Annotated Portfolio

JournaListen Prototype

Team Pomme de Terre

DECO3500: Social and Mobile Computing

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Problem Space

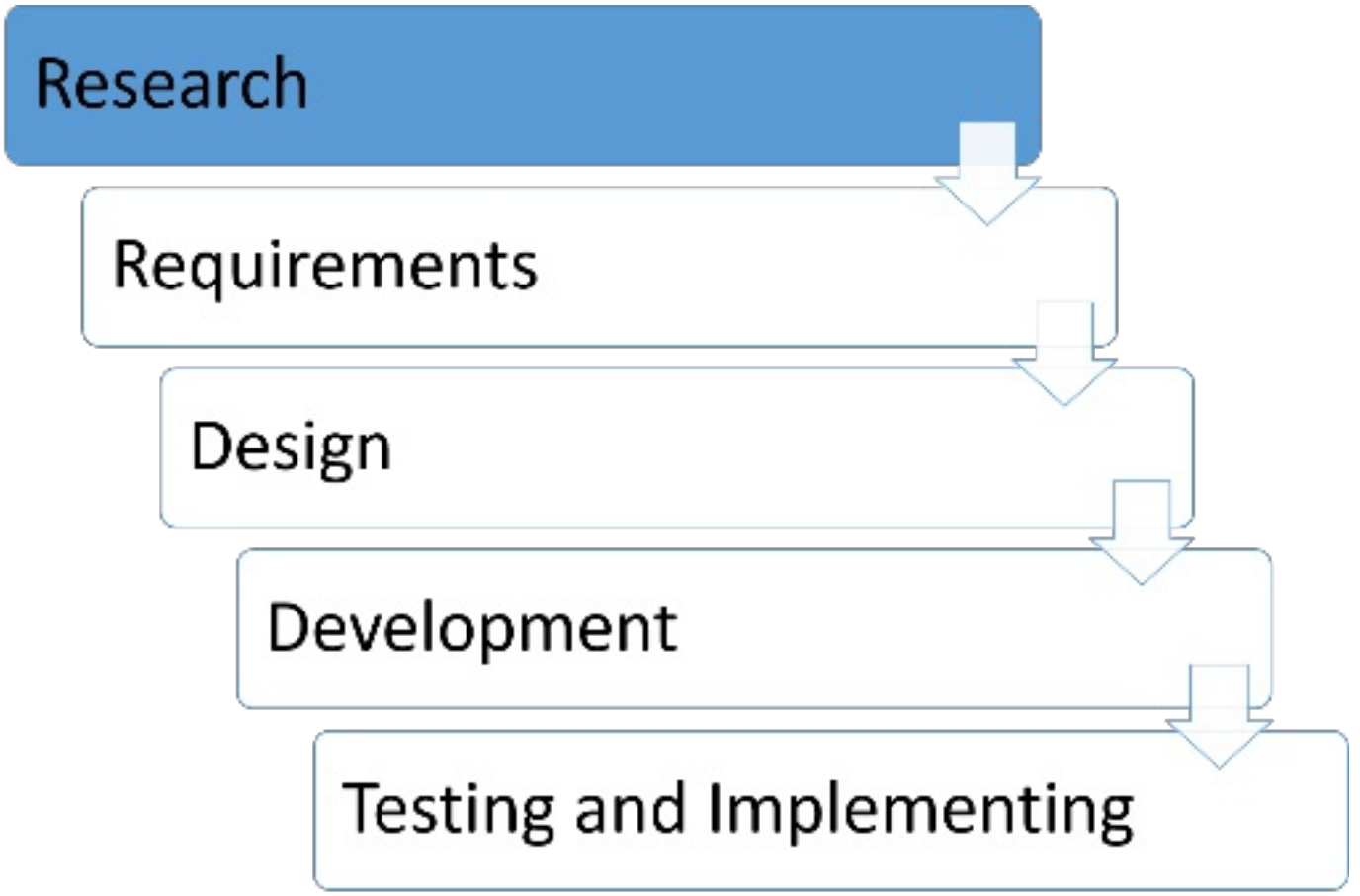
News is fundamental to society, providing up-to-date information regarding current events and topics, however only 3-5% of print material is accessible to a particular group in Australia - the blind and vision impaired (Vision Australia, 2016). This figure is astonishing low as there are currently over 350,000 people in Australia who are visually impaired or have low vision, and this number is expected to grow to 564,000 people by 2030. It is evident that this a problem that needs to be addressed to ensure everyone has the ability access all material, especially in the form of news content.

Addressing the Problem

The proposed technology intends to stream video or voice recordings of local journalists as a new way of sharing breaking news with an audience, rather than through typed articles. This facilitates the delivery of news to persons who are unable to visually read news articles including people with vision impairment or auditory learners.

Using the Web Accessibility Initiative (WAI), a set of strategies and guidelines to make the Web accessible to people with disabilities, our group set out to design a website that would:

- Allow journalists to upload video recordings of latest news content in a descriptive manner, rather than visual.
- Encourage more people who are blind or have low vision to the journalism profession.
- Connect the gap between journalists and their followers.



RESEARCH

Research was fundamental when initially exploring this problem space as it provided an opportunity to gain knowledge about vision impairment and assistive technology. The group explored academic studies, primary data, observational data and additional documents and developed requirements based on this information.

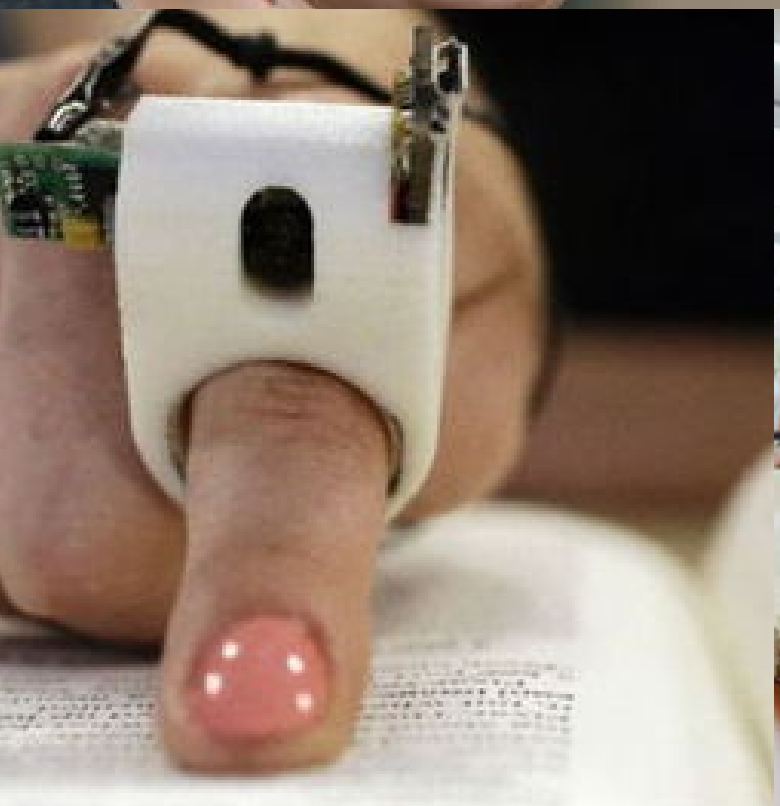
There are a large number of assistive technologies currently available for vision impairment including:

- Screen Reading Software (JAWS Screen Reader)
- Text-to-Speech Software
- Braille displays and printers
- Video magnifiers

IOS and Windows also provide alternative options and features for visually impaired users.

"I guess not a lot of people have met people with disabilities, and not a lot of people are open-minded about what they're capable of..."

- Nas Campanella



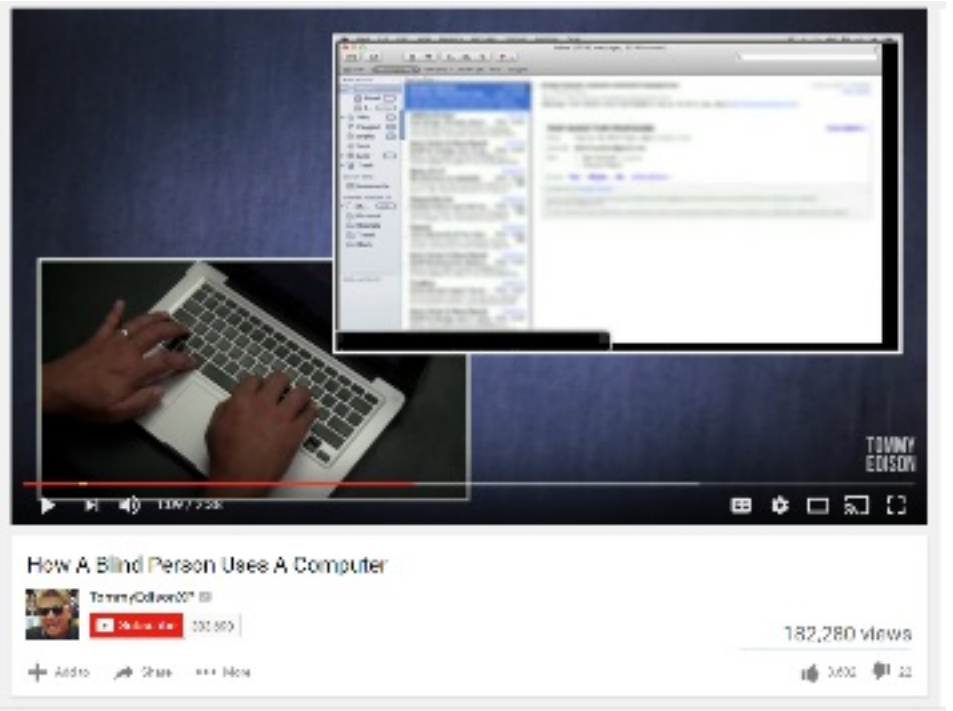
Research was conducted through analysing YouTube videos featuring users using JAWS, **J**ob **A**ccess **W**ith **S**peech, the world's most popular screen reader, developed for computer users whose vision loss prevents them from seeing screen content or navigating with a mouse. JAWS provides speech and Braille output for the most popular computer applications on your PC and provides many useful commands that make it easier to use programs, edit documents, and read Web pages (Freedom Scientific, 2010).

Nas Campanella, a Triple J newsreader, has been blind since she was six months old, when a rare abnormality caused the retinas to tear away from her eyes. Her love of music and radio launched her into a career in journalism where she relies on audio books, electronic text and the speech program Jaws. She believes there is not enough existing information about the assistance available to help employees with disabilities (Albert, 2014).

