Texture Image: Colspan="2" Texture <
12	[●] <u>4.1.2 r</u> [▲] Name, Role, Value	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the list item "Prob- leem met".	 TestFlight ♥ 16:54 BuitenBeter neldingen In de buurt #3366811 Beethovenga arde 36, 5344CJ Oss 03-12-24 Knop

4. Mijn gegevens

We have not made any (new) findings this screen. This screen may contain recurring findings that have already been reported on other screens.

5. Over BuitenBeter

We detected 1 findings on this screen.

Nr	Success criterion	Problem	Screenshot
2	≣ <u>1.3.1 r</u> Info and Relation- ships	A list is read in one go by a screen reader. This list is not seperately navigable. Make sure list can be navigated seperately. Make sure list items are read separately.	<page-header></page-header>

6. Mijn meldingen

We detected 4 findings on this screen.

Nr	Success criterion	Problem	Screenshot
4	≣ <u>1.3.1</u> Info and Relation- ships	On this screen, there are head- ings that are not marked-up as headings. Make sure that assis- tive technology recognizes headings as headings. It is about the heading "Cate- gorie". Group "Categorie" with the text "Straatverlichting" or mark "Categorie" as heading.	Question 1252 ← Mijn meldingen Straatverlichting ng Doorgestuurd Lisztgaarde 5, 5344EA Oss Meldingsnummer #3366838 Categorie Straatverlichting Subcategorie Categorie
8	2.4.3 ⊡ Focus Order	The focus order of the elements on the screen is not the same as the visual order of the elements. Ensure that the screen is read by assistive technology in the same order as the visual order of elements. The title "Mijn" is not read out by the screen reader and skipped altogether.	Af In behan val deling Beethovenga arde 36, 5344CJ Oss Meldingnum mer

Nr	Success criterion	Problem	Screenshot
17	♥ <u>4.1.2 r</u> Name, Role, Value	The button has no accessible name. Provide a correct name that describes the function of this button. It is about the button "#3366811".	© 1948 ■ BuitenBeter neldingen In de buurt #3366811 Beethovenga arde 36, 5344CJ Oss 09:47
18	₽ <u>4.1.2</u> Name, Role, Value	This element has been given a role. This is unnecessary. Delete this role. It is about the camera button.	Geen simkaart ♥ 17:54 ← Mijn meldingen IO IO IO IO </td