

Maciej Czarnota student number 44475385

Mateusz Czarnota student number 44766823

Connor O'Reilly student number 44800848

Design computing Studio I

Design proposal

Interactive Convict Records of Australia



Scope	3
Background inspiration and research	4
Interaction Design Research	8
Design Phase	9
Brainstorming	9
Categorization of ideas	10
Feasibility ranking	11
Examining Data Sets SLQ	12
Examining data set for convict section:	14
Use of datasets	14
Wikipedia API:	14
Creating internal database:	14
Google Maps API	16
Interactivity	16
Target audience	18
Analysis	18
Demographics	18
Customization	19
Expectations	19
Personas	19
Scenario:	20
Storyboard	22
SiteMap	24
Website wireframes for each layout	24
Main Page - index.html	25
Convict Route Map -map.html	26
Convict Details -convicts.html	27
Convict details - convicts.html	27
Example mockup of the site	29

Scope

Our team decided on application that shows historical information about Convict ships, their routes around the World and the convicts themselves between years 1787 -1867. The site will introduce convict's life stories and their biographies. Information about convict ships, their destinations and the information who they were transporting. We plan on creating the system that will be highly interactive and enjoyable to browse through.

We hope to follow the best principles in design. Both in aesthetics composition and functionality of the project.

This system will be a great introduction to convict's history to anyone who wishes to immerse himself in this turbulent but wondrous period of Australian history.

The site will be divided into 4 main sections.

- 1) The main navigation - will consist of handmade drawing of ships noticeboard and interactive sections you can click on.
- 2) The interactive map - features routes of the most famous ships and their information.

Map will consist of moving ships around the map in real time. User will be able to hover on them to obtain additional information such as : how many convicts did they held, their names, what is their destination port, date of departure and port of origin. If the user will be interested in the ship itself he will be able to click on the name of the vessel and the site will redirect him to the following section.

- 3) Ships details - will consist of information about the vessels such as photos, general information, and name. User will be able to search for needed information.
- 4) Convicts information - will consist of personal information about convicts. Their photo, biography, allies, date of sentences etc. User will be able to search for needed information.

Users will be able to control what ships they would like to view by choosing one of the time periods that will be provided by the map.

Our primary goal is to promote history through interaction and fun. Most of Australian have ancestors coming from Great Britain and would like to know more about their heritage, From where they are and how they arrived in Australia.

Those who love history will find something for themselves as well. We do not want for our system to be static, Most of the components will be interactive and will use animation that will allow for the better display of information that user wants.

Our next goal is to present the data in aesthetic way so the users will have no problem navigating and fine the appearance of the site pleasing.

The project will be a fully designed and detailed prototype that we can evaluate and iterate to improve further.

Background inspiration and research

Here we listed few of the resources that inspired us how we should approach this project and how to visualize our data to maximize user experience and interaction.



Yarrmaps.com is a powered google map styled as a pirate treasure map.

What got our attention was how the map is interactive. Waving waves, seagulls flying over lands, ships appearing randomly whenever you move a map. Even

destination route was designed as treasure map.

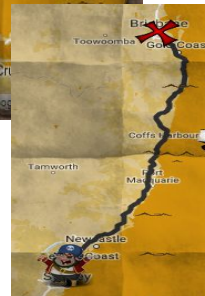


Figure 1 <http://yarrmaps.com>

This Interface integrate well with our concept and we will use similar animation patterns and destination routes for our map.

Another example that caught our eye is the whole website that specializes in making custom made google maps. One of those designs is especially beautiful and got our attention.



“Water Color Map” - that’s the name of the map is an absolutely gorgeous to look Google Map styled as a cartography old map. It uses pale colors and simplistic design but that’s what we are looking for in our project. The author used algorithm to make this map looks like hand-made painting and explain step by step how it can be done. We will design our Map following this resource process to make our project easily understood by our audience.

Figure 2 <http://maps.stamen.com/watercolor/#4/0.35/-223.99>

Our next step was to find out how to create an interesting searching interface for our SLQ data. Since this is a big factor for our system we wanted something that would be simplistic, easy to use and navigate. The best candidate which matches our expectations was **Instant Check Mate** site.

This site is a leading background search tool on internet. It lets you check the background of any person with the criminal record by entering information of the person you are looking for to run a background check.

It uses database interface with few data inputs that are well described.

Instant Check Mate Website research - <https://www.instantcheckmate.com/>

The heading takes big amount of space following a subheading that describes the purpose of this tool. It is visually appealing and we will use this pattern for our design.