Current Mobile Accessability Features:

iPhone 6 Features	User/Benefit to Prototype
VoiceOver	Screen reader informing users about what is occurring on the multi-touch screen. Can be used in conjunction with mobile apps and requires no additional installation or configuration.
Siri	Integrated with Voice Over.
Speak Screen	Speak Screen can read emails, messages, books or web pages to the user. The voice's dialect and speaking rate can be adjusted.
Pronunciation Editor	Allows you to create a list of words and phrases along with the ways you want them to be pronounced phonetically.
Dictation	Allows the user to talk instead of typing.
Magnification	Works like a digital magnifier for real life.
Braille Support	Built-in braille support allowing a user to connect their braille device.
Display Accommodations	iOS allows colours to be inverted and white points reduced to support different forms of colour blindness.

Android 7.0 Features	User/Benefit to Prototype
TalkBack	TalkBack describes your actions and provides alerts and notifications.
Voice Access	Allows the device to be controlled with spoken commands, however this is only in beta.
BrailleBack	Allows the user to connect a refreshable braille display to the device using Bluetooth.
Screen Adjustments	The screen can be adjusted by altering the display and font size, temporarily zooming or adjusting colour and contrast options.



We explored YouTube videos demonstrating the use of these accessibility devices on both Mac and Windows. This image shows a man using a screen reader device to read and compose emails.

A man using Windows Zoom to provide a clearer and more accessible display.

Web Accessibility Initiative

A major part of the research focused on the Web Accessibility Initiative (WAI) w
with disabilities. WAI supports the entire stage of a website with information foc
designing for inclusion and the diversity of potential users. We were able explo
perform their work.

SANDRA SMITH

"Access to the Webby everyone regardless of disability is an essential aspect."

Age: 43
Work: Accountant
Family: Married
Location: Sydney

Bio

Ms. Smith is the chief accountant a
company that uses web-based doc
over a corporate intranet. She is bli
other blind computer users, does n

To use her computer and the Web,

- Screen reader software that interpret
  the screen and generates speech ou
- Web browser with keyboard support
  without a mouse

She uses the keyboard to navigate
jumping from heading to heading to
what is on a web page. Her screen
structural information on a web pag
column and row headings in tables
controls, and more. She has becom
listening to speech output at a spee
cannot understand at all.

Personality

Introvert — Extrovert

Analytical — Creative

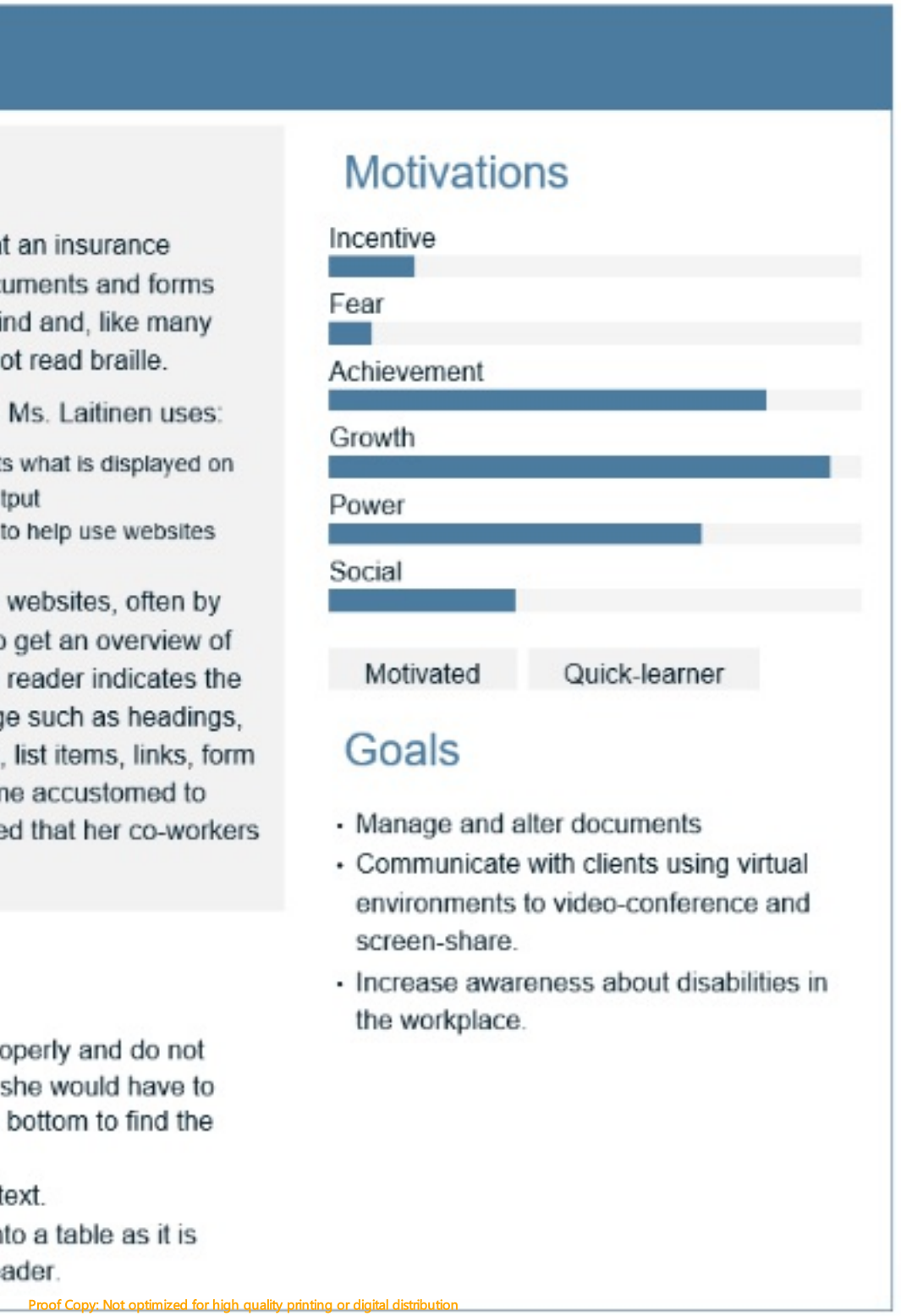
Conservative — Liberal

Passive — Active

Frustrations

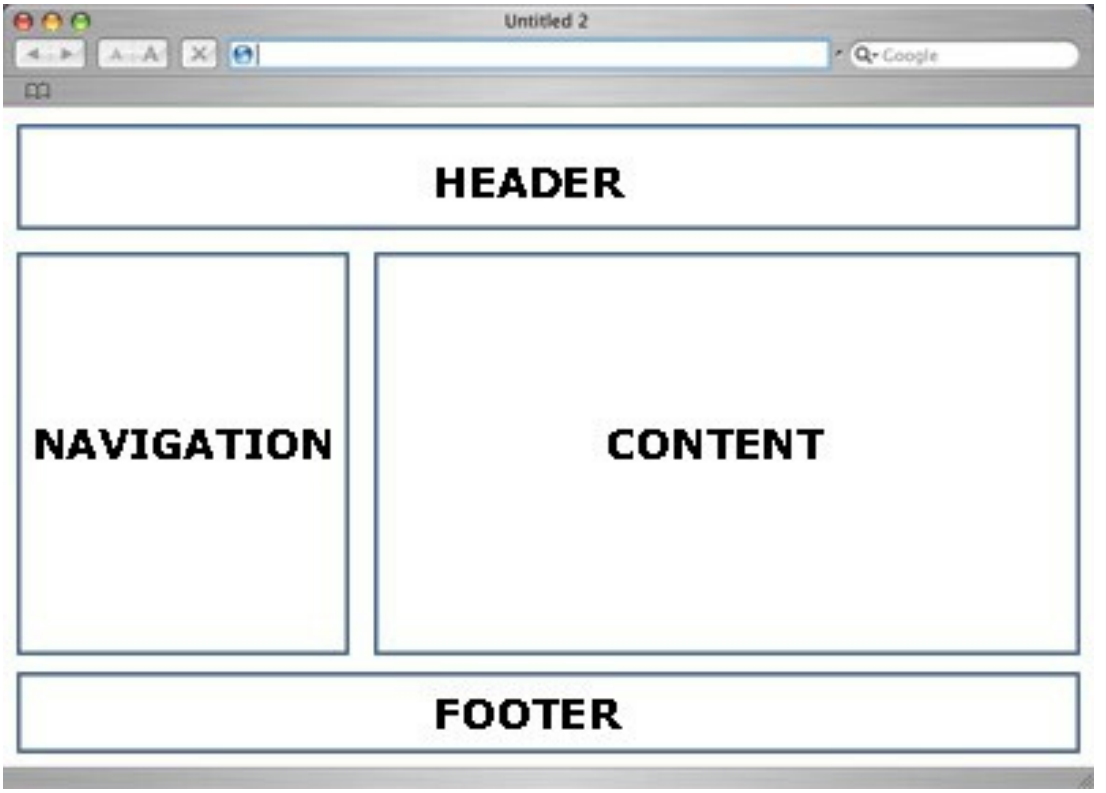
- When websites are not coded pr
  include structural information as
  read every web page from top to
  information that she need.
- When images do not contain alt
- When information is organized in
  difficult to read using a screen re

