Milestone 1: UX and DB Ideation

Persona's (Jasnoor -Ava, David) (Joshua – Alex)

Ava Williams (The Uninformed Voter)

Attributes – Age: 27. Gender: Female. Occupation: Marketing analyst and single, she mostly users her mobile and laptop for work.

Background: Ava is a marketing professional who recently moved to Australia. She is unfamiliar with the social challenges faced by Indigenous people in the country.

Needs and Goals: Ava is looking for easy-to-understand statistics and summaries that explain the key issues without overwhelming her with data. Sarah wants to grasp the basis of the Indigenous and Nonindigenous gap in Australia. She needs a clear and concise overview to help her make an informed decision when voting.

Skills and experience: Has worked in marketing for more than 3 years and moved to Australia recently.

David Robert (The Informed Voter)

Attributes – Age: 45, Gender: Male, Occupation: Community leader, married.

Background: David is a 45-year-old Indigenous community leader who is well-versed in the social challenges faced by Indigenous communities in Australia.

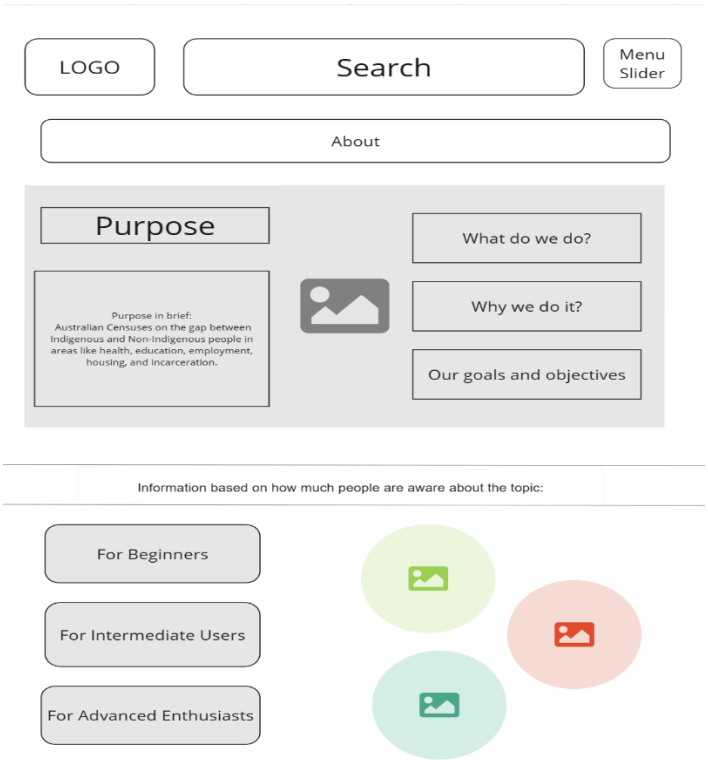
Needs and Goals: David seeks a more detailed understanding of the data and statistics related to the gap between Indigenous and Non-Indigenous people. David wants to explore key issues in health, education, employment, housing, and incarceration at a higher level of detail and he needs access to reports, studies, and historical data to support his advocacy efforts.

Skills and experience: Strong understanding of Indigenous issues and history. Proficient computer and internet skills. Familiarity with advocacy and community leadership. Extensive experience working with Indigenous communities.

Name – Alex Jones
Attributes – Age:25, Gender: Male, Occupation: Software Engineer.
Background: French descent but was born and raised in Australia. Works in the Tech industry and very passionate about web development
Needs – He needs unbiased data regarding education and income to understand the disparities.
Wants – He wants an engaging and aesthetically pleasing interactive data exploration page, to view precise and up to date data.
Skills and Experience – Very passionate about UI design and web development, which is why he enjoys making and seeing new innovative designs and platforms.