Site is using input validation if the user enter invalid data. Important aspect of informing the user what is happening on the screen. Definitely we will use this.

Every time a user searches a person the indicator number goes up. We will use this feature to show how many times the content has been served. User wants to know how many people are using the searching tool and they will feel compelled to use it as well.

The screenshot shows the 'PUBLIC RECORDS SEARCH SERVICE' website. The background is a large, ornate hall with many people. The main heading 'PUBLIC RECORDS SEARCH SERVICE' is at the top in large white letters. Below it is a subheading 'Search for information from local, state, and federal data sources!'. The search form has four input fields: 'First Name:' with a placeholder 'e.g. John', 'Last Name:' with a placeholder 'e.g. Smith', 'City:' with a placeholder 'e.g. Chicago', and 'State:' with a dropdown menu showing 'All States'. To the right of the 'State' dropdown is a checkbox labeled 'This is me' and a green 'SEARCH' button. A blue arrow points from the first text box to the 'First Name' input field. A red error message 'Please enter a first name' is visible below the 'First Name' field. A blue callout box above the 'First Name' field says 'This person won't know you're trying to search them'. Below the search form, the text 'Millions of searches and counting!' is displayed above a large number '1,306,581,852' which is enclosed in a white box. A blue arrow points from the second text box to the 'Last Name' input field. A blue arrow points from the third text box to the 'SEARCH' button.

PUBLIC RECORDS SEARCH SERVICE

Search for information from local, state, and federal data sources!

First Name: e.g. John Last Name: e.g. Smith City: e.g. Chicago State: All States ☐ This is me **SEARCH**

Please enter a first name

Millions of searches and counting!

1,306,581,852

Additionally we will be using <https://convictrecords.com.au/> as our personal database for convict stories since SLQ data is not efficient enough for our project.

This site includes names of convicts, their aliases and stories. We already got permission from the author for this site to use those information freely.

Search **Convicts** **Timeline** **Ships** **Crimes** **Contributions** **Community** **Resources**

[Convict Records](#) > Home

Like 4.4K

Tweet

Share

259

Print

Convict Records of Australia

Search Records

Welcome to Convict Records. This website allows you to search the British Convict transportation register for convicts transported to Australia between 1787-1867.

Information available includes name of convict, known aliases, place convicted, port of departure, date of departure, port of arrival, and the source of the data.

We also welcome public contributions of additional information such as crime, occupation, gender and date of arrival. You can even add convicts who you cannot find a record for.

Browse Convicts

If you don't know what to search for, or you just want to browse through the convict database, just select from any of the browsing options below.

You can browse this website for convicts transported to Australia in the following ways:

- » Browse by **surname**
 - » Browse by **year of transportation**
 - » Browse by **ship name**
-

Interaction Design Research

Interaction design takes a holistic view of the relationship between designed artifacts, those that are exposed to these artifacts, and the social, cultural, and business context in which the meeting takes place. While there is no commonly agreed definition of interaction design, its core can be found in an orientation towards shaping digital artifacts products, services, and spaces with particular attention paid to the qualities of the user experience. To be able to deal with user experience including physical, sensual, cognitive, emotional, and aesthetic issues.¹