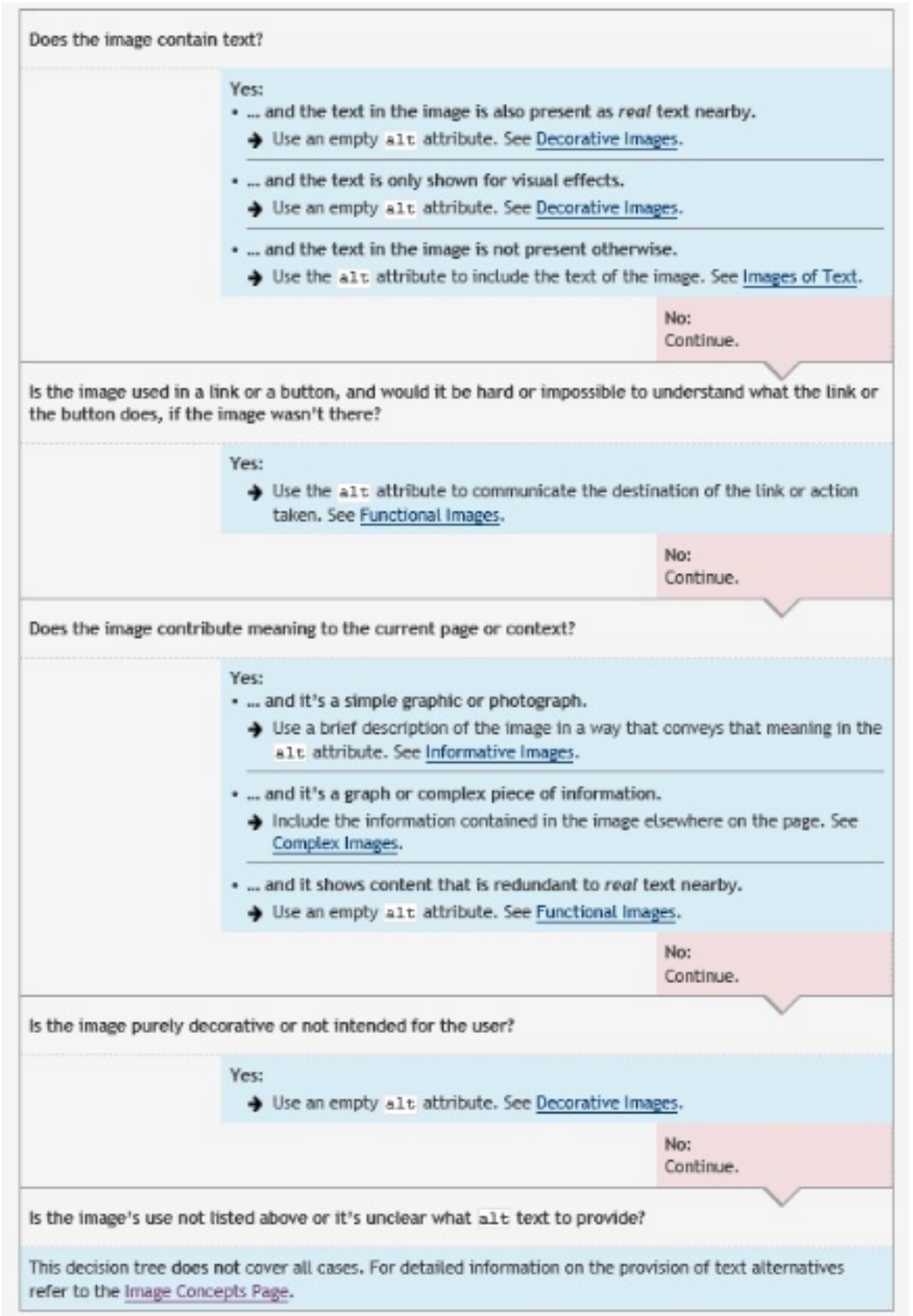
vhich provides guidelines and resources to make the Web accessible to people
cusing on design, planning, implementing and evaluating. We focused on
re personas of users who are vision-impaired and how they would potentially



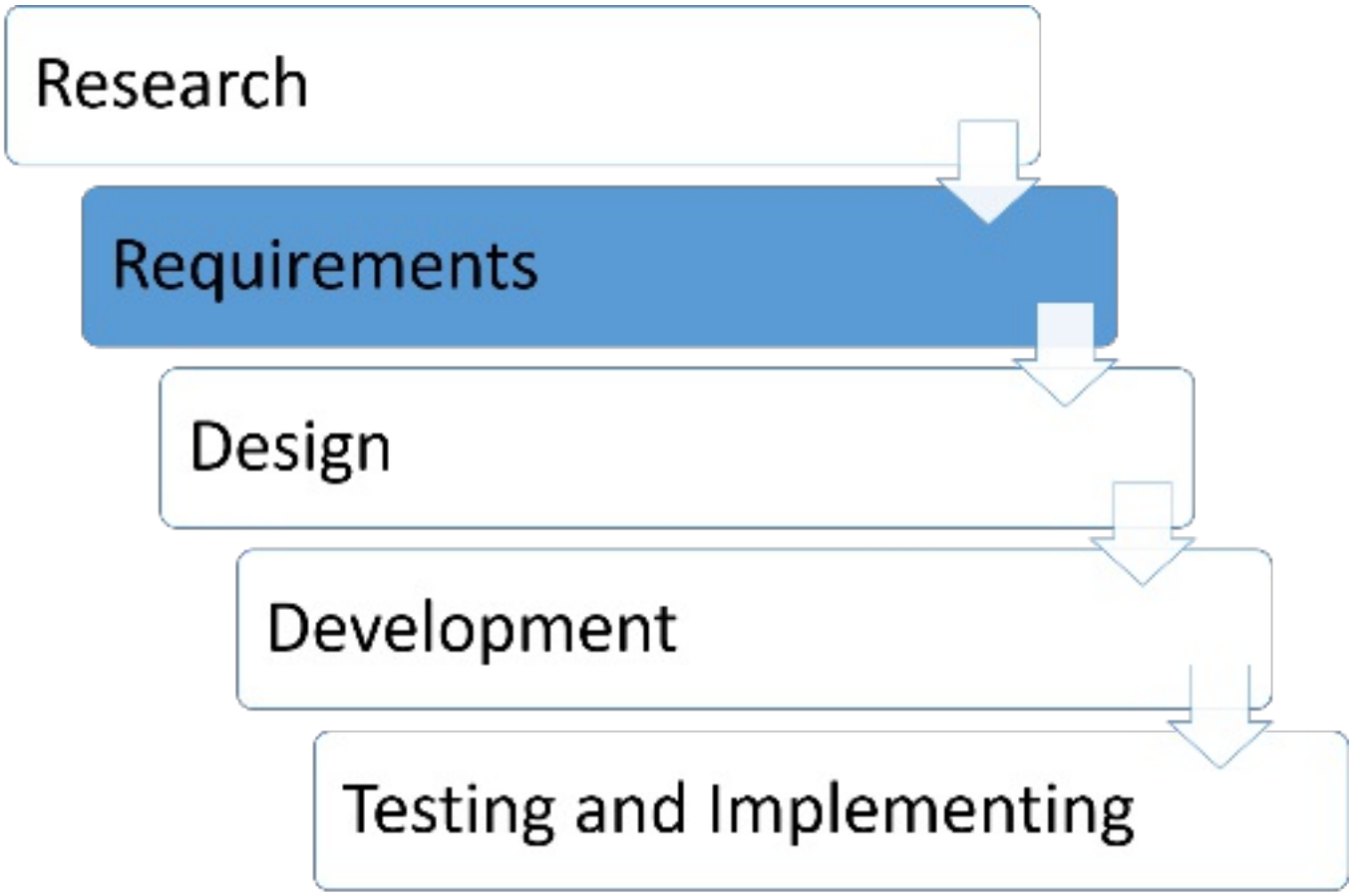
People with disabilities using computers have similar interaction limitations as people without disabilities who are using mobile devices and both experience similar barriers when interacting with websites and web applications. To combat this WAI provided a number of tutorials for web developers, web designers and project managers focusing on importance of Page Structure, Menus, Images and Table. In the Page Structure tutorial it highlighted its importance as if a user is unable to find content or navigate inside a website than it creates major accessibility barriers.

- Page Sections – Use correct elements such as <header>, <nav>, <body> and <footer> as well as "roles" to help people navigate throughout the page.
- Headings – use of different level headings (H1, H2 etc.)
- Styling – distinct hierarchy through use of paragraphing, bullet points, font size and text alignment.