UI designs and explanation (1B, 2A, 3B) – Jasnoor Kaur

1B:



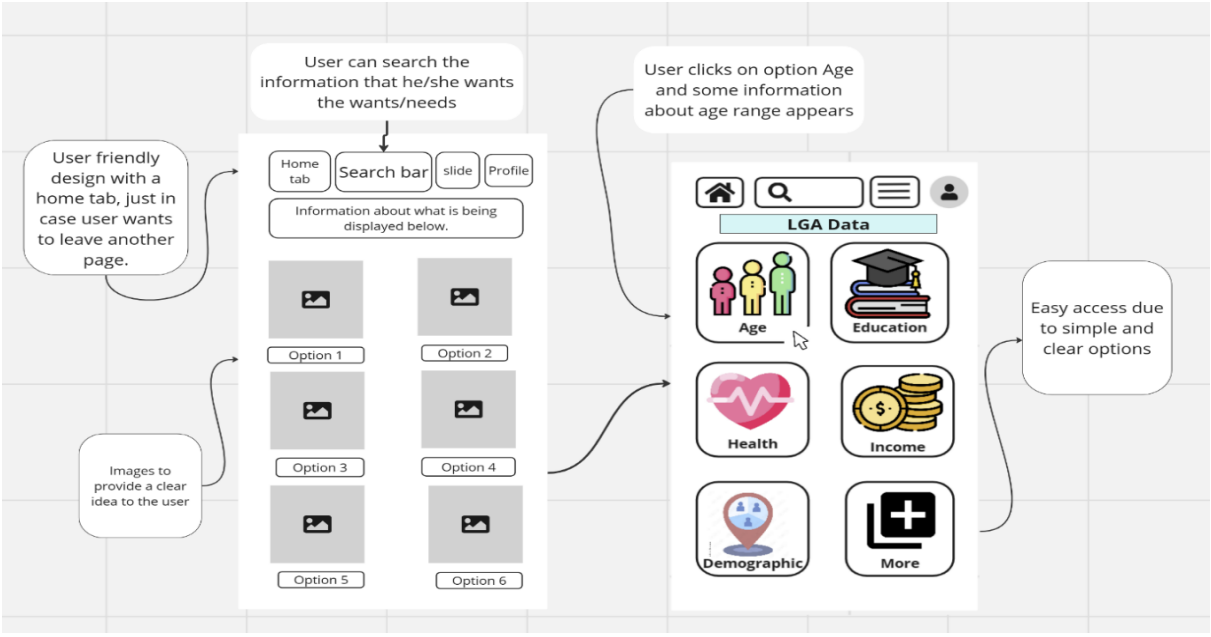
The website begins with a logo at the top, providing users with immediate context about where they are, ensuring clarity and system status. It offers both a search bar and a menu slider, granting users control and flexibility in navigating the site, empowering them to explore at their own pace. Throughout its design, the website maintains a consistent and familiar

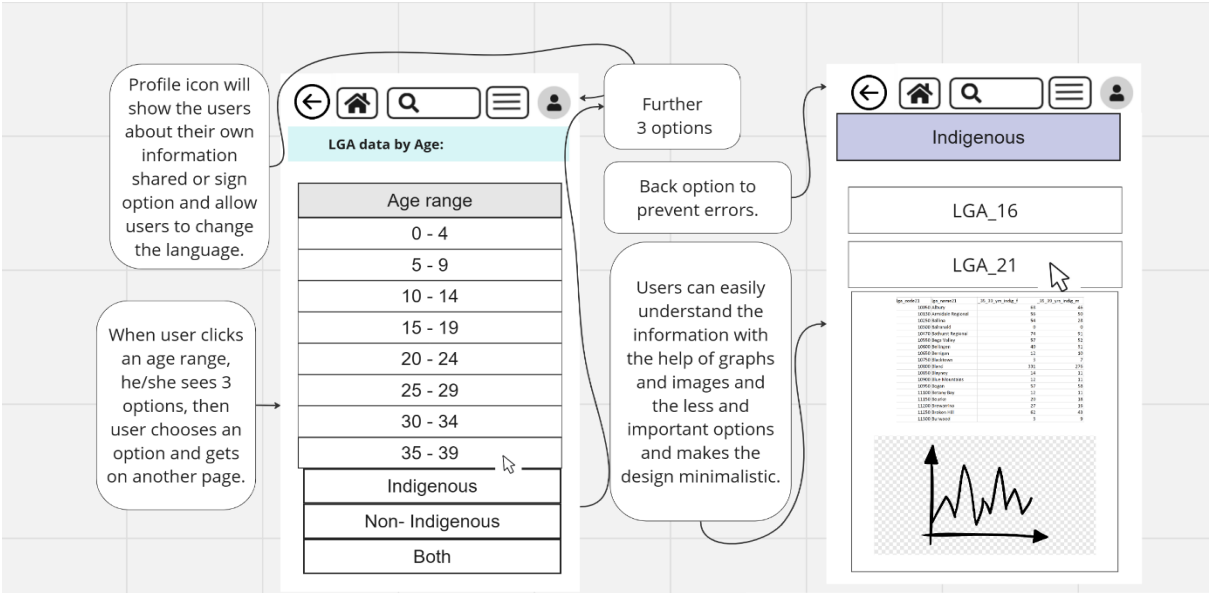
interface, making it easy for users to understand and use various features. To minimize user errors, the search bar likely suggests terms or auto-completes queries, streamlining the search process and reducing the likelihood of input mistakes. Users do not need to memorize the website's structure; the menu slider displays available options, making it easy for users to recognize and find the information they need. The website caters to users of different expertise levels by providing tailored options for beginners, intermediates, and advanced enthusiasts.