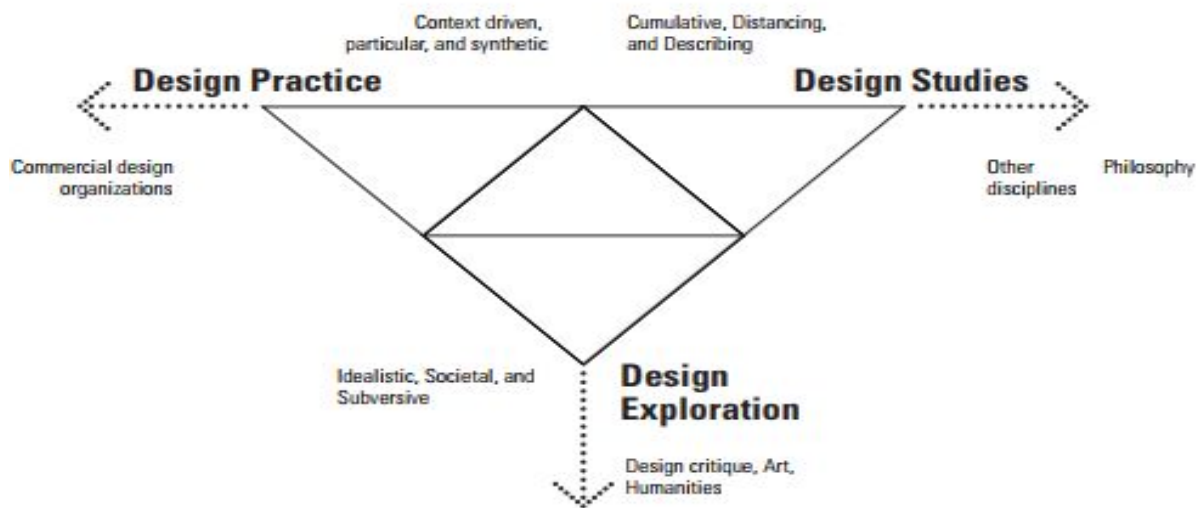


Figure 3 Design Issues

Book *"The Interaction Design Research Triangle of Design Practice"* written by Daniel Fallman provides methods based on trajectories, loops and dimensions. We will be following design exploration and research patterns to create a successful website that is both appealing, unique and gives positive feeling to the user.

¹ **References:** "The Interaction Design Research Triangle of Design Practice, Design Studies, and Design Exploration" Daniel Fallman

Design Phase

Brainstorming

Brainstorming is a group problem-solving technique, in which a group of people uses their collective intelligence to approach a creative problem. It inspires people to come up with unique , fresh ideas.

At the beginning of our design research process. Our group had a fierce discussion where we have had to come up with new ideas and categorize them depending on one of the dimension that we have created.

Our dimensions was based on interactivity and what content it provides. Those categories were as follows:

- 1) Games - ideas that would be well designed as games. Funny and interactive to get attentions from the audience.
- 2) Educational system - ideas that would provide some information to educate users or solve problems.
- 3) Geolocation systems - ideas that would be well designed as maps. They would use timeline scrollbar and would filter the data for further understanding of the data.

After categorizing those ideas we had to answer vital question if we can really design them.

We asked each of team member if they have skills needed to create such a project:

- 1) How much experience do they have in creating web projects?
- 2) Do they have drawing/ photoshop skills?
- 3) Do we have enough resources to make them such as time, people, technology?






Categorization of ideas

Games	Educational systems	Geolocation systems
<p>Monopoly - based on monopoly board game placed in world war I Australia. Instead of using countries the game will use states (Queensland, South Australia etc) , cities like (Melbourne, Brisbane etc). The game will have similar rules as Monopoly. You buy hotels, cities, you can go to prison or draw an event cards.</p>	<p>Interactive newspaper - historical newspaper as the reader flips the pages and read about the events that happened.</p>	<p>Interactive battle -system that shows how the old historical battles occurred on the map. It would increase viewer skills reading and using maps of historic events by using this in a interactive, interesting way.</p>
<p>Portrait puzzles - a game where you need to complete the soldier portrait made from pieces of the photos.</p>	<p>Interactive cemetery - cemetery for fallen WW I soldiers using their photos on the tombs which people could look up at the click of a button.</p>	<p>Changing Queensland - use old photos of Queensland to show how those areas changed over time.</p>
	<p>Mining disasters - web application that would show the most dramatic events that happened in Australian mining environment.</p>	<p>Interactive Convict records - introduces convict's life stories, their biographies. Information about convict ships, the destinations and the information who they were transporting.</p>
	<p>Interactive Historical Australian Music - would show how music was changing towards the years using musical sheets and external resources as youtube or spotify.</p>	

Feasibility ranking

Monopoly	
Portrait puzzles	
Interactive newspaper	
Interactive cemetery	
Mining disasters	
Interactive Historical Australian Music	
Interactive Convict records	
Changing Queensland	
Interactive battle	

Key

-  Lack of resources, not enough data. Impossible to make it
-  Manageable but lacks personal experience to do it
-  Average - has resources to do it but requires a lot of time
-  Possible - resources available, no time consuming but plain idea
-  Perfect - resources available, no time consuming, creative idea