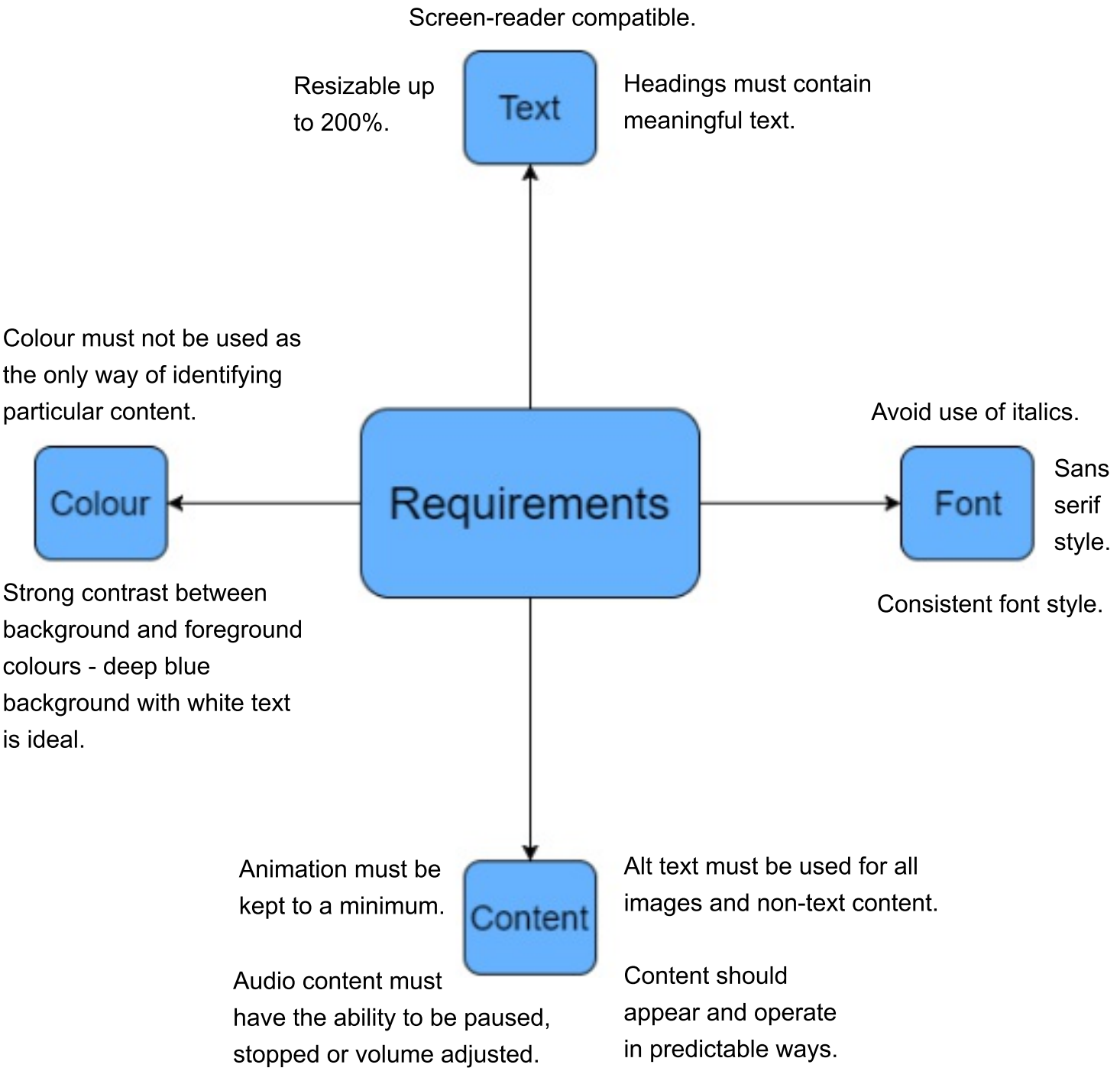


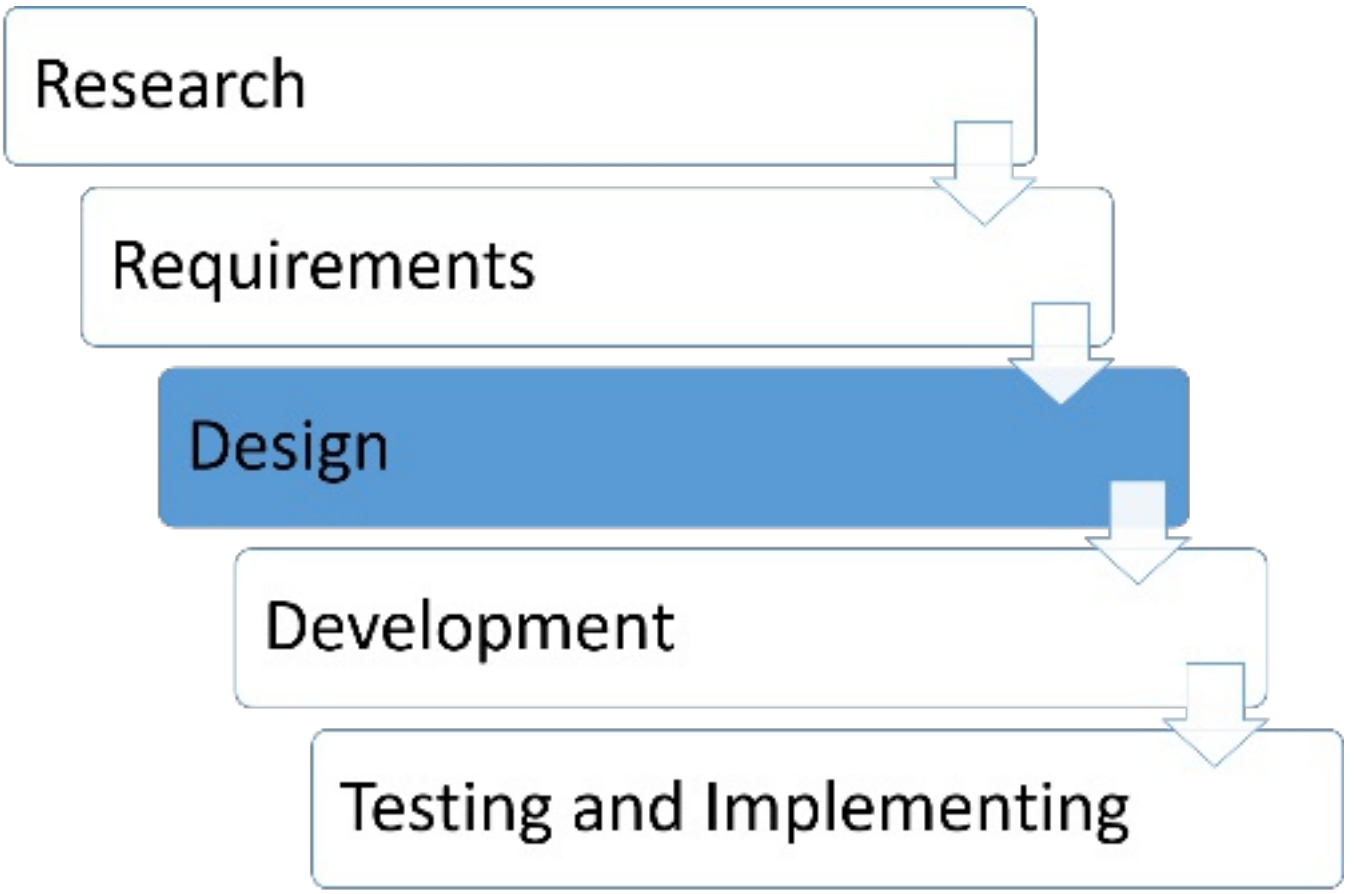
In the Image tutorial it explained how there are various types of images such as informative images, decorative images, functional images etc. It is important to provide appropriate text alternatives based on the purpose of the image. For example if the image is purely decorative than a null alt text would be used as it does not contribute to the visually-impaired user's experience. The tutorial highlighted a decision tree that should be used when determining this.



REQUIREMENTS

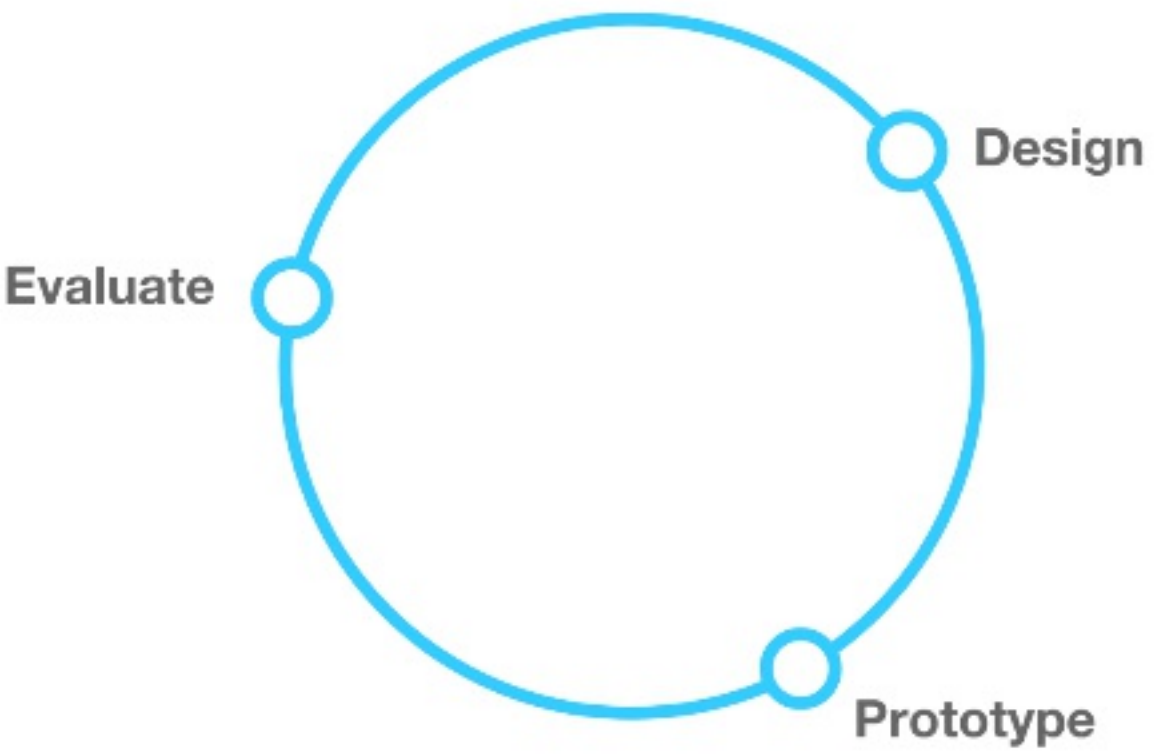
Based on this research the group believed it was essential that the following requirements were to be incorporated into the website's design.





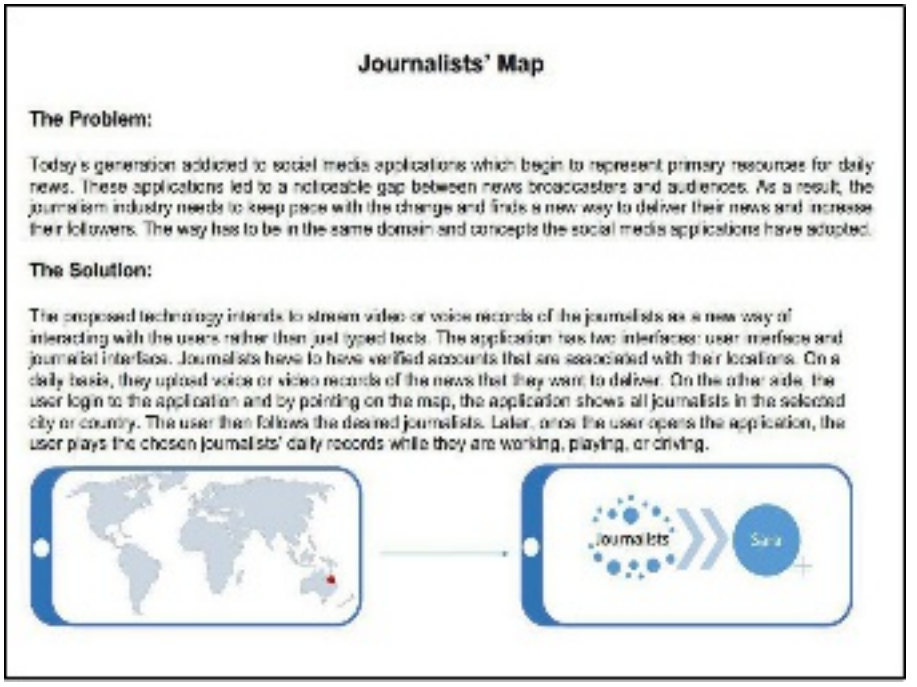
DESIGN

The following section will highlight how the research and requirements impacted the overall design process and additionally the significance of Iterative Design.



The iterative design process is essential when developing an idea as it encourages a better understanding of the problem space through continual developments and refinements based on feedback and evaluation. Through this rapid prototyping it ensures the quality and functionality of the design is continually improved (Culatta, 2013). Our group has adopted this approach and the main iterations of our design have been grouped into phases.

1. Initial Concept



Journalists' Map

The Problem:

Today's generation addicted to social media applications which begin to represent primary resources for daily news. These applications led to a noticeable gap between news broadcasters and audiences. As a result, the journalism industry needs to keep pace with the change and finds a new way to deliver their news and increase their followers. The way has to be in the same domain and concepts the social media applications have adopted.

The Solution:

The proposed technology intends to stream video or voice records of the journalists as a new way of interacting with the users rather than just typed texts. The application has two interfaces: user interface and journalist interface. Journalists have to have verified accounts that are associated with their locations. On a daily basis, they upload voice or video records of the news that they want to deliver. On the other side, the user login to the application and by pointing on the map, the application shows all journalists in the selected city or country. The user then follows the desired journalists. Later, once the user opens the application, the user plays the chosen journalists' daily records while they are working, playing, or driving.