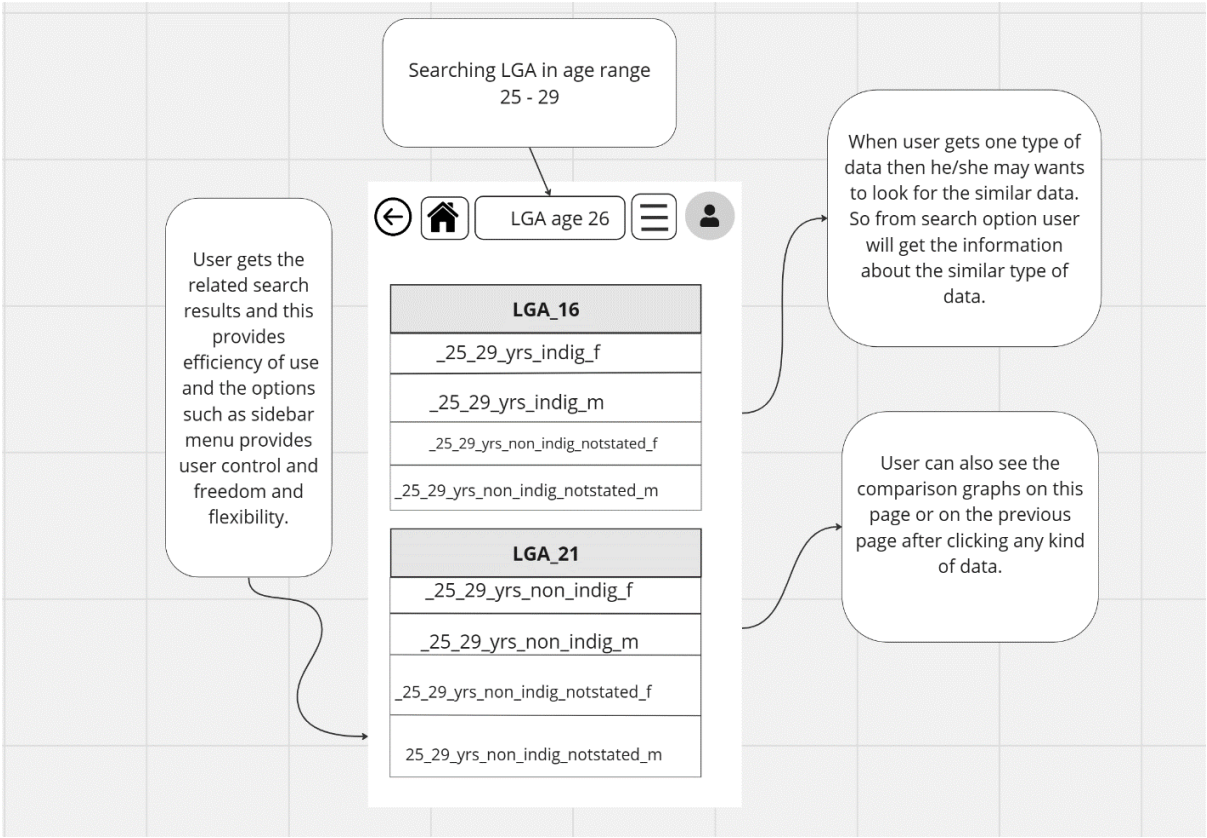
Incorporating images enhances both aesthetics and user comprehension, ensuring the design remains visually engaging yet uncluttered. In the event of errors, the website should present clear and user-friendly error messages, guiding users to a resolution without confusion. For users requiring additional assistance, the website could potentially offer help or documentation, ensuring support is readily available. Lastly, the language and context used to describe the website's purpose and information should align with users' real-world understanding, creating a seamless connection between their knowledge and the digital environment.