Examining Data Sets SLQ

Add Filter

Grid	Graph	Map	29289 records	« 1 – 100 »	Q	
_id	Title of i...	Creator	Temporal	Provena...	Full na...	Addition... (from N...
1	- Adkind,...	Unidentif...	13/03/1915	Photogra...		
2	- Allan, ...	Unidentif...	31/10/1914	Photogra...		
3	- Andrew...	Unidentif...	31/10/1914	Photogra...		
4	- Auchter...	Unidentif...	6/03/1915	Photogra...		
5	- Banner...	Unidentif...	13/03/1915	Photogra...		
6	- Bilby, o...	Unidentif...	13/03/1915	Photogra...		
7	- Bourke,...	Unidentif...	13/03/1915	Photogra...		
29136						
29137						
8	- Bower...	Unidentif...	20/02/1915	Photogra...		
9	- Bowry, ...	Unidentif...	13/03/1915	Photogra...	William ...	1562 96550
10	- Brenna...	Unidentif...	13/03/1915	Photogra...		
11	- Bruggy...	Unidentif...	20/02/1915	Photogra...	Bertie La...	42 102962
12	- Burton,...	Unidentif...	3/10/1914	Photogra...	[Pte] [S...	9th Infan...
13	- Chamb...	Unidentif...	17/10/1914	Photogra...	Lloyd El... [Pte] [L...	623 9th Infan... 116661
14	- Coster, ...	Unidentif...	13/03/1915	Photogra...	John Co...	1930-7852 129158
29138						

Monopoly

After careful investigating the data we realized that most of the data is not sufficient to create such a game for a couple of reasons:

- 1) Each element of Monopoly Game would have to require SLQ data but there is no data for everything or pictures.
- 2) Requires a complex design. Setting game rules, creating card events, hotel prices etc.
- 3) A lot of graphic design would be needed. We have only one person who is proficient in using Photoshop but it is not enough.
- 4) To be able to create a project like that we would have to learn new technologies like HTML CANVAS to draw gameboard which is really time consuming and risky

Data Explorer

Embed

Add Filter

GridGraphMap

123890 records

« 1 – 100 »

Q

Search data ...

Go »

Filters

_id	Convict...	Name-AI...	Name-AI...	Name-AI...	Name-AI...	Name-AI...	Name-AI...	Name-AI...	Sentenc...	Vessel	I
1	Downes,...								Convict...	Neptune	
2	Moore, ...								Convict...	Mount St..	
3	Westwo...								Convict...	Edward	
4	Mulcrarty...								Convict...	Indefatig...	
10	Denner, ...								Convict...	Strathfiel..	
5	Okey, Tr...								Convict...	Indefatig...	
6	McGuire,...								Convict...	General ...	
7	Grimsha...								Convict...	Indian	
8	Scott, Jo...								Convict...	Indian	
9	Townshe...								Convict...	Duke of ...	
11	Matthew...								Convict...	Adelaide	
12	Walker, ...								Convict...	George t...	
13	Gilbrith, ...								Convict...	Lord Mel...	
14	Conner, ...								Convict...	Sarah	
16030	Myers, ...								Convict...	Surrey	
15	Cheshire...								Convict...	Sarah	
16	Lyon, Ch...								Convict...	Sarah	

After carefully examining SQL data we noticed there is everything what we need to successfully start designing our website.

Examining data set for convict section:

For each convict we found records that are mandatory for successfully deploying our project:

- Name
- Aliases
- Place where he was convicted
- Which vessel took him for sentence

Convict section additionally will use stories for each convict founded in SLQ data by using internal database that we are going to create.

For ships we found interesting columns:

- Name of the ship
- Place of arrival
- Date of Arrival

One of the problems we had to tackle was to successfully show moving ships across google map we needed records of their place of origin. Luckily, we realized that each convicted prisoner was in the same place where the main port was. We are going to use name of the place where he was convicted as the same name of the place of sailing out as well.

Use of datasets

Our concept will incorporate the data provided by the State Library of Queensland. Additionally, we will be using external resources for each of the sections.

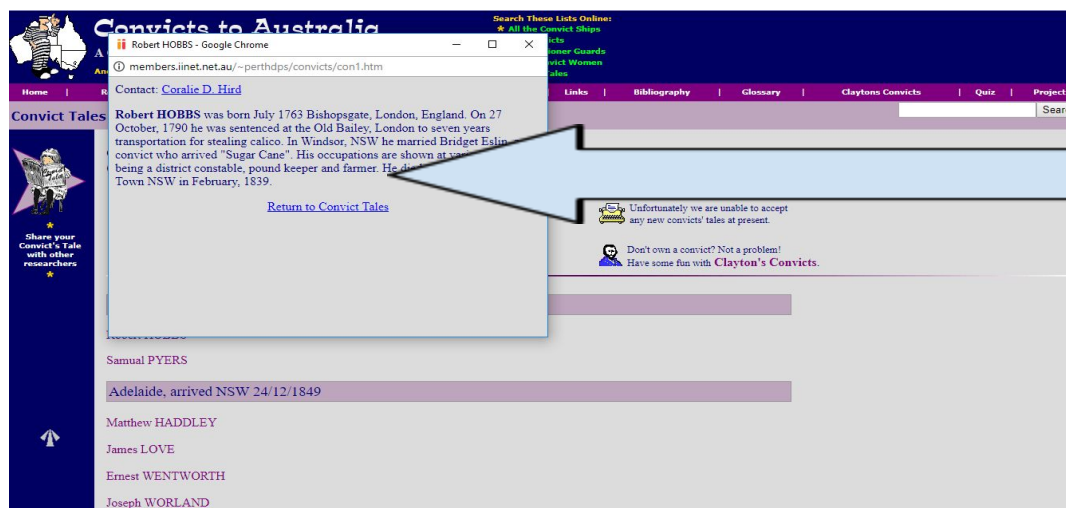
1) Wikipedia API:

For our map section we will use wikipedia API to show the description and photos for cities that ship set out and arrived to.

For ship section API will be used to describe convict ships and provide their photos.

2) Creating internal database:

We are going to fetch information from <http://members.iinet.net.au/~perthdps/convicts/conv1.htm> and create our own simple database storing Convicts lifestories. Each life story will reference each convict by checking his name.



Information for each of the convict and their life stories

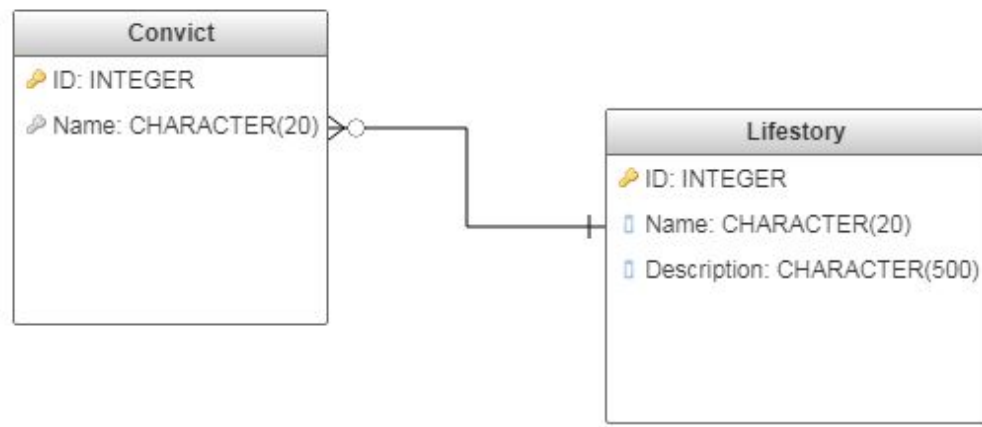


Figure 4 Database schema storing lifestory for each convict

Our simple database will use 2 tables for storing the data.

Convict table will consist of :

- Name (Convict's name)
- ID (PRIMARY KEY for the table)

Life story table will consist of :

- ID (PRIMARY KEY for the table)
- Name (referencing Convict Name attribute)
- Description (storing detailed life story).

By integrating the data provided by the State Library of Queensland and our database users will have information that will be shown efficiently and provides fast access.

3) Google Maps API

Google Maps will be utilized to display the location of the ship moving in real time, heading to the place of arrival. Additionally, they will provide information about the cities, their routes, how many convicts they held etc.

Interactivity

Our site will use a lot of interactive elements to make the website more appealing and designed in such a way that user will be attracted and engaged. We will use following interactivity to reach users efficiently.