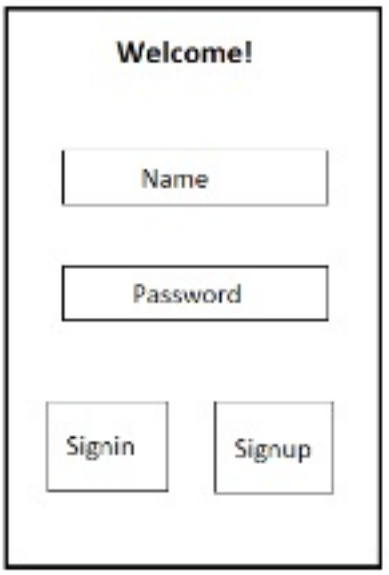
The design process started with this initial project idea, *"Journalist's Map"* developed by Rawan, which addressed the problem of the noticeable gap between news broadcasters and their audiences. The proposed solution focused on closing this gap and encouraging journalists to interact more with their followers. The mobile application would allow journalists to deliver the news in a new way, through uploading voice recordings of local news events rather than simply typed text articles.

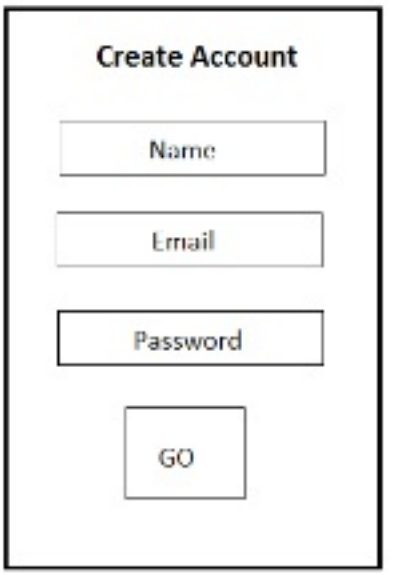
Evaluation

The group believed this concept was an appropriate starting point for the proposal but agreed it needed further development to ensure it supported the problem space and social interaction to a larger degree. The iteration of the design featured the following efforts:

- Refinement of target audience – targeting users with a visual impairment, auditory learners or people completing an activity (such as work or driving) that prevent their ability to read articles.
- Title – needed to reflect new focus of auditory functions, therefore the group believed "JournaListen" would be more appropriate.
- Generation of revenue – subscription plans etc.
- Additional enhancements – audible notifications and voice commands to support the target audience.

2. Proposal Concept

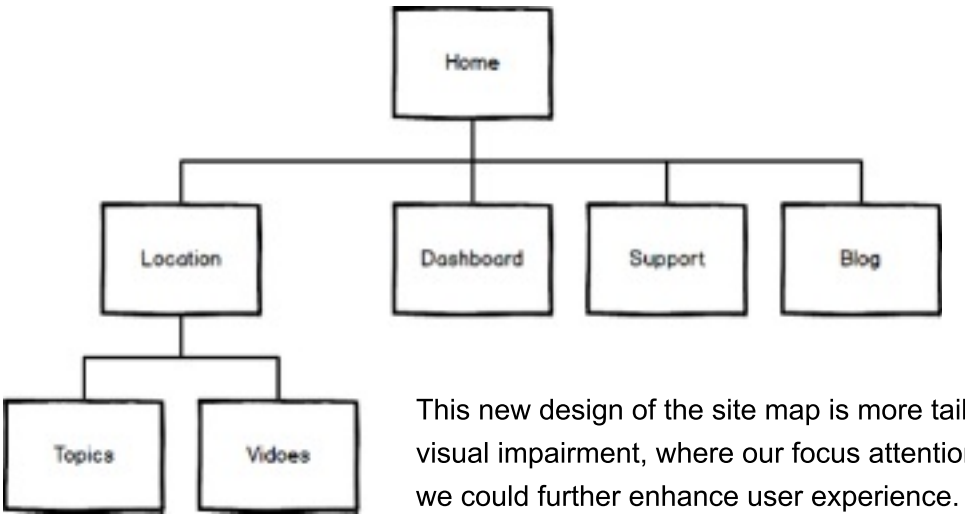




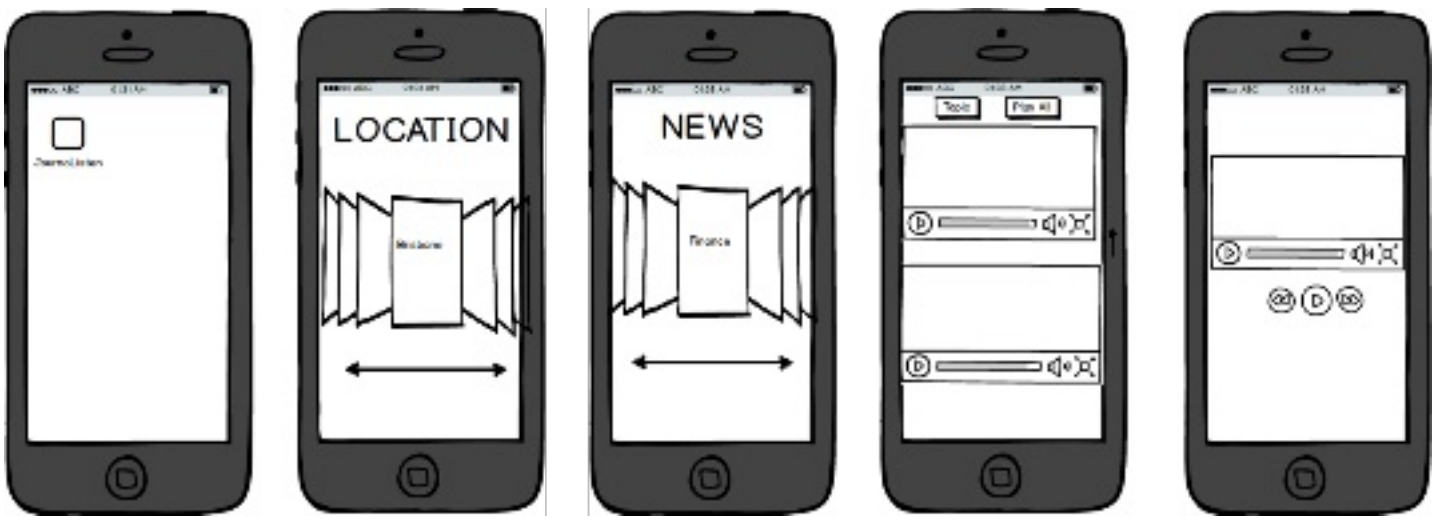
The above image are the wire frames that were mapped out during a brainstorming session in the second iteration as the group prepared the proposal. The wire frames demonstrate the sign up process for a first time user. After entering login details they are directed to select a location and news topics of interest (Sport, Breaking News etc). The app then provides some recommended journalists whom the user can choose to subscribe to. For repeat users, they would open the app and be directed straight to the homepage that would host all their preferences. The colour scheme of white, grey, light purple and blue(dark) will be adopted from the "Journalists Map" concept.

3. Proposal Feedback

After receiving feedback from the tutors regarding our proposal, the group believed we needed to further explore how a person with visual impairment would interact with our app, leading to the next iteration. We focused on utilizing the accessibility features of Apple IOS including VoiceOver, Speak Screen, Dictation and Siri.



This new design of the site map is more tailored to use by users who had visual impairment, where our focus attention was on accessibility and how we could further enhance user experience.



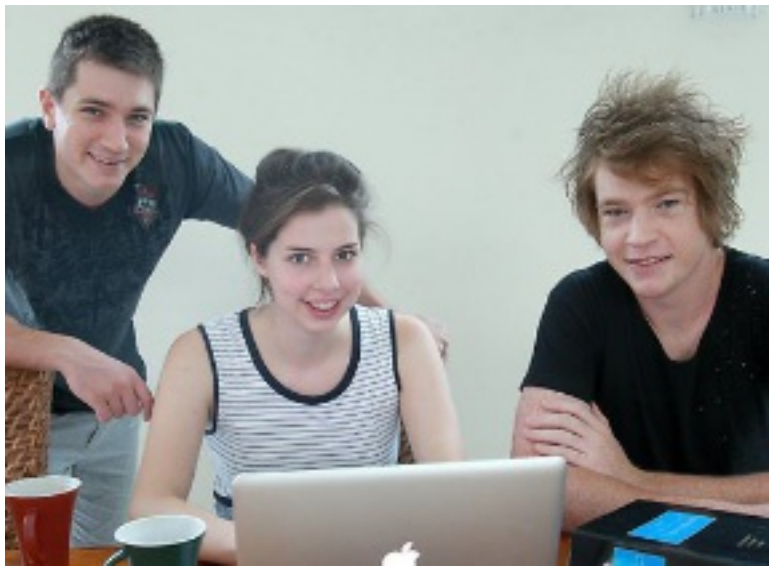
The new design removed the process of user registration and instead when a user accesses the app for the first time, there is be a 'Welcome' Alert, and also a mini tutorial describing how the app works (all done with a VoiceOver). The remaining steps feature the consistent use of swiping motions with VoiceOver incorporated. Similarly, to the previous iteration, repeat users would skip this process and just have their preferences loaded.

4. "Why not a website?" Feedback

Evaluation

After evaluating the wireframes as a group, receiving feedback from the tutors and conducting a concept testing session with potential users, the following issues were raised:

- Concept was appealing, but the mobile application was fiddly
- Large amounts of whitespace
- Belief that journalists would be more inclined to use a website
- More powerful assistive technology designed for computers
- How could we encourage the social aspect?