The use of different text and images in various areas of the webpage serves a practical purpose in helping users understand and engage with the content. In 1b, at the top of the page, the logo and clear text provide users with immediate context about the website, helping them identify where they are and what it represents. The inclusion of both a search bar and a menu slider offer users practical options for navigation. Some users prefer searching directly, while others like to browse through a menu, and this accommodates both preferences. By categorizing content into 3 parts as beginner, intermediate, and advanced levels, the website ensures that users can easily find information that matches their knowledge level (as some personas are informed whereas some are uninformed, but both needs to be well-informed about the gap using unbiased information), making it a practical resource for a diverse audience. Images are not just decorative; they play a practical role in user understanding.

3B







In 2a and 3b concepts are the visually illustrated, making the content more accessible and engaging. The top-left corner features a "Home" tab, providing users with a consistent and easily accessible way to return to the main page at any point. Adjacent to it, a search bar facilitates direct queries, ensuring user control and freedom to find specific information. A menu icon symbolizes the availability of additional navigation options, granting users the flexibility to explore further. The "User Profile" option offers personalized features, adding a layer of user engagement. Upon selecting "LGA Data," users encounter a succinct and organized presentation of six distinct options, each accompanied by relevant images. This visual support enhances user understanding, as images often convey information more

effectively than text alone. Clicking on any of these options takes the user to a dedicated page focusing on that specific topic (here age). Here, users are presented with a clear hierarchy of content. The top section includes icons identical to those on the homepage, reinforcing consistency and familiarity. A "Back" icon at the top ensures users can easily return to the previous page, enhancing user control. When a user selects a particular age range (35 – 39), a new page offers information related to that choice. The page design remains consistent with the earlier pages, using familiar icons at the top. Furthermore, this page includes other three options such as Indigenous, Non-indigenous and both, the user selects Indigenous option and gets the needed information with a small graph to visually represent data, promoting user understanding and engagement. The website allows users to conduct searches for specific age ranges (LGA age range 26), returning results tailored to their queries. This not only reinforces user control but also accommodates individual preferences and needs. The user gets the similar data after searching and the user gets further data options that provides the needed information.

Person interactions:

Persona" Ava Williams":

When Ava, a 27-year-old marketing analyst and newcomer to Australia, visits the website, she likely starts on the homepage. The familiar icons there make her feel comfortable navigating the site. Since she's unfamiliar with Indigenous social challenges, she clicks on the "Age Range" page. On the "Age Range" page, she sees clear options and selects "35 - 39" . This takes her to the "Detailed Age Data Page." Here, the concise and visually represented data on key issues like health, education, employment, housing, and incarceration is perfect for her. It's easy for her to grasp the basics without feeling overwhelmed. Ava appreciates that the design is consistent with previous pages and that the icons at the top help her navigate. The search functionality also catches her eye, and she uses it to find specific data related to Indigenous social challenges.

Persona "David Robert":

David, a 45-year-old Indigenous community leader with extensive knowledge of Indigenous issues, has different needs. He clicks directly into the "Detailed Age Data Page" because he wants more in-depth information. On this page, David finds detailed statistics, reports, studies, and historical data related to the gap between Indigenous and Non-Indigenous people in Australia. This level of detail aligns with his goals, as he requires access to comprehensive information to support his advocacy efforts effectively. David is satisfied with the website because it caters to his specific needs for in-depth data and resources. The clear design and the presence of historical data enhance his user experience. The site's search functionality also helps him locate specific reports or studies quickly.