- **Moving ships across the map**

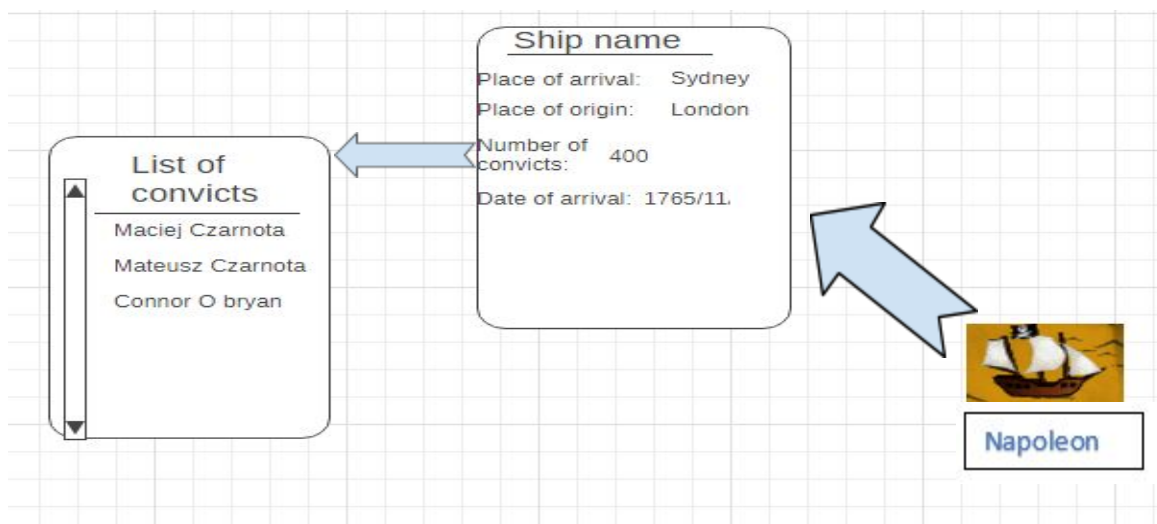
Shps will be moving slowly from place of origin to their destination in real time. They will ignore land and move only across water.



Figure 6 Animation of moving ship

- **Detailed information after hovering over ship**

User can hover over moving ship to get additional information such as how many convicts it transported and their names, place of origin and their destination.



User additionally can click on the name of the ship to be redirected to next section and get ship's information.

- **Filtering ships over map**

The map will use buttons which will be separated by the time period to filter the information on the map. Each button will relate to certain time -period.

They will be distinguished by different colors. For instance, red button with time period 1786-1799 once clicked will show only ships from this period of time .

It will increase the readability for the user and overall understanding of the provided content.



Figure 8 Picture showing example filtering tool for ships

- **Moving progress bar for Convict Section**

We want to have an indicator of uploading the content to our site. A progress bar is an important element of the interface, which will aim to show the user the current progress. It will make our interface not only more convenient, but also more understandable.



Figure 9 Progress bar before uploading whole interface and database

- **Adding commentary in Convict Section**

It will be possible to add commentary which will be available to public audience after finding particular Convict. People tend to add comments because it is how they connect with things they care about and express empathy. When they will find someone they deem interesting they will likely share their feelings with others after reading Convict's story.

Target audience

Analysis

Our target audience are people who are passionate about history, especially Australian and others who are interested in finding their family roots.

Majority of Australian have their roots in Europe. *In 2010, it was estimated that around 74% of the Australian population were Anglo-Celtic Australians*²

Researching family history is a favourite hobby for many people. We want to provide information and records in which audience can find information about their ancestors.

Demographics

Passionates of genealogy are usually around 30 years old and over. They are well educated and have family of their own. Most of them have freelance jobs that does not require a lot of time spend in the office or the job is flexible so they have time for their interests since they might be time consuming.

Fans of history are made up of both genders ranging between the ages of 16 to 50 years old. Most of them are well educated and have high position jobs and they come from middle-class to high-class.

People who are seeking their family roots are usually 30 years and over. The education level is diverse starting from low education background to high education background.

Customization

We understand that most of our visitors will be interesting in exploring this period of time and Convict life stories.


The website is primarily designed for people who are passionate about history and people who search for their family origins. Therefore, our focus we be directed towards them.

² Babacan, Hurriyet (2010). "1. Immigration, Nation State and Belonging". In Alperhan Babacan. *Migration, Belonging and the Nation State*. Supriya Singh. Cambridge Scholars Publishing. p. 16. [ISBN 978-1-4438-2102-5](#). Retrieved 15 February 2017.

Expectations

We are hoping that each group will be able to make their own decisions after browsing our site. History admirers will mostly explore the map section while people who are looking after their family genealogy will browse Convict section. Additionally they will be able to leave comments if they find a Convict's story interesting.

Personas

 <p>Frustrations:</p> <ul style="list-style-type: none">- Not being able to find anything interesting relating to Australian history- Lack of resources about Convicts on internet that he wants to explore <p>Needs:</p> <ul style="list-style-type: none">- He wants to learn how to manage budgets and plan better- Learn new things about Australian history- Looks for his family roots that came from Europe	<h1>Fred Jenkins</h1> <p>Quick stats</p> <p>Age : 55 Married: with one kid in Elementary School Education: Undergraduate Location: Sydney, Australia Company size: 120 Annual Gross: 6.2M</p> <p>About Fred: He has always enjoyed learning about history, exploring more about our heritage and how the past has shaped who we are today. When it came