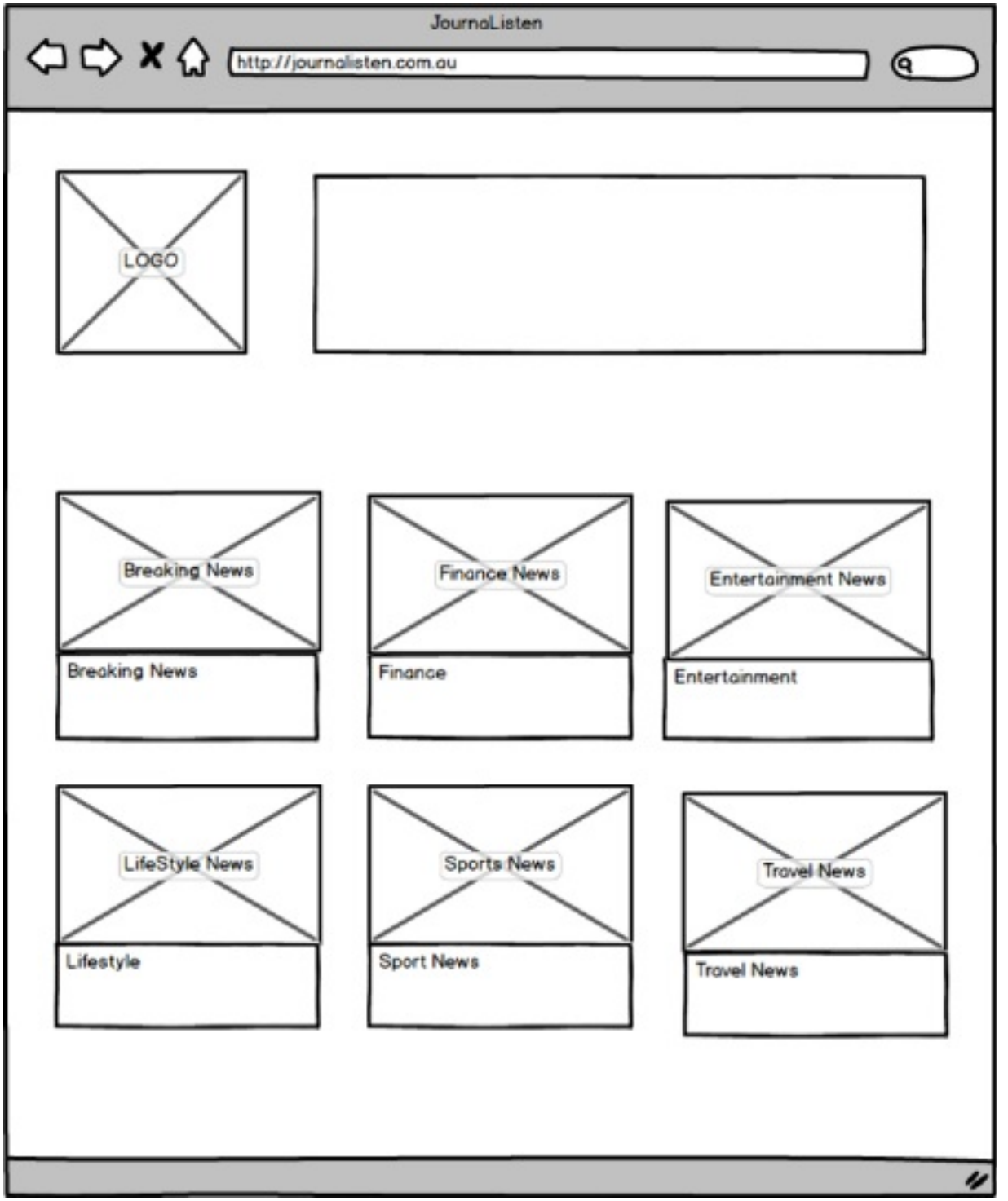


Concept testing was conducted with a small group of particpants to gather input about the current prototype. Results from interview questions and additional observations helped the evaluation process.

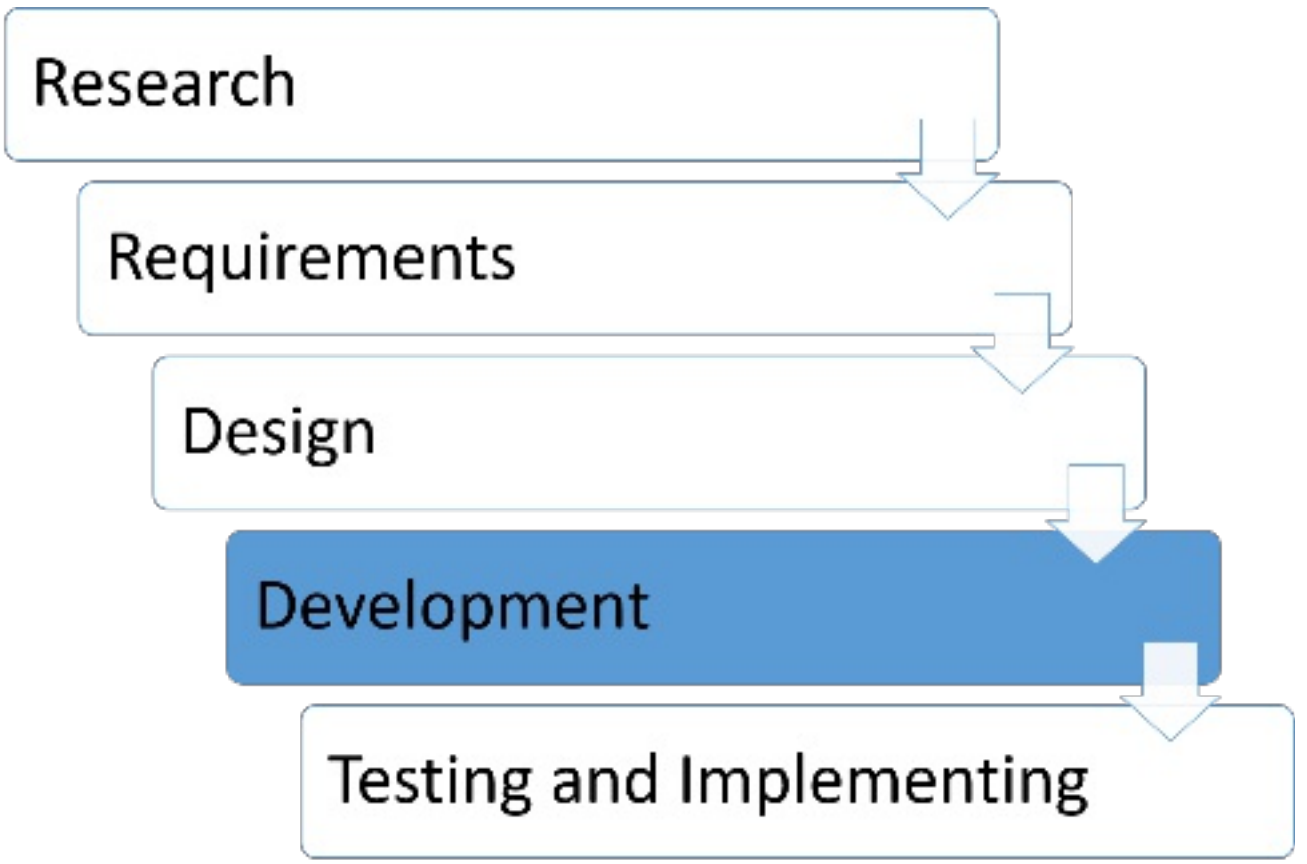
"Why are you making an app? Not a website?"

- Joe, participant

5. Website Concept



Drawing upon knowledge gained from extensive research, utilisation narration, large text, and topic outlines were key to the design of this site. This is the initial mockup of the home page. The site will also include user identity, audio based discussionm, keyboard control and the addition of a navigation bar.



DEVELOPMENT

After numerous iterations of design the group commenced work on creating the web prototype for "JournaListen".

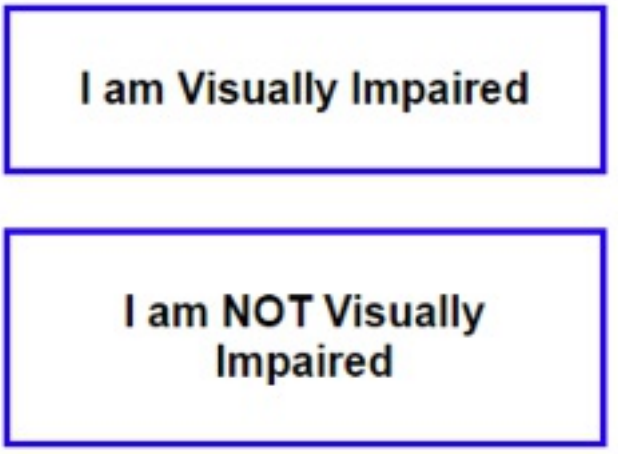
JournaListen, a service dedicated to delivering timely news to people living with low visibility or are visual impaired. It is aimed at giving people living with a visual impairment an opportunity to listen to lively news articles and create social interactions.

This site encourages users with journalistic flair to record news articles for its users. Furthermore, enables the visually impaired to join discussions on breaking news and news articles compelling the user to state their opinion. Thus creating an inclusive environment encouraging social, online interaction for people living with a visual impairment.

Walking through JournaListen...

1) Splash Screen

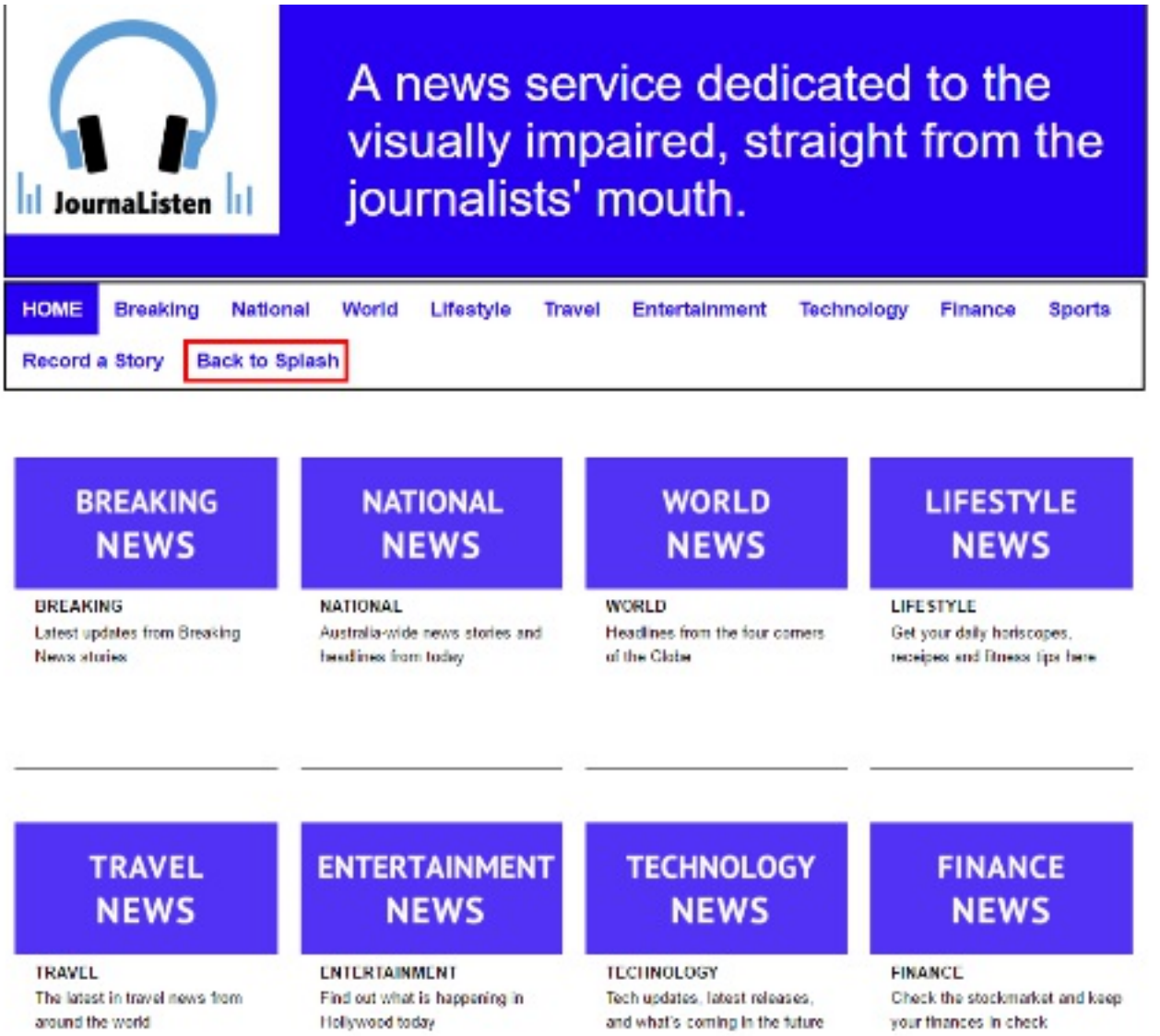
The website begins with a splash screen.