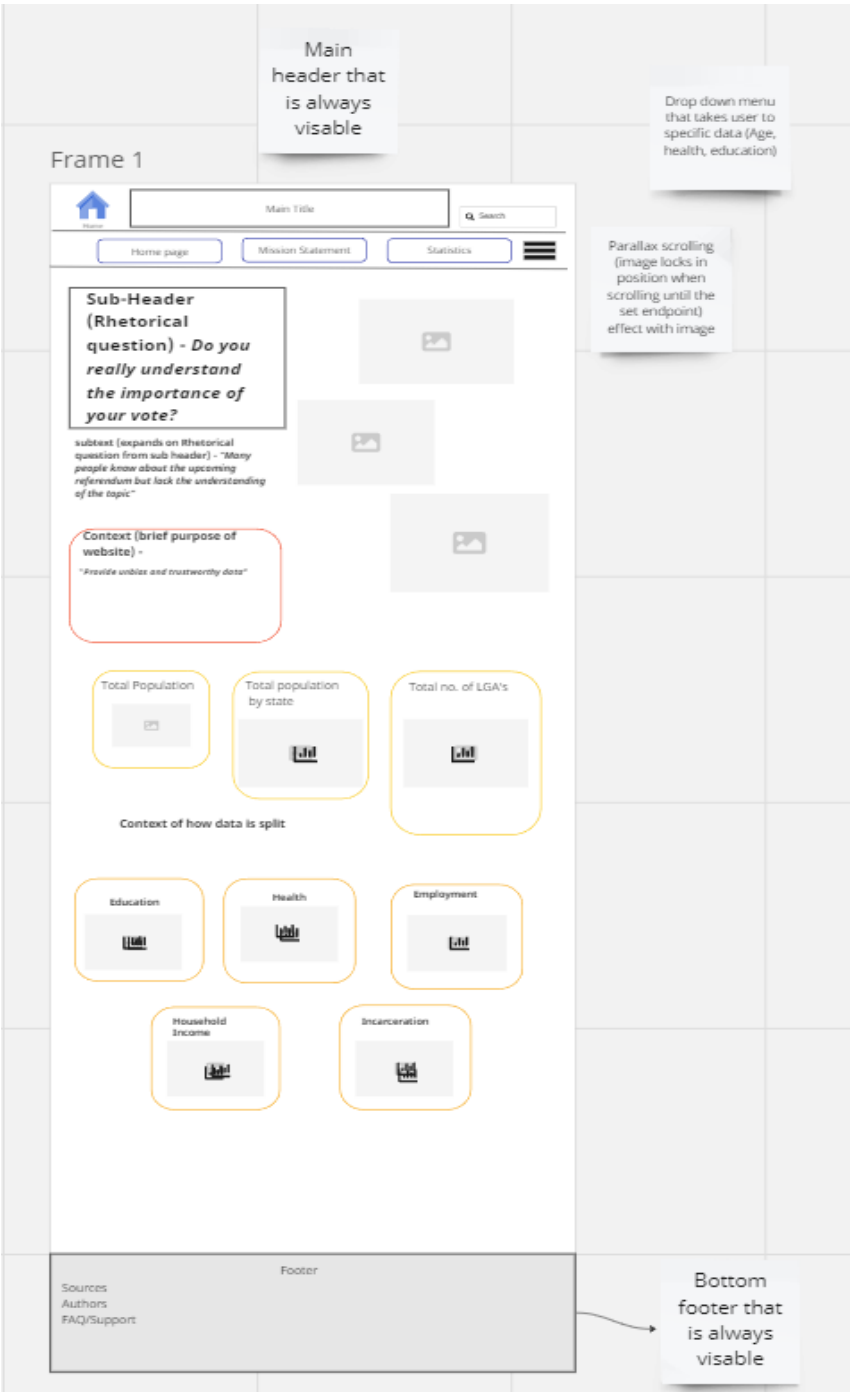
Persona "Alex Jones":

Alex, a 25-year-old software engineer with a passion for web development, embarked on a thorough exploration of the website, driven by his quest for unbiased education data. With a discerning eye for user experience and design, he had high expectations. Upon landing on the homepage, Alex was immediately drawn to the clear icons and well-thought-out layout. The design's consistency and familiarity instilled confidence in him as he began his journey. Alex's journey through the website left him highly satisfied. It not only met his fundamental need for unbiased education data but also fulfilled his desire for an engaging and visually pleasing interactive data exploration experience. The positive encounter aligned seamlessly with his