A splash screen was added to invite both visually impaired people and non-visually impaired people to use the website. The user selects the suitable option from the below choices on arrival to the website and certain features (such as images) and zoom are adjusted accordingly. It has been designed to be easily accessible to those who are visually impared to ensure they do not access the wrong area.

2a) Home Page - Visually Impaired

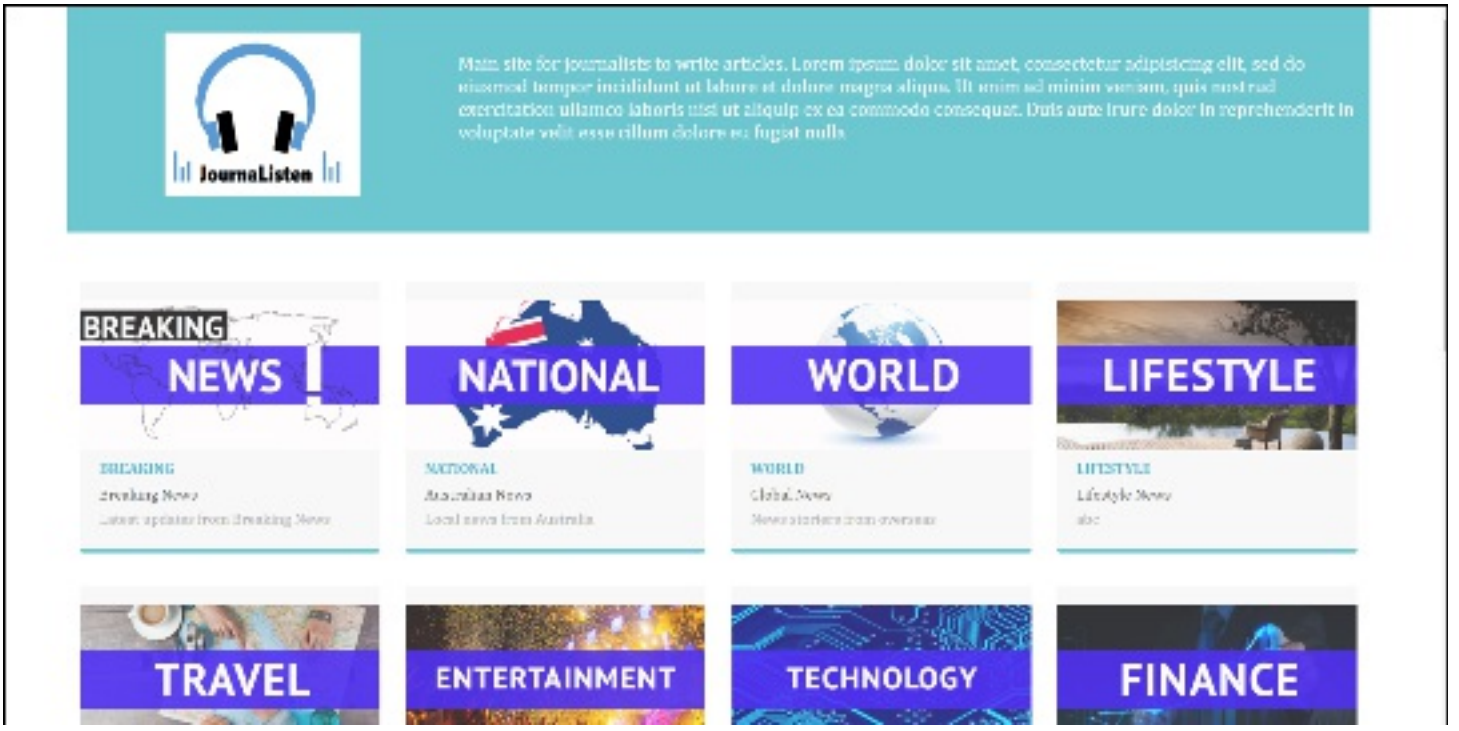
The following is the home page when the "I am Visually Impaired" option is selected from the Splash Screen. The user can navigate back to the splash page by clicking the "Back to Splash" button.



The background is a deeper blue colour to improve the contrast as stated in the requirements. Similarly, the font was is sans serif font and ony one font style is used without italics. The navigation and content of the webpage is predictable and will appear consistently on all pages, again satifisying the requirements. A block style has been used to aid the use of a screen reader. The user can tab through each block to navigate.

2b) Home Page - Non-Visually Impaired

The following is the home page when the "I am NOT Visually Impaired" option is selected from the Splash Screen.

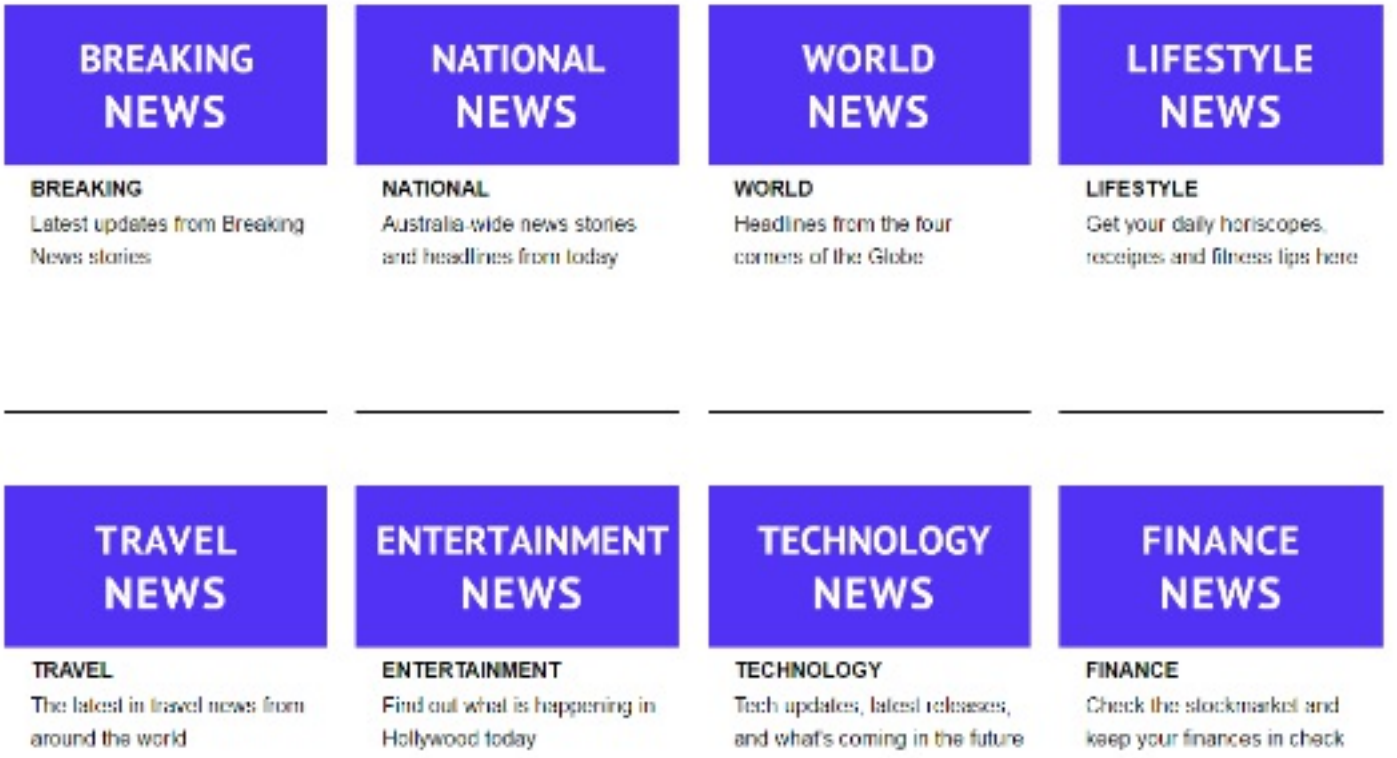


It can be seen that this varies greatly from the homepage for the visually impaired users. Images have been used and there is less of a focus on the meaningfulness of text. It is more visually appealing for users as the contrast is not overbearing. However, the navigation and topic content remains the same.

"How will you attract non-visually impaired users as well?

- Tutor

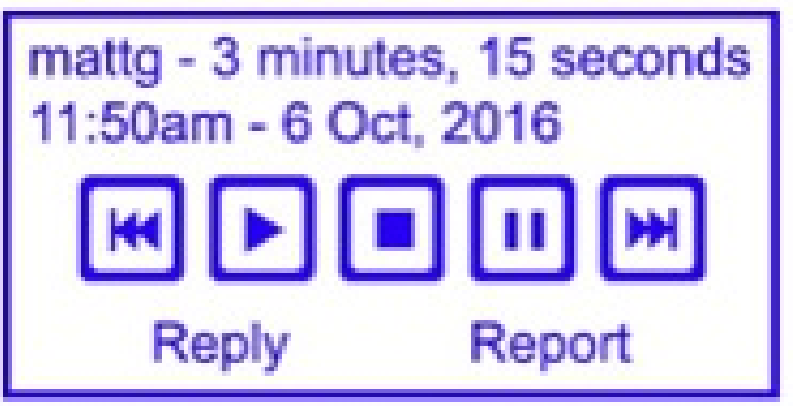
3) Topics



A user is then able to select a topic of interest. These topics were selected as research demonstrated they were amongst the most popular and would generate the most website traffic. They cover a wide range of areas (Politics, Sport) which encourages journalists of differing backgrounds and interests to use the website. A brief summary has been included to highlight what each topic contains.