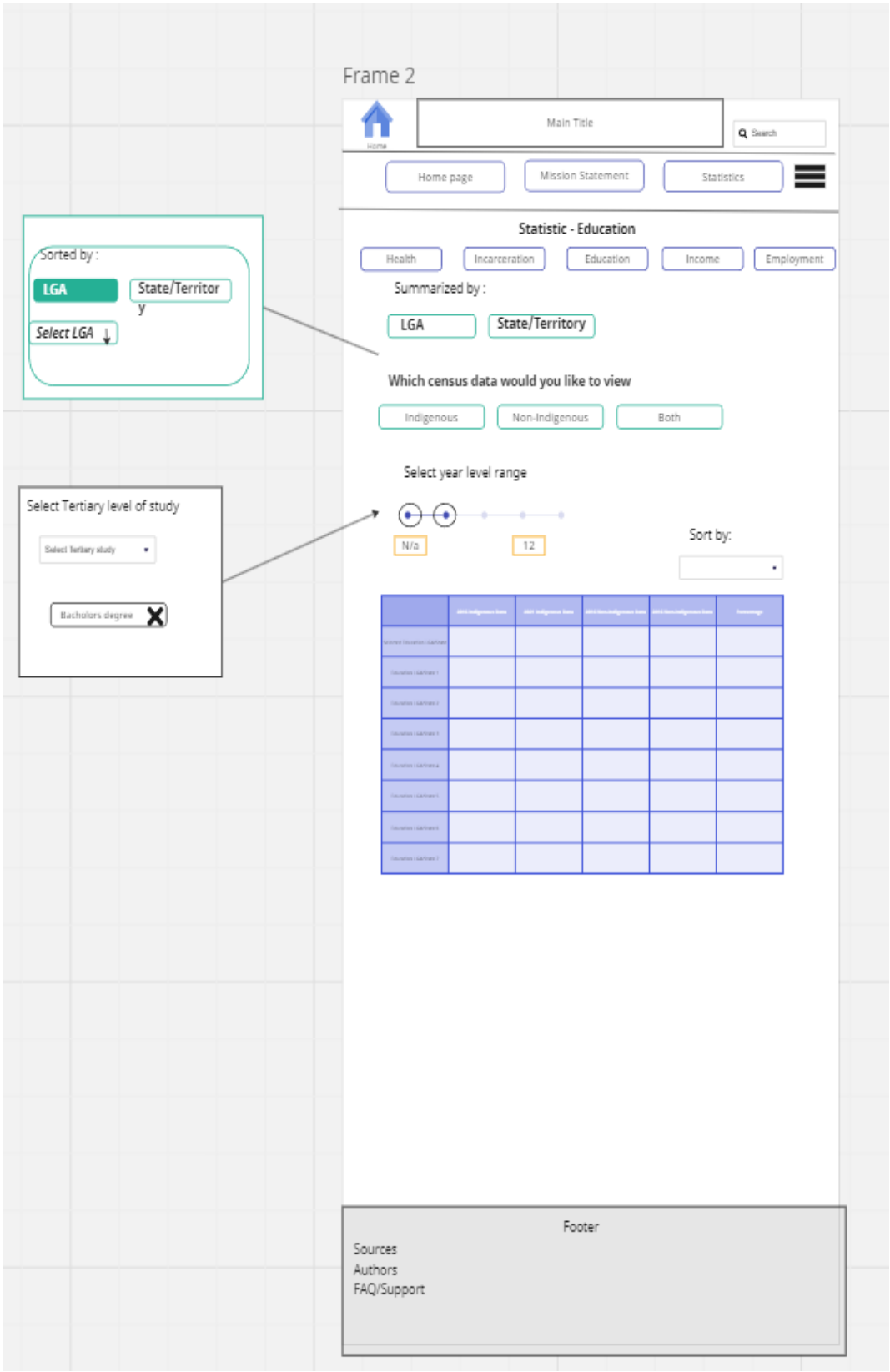
passion for UI design and web development, leaving him eager to return to the site for further exploration, learning, and possibly, inspiration for his own future projects.

UI designs (1A, 2B, 3C) – Joshua

1A



2B


Frame 2
Main Title
Search
Home page
Mission Statement
Statistics
Statistic - Education
Health
Incarceration
Education
Income
Employment
Summarized by :
LGA
State/Territory
Which census data would you like to view
Indigenous
Non-Indigenous
Both
Select year level range
N/a
12
Sort by:
Sorted by :
LGA
State/Territory
Select LGA
Select Tertiary level of study
Select tertiary study
Bacholors degree
Footer
Sources
Authors
FAQ/Support

3A

Explanation – Joshua (1A, 2B, 3C)

This design represents the front page and utilizes a range of design features to engage and improve the user experience. The design provides a top-down menu that takes the user to the 3 major pages within the website. Also, a search bar is added to find specific features or keywords, providing a flexible

navigation tool and freedom of control to search desired data easily. The final feature of the header includes a home button, which acts as an escape hatch for users to freely get back to the home page, as well as using the universally recognizable home button to reach the home page. This top header of features (title, home button, drop down menu, search bar) is always visible at the top of the screen, to further provide a level of standards and consistency for navigation, as well as improving visibility of the system. Also, a bottom footer is added to all design layouts, including any additional sources, the website's authors, and hyperlink to a support page/or FAQ where users can go to for help. Not only does this design support a clear and consistent format, as well as providing the appropriate help and Documentation.