4) Listen to a Story

After navigating to a desired topic a user can listen to the various stories. As required, the audio content for the uploaded stories can be paused, stopped and volume adjusted as stated in the requirements. This ensures the content is user-friendly for the visually impaired users. To promote social interaction comments can be added to all news stories. These comments can also be recorded as audio content to continue the theme of providing accessible content for the visually impared.



5) Record a Story

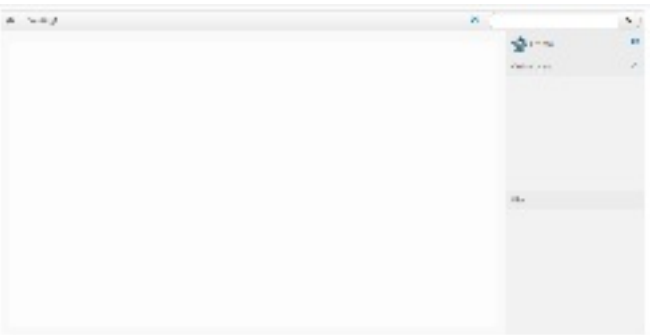
The ability to Record a Story has been designed in simple and interactive way. This was to ensure that it encouraged more people with disabilities. There is an instruction box, which provides the following verbal cues to the user on how to record a story.

"Press 1 to play the recording.
Press 2 to record a story.
Press 3 to stop recording.
Press 4 to pause the recording.
Press 5 to hear the instructions again."

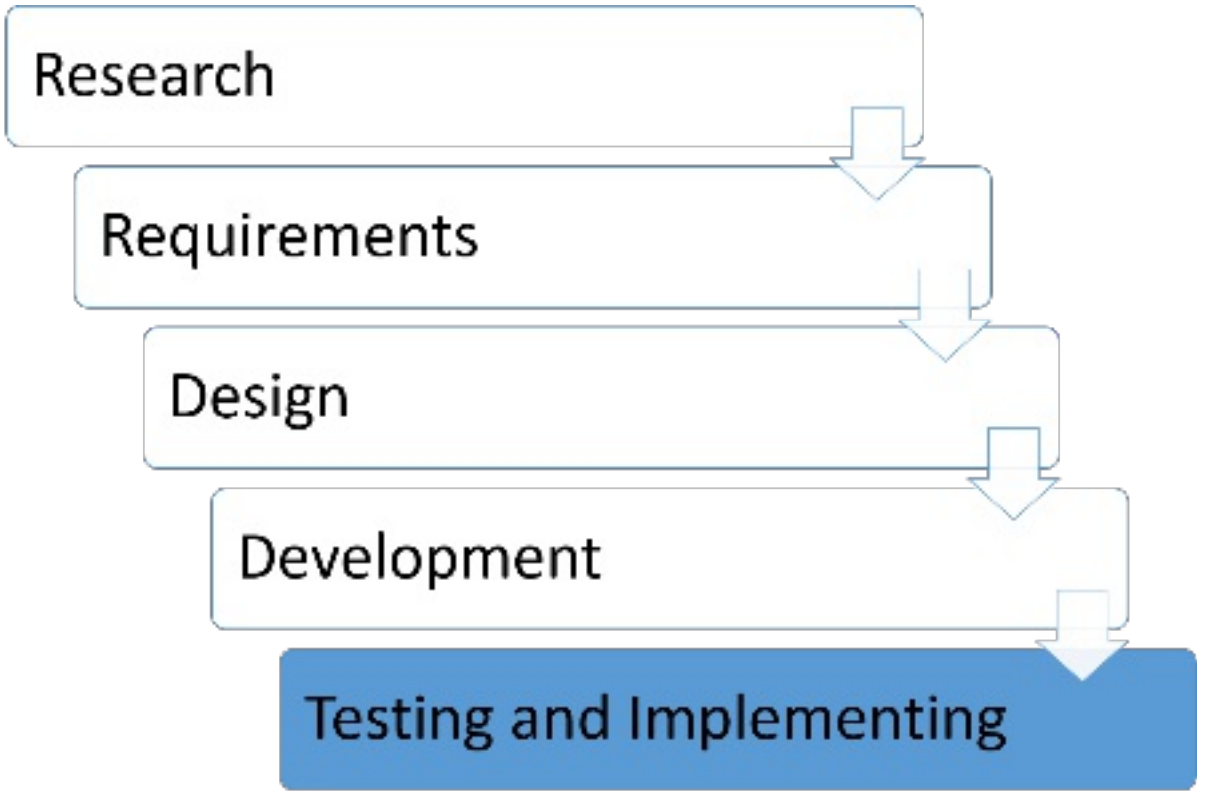
This navigation feature was included based on the research from WAI as it allows the user to easily control their actions by the use of keyboard buttons. When the user is happy with their recording they can navigate to the submit button. The instruction box is located on the top right of the page, ensuring logical navigation.

6) Participate in a Live Chat

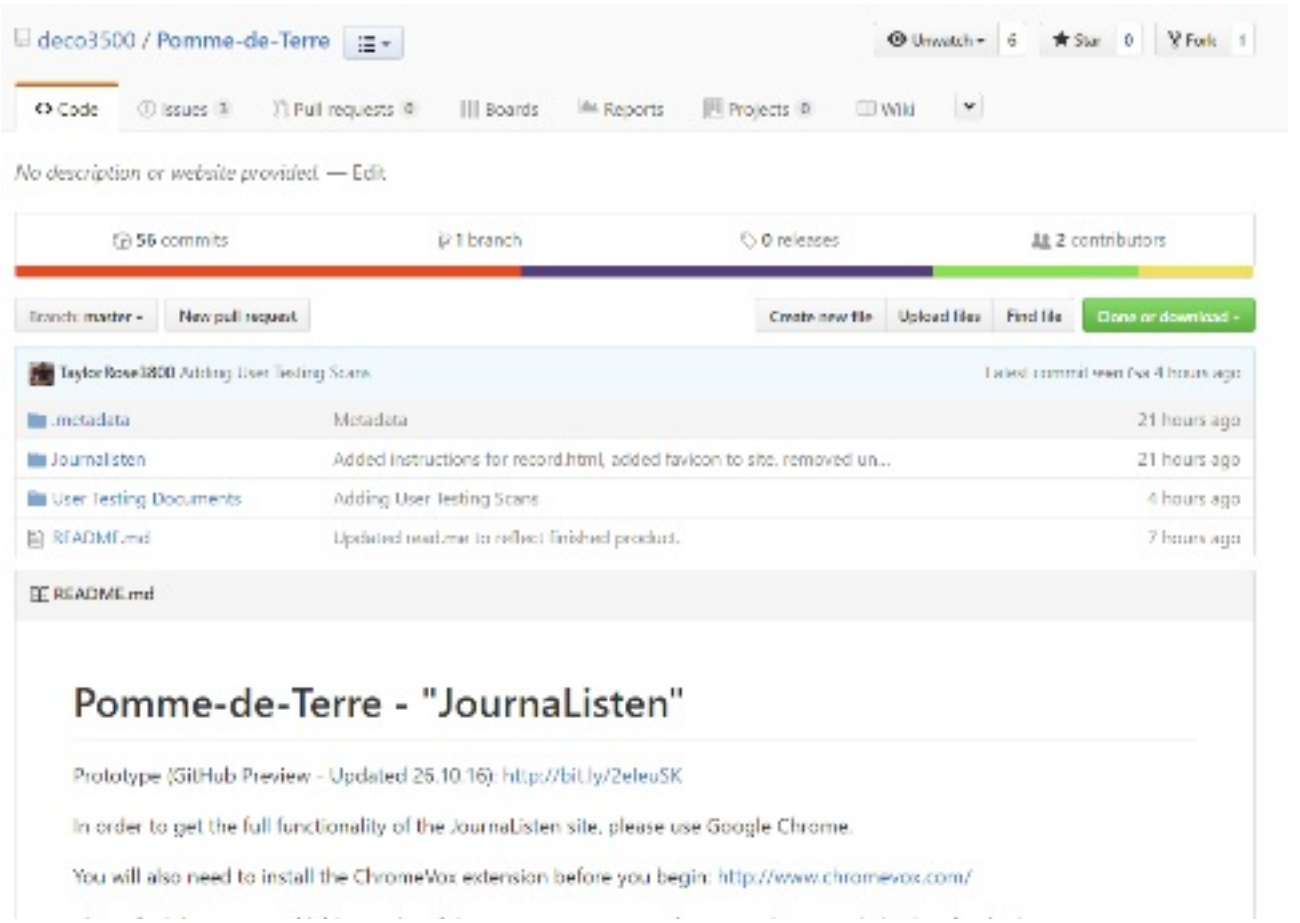
To increase the social aspect of JournaListen, rather than simply allowing users to add comments, there is also a "Live Chat" feature that they can join. It allows users to speak in real-time with other people listening to the articles and share opinions.



Backchannel Chat was used to host the live chats as it simply requires a user to enter a display name and they are then taken to the chat page of the corresponding story.



TESTING AND IMPLEMENTATION

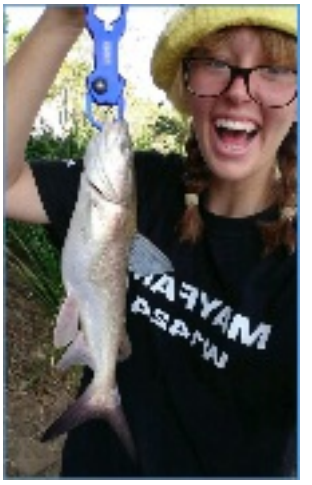


Testing was completed consistently throughout the design process and the main documentation is contained in the User Testing Documents on the GitHub page. The final implemented prototype is also located here, along with the promototional material.

THE TEAM

As the scope of the project was significant, each member was allocated a different role based on their strengths:

Emma - research and requirement gathering and annotated portfolio.



Taylor - web application design/generation and user experience testing.

Gima - prototype design and content generation.

Rawan - backend of the application such as design and programming.

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When Ita Buttrose gives tips for journalists you listen whether you're a freelance writer, at journalism university, a seasoned journalist or an editor!. (2016). Sheinspires.com.au. Retrieved 27 October 2016, from http://www.sheinspires.com.au/journalism/5-top-tips-for-journalists