Within the designs, text is often used for defining or providing context, using varying font sizes to settle a hierarchy of importance. This is exemplified through the opening text being a lot larger than the contextual subtexts in 1a. Additionally, bold text is used to provide a clearer reading experience, as well as supporting the hierarchy of importance. Within 1a, A rhetorical question is used as the opener, followed by two accompanying subtexts to add upon the question. This item provides a clear sense of direction and context for the website and explains how the website aims to assist the users. Adjacent to this text, there will be featured image(s) that display images with relation to voting and indigenous people, being presented using a parallax scrolling feature (images will maintain their position whilst scrolling), to provide a greater level a depth and aesthetics to the website. Within the website, a card-based UI is utilized to segregate data, using colored boxes that would play into the indigenous theme. This is present in the following section, where 3 sets of population data are represented in different forms, depicted through an organized table. The following section additionally includes a card UI that represents how the data is split amongst the 5 topics, so users can click on these areas to directly enter said type, providing mini graph of representation of that sector.

Within both 2b and 3a, the primary design pattern used for the filtering systems is implementing buttons. If selected, the button will be highlighted clearly in the outlined color and a, providing clear visibility of the system status. This is evident for the top bar including the statistical categories, providing a clear and simple navigation tool, and throughout the data filtering section. In cases where a specific selection must be made after a button (e.g., Selecting a specific LGA or State), a smooth transition is added to display the drop menu. In the case multiple options need to be selected (e.g., Tertiary studies), options will clearly show up in a small box below, possessing a small cross to its right to cancel/undo undesired selections. This provides a flexible control ability to user, clear UI to enforce the system's visibility, and ensure the right selections were made. Additionally, the final filtering tool used for incremental values is a dual slider, setting an upper and lower bound of the type of numerical ranges that the user desires (E.g., Age). For users that prefer alternative implementation methods, values can be put in manually, providing a greater Visibility of the system status and freedom and flexibility of use. Due to some sets of value being incremental such as the age demographic (that increments by age range of 5), error prevention must be implemented to round the value to the closest valid increment.

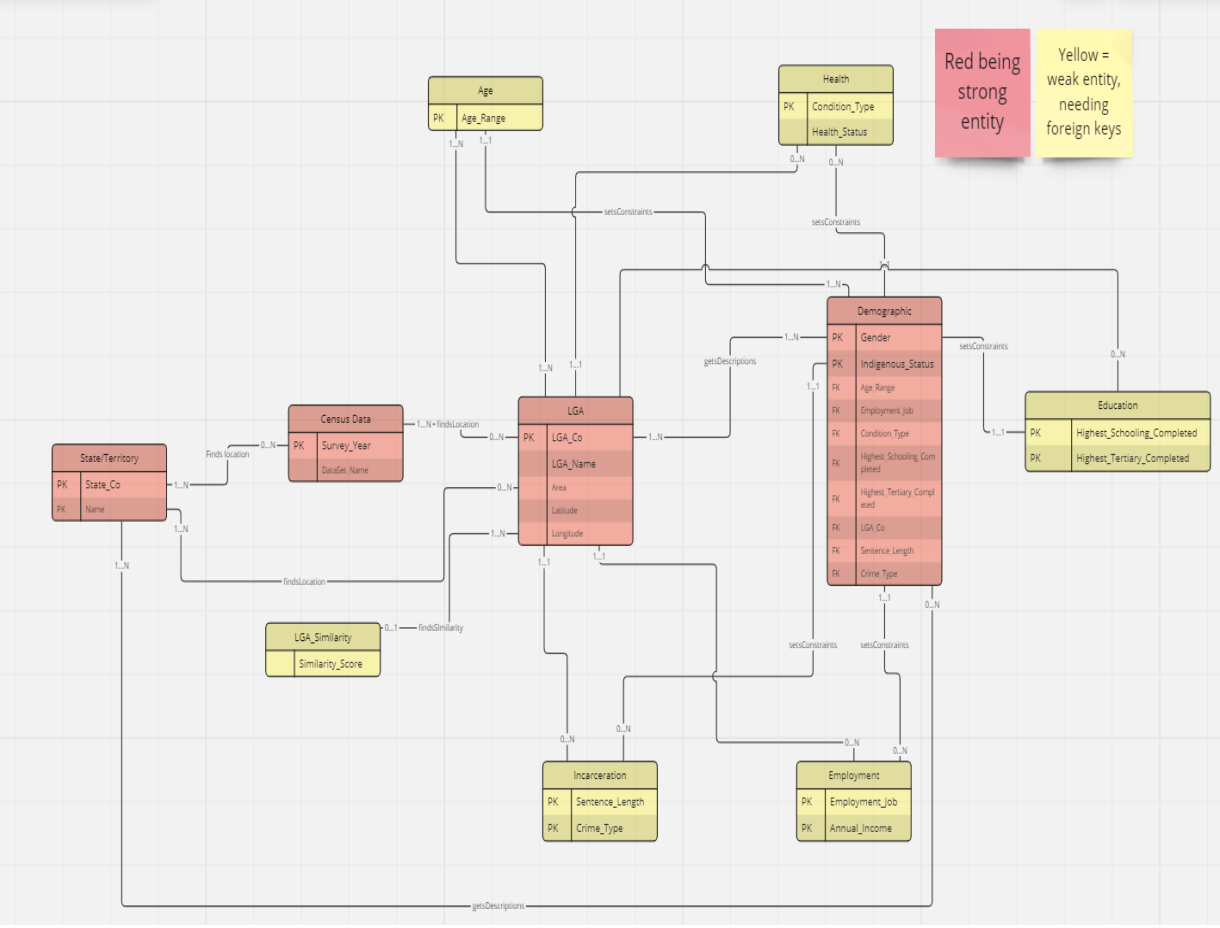
The final key feature of the UI designs is how the data output is formatted. Through all these filters, the raw data and percentage differences for both 2b and 3a can be depicted, as well as being represented through bar graphs and tables to provide a clear visual and aesthetic model. A drop-down menu is placed above the table as a “sort” feature, allowing the user to search via, No. of Entries (default), ascending or descending percentile order, allowing users to clearly see the rank of the states or LGAs. Due to the large amount of LGA options, the top tab of the table is always dedicated to the selected LGA, ensuring that the desired value is always viewed, and easily compared against other LGA’s. An additional feature added to the 3a model includes two card UI boxes displaying the best improving and worst declining State/LGA depending on the selected filters, to provide a clear visible system.

In terms of persona's interactions, 'Ava Williams" user experience is well satisfied as she as provided clear and aesthetically pleasing data that is formatted in a way she can understand. She can utilise website 2b or 3a to quickly grab information, as well as utilise the help and support features to ensure she understand how the website works. She likes the use of the home page as it provides a lot of contextual information necessary for understanding, comforting her lesser understanding of the topic.

Davids's experience is primarily satisfied utilising the filtering system to find specific data in terms of health, education, employment, housing, and incarceration. He enjoys the formatting of the buttons, dropdown menu. He wants to clearly understand the gap in between indigenous and non-indigenous people within these sectors, easily satisfied with the data being shown adjacently, as well as the percentile values.

Alex Jones experience is more than satisfied, as he can utilise all the filters to be able to view all the data. Additionally, he can acknowledge many design features with his greater depth of understanding. He enjoys the addition of the parallax scrolling feature, as well as the change of font colour as it supports an innovative format that ensure a clear Visibility of the system.

ER diagram and explanation – Joshua



This model is what I believe is a suitable version of the dataset that can be utilized for any of the levels. The primary strong entities focus on the census data, location of state/Territory or LGA, as well as demographic. The census data is the attribute containing the actual data and the location dictates which specific regions the data is being returned to. The demographic entity is primarily used to get all the necessary constraints from the specific weak entity, to then get interpreted back to the

dataset to find said data between the constraints. Additionally, a similarity score entity is added to calculate the necessary score.

Dataset model - Joshua

Census Data	Survey_Year, DataSet_Name
LGA	LGA_Co, LGA_Co, Area, Latitude, Longitude
State/Territory	State_Co, Name
Demographic	Gender, Indigenous_Status, Age_Range*, Employment_Job*, Condition_Type*, Highest_Tertiary_Completed*, Highest_Schooling_Completed*, LGA_Co*, Sentence_Length*, Crime_Type*
Age	Age_Range
Health	Condition_Type, Health_Status
Education	Highest_Schooling_Completed, Highest_Tertiary_Completed,
Employment	Employment_Job, Annual_Income
Incarceration	Sentence_Length, Crime_Type
LGA_Similarity	Similarity_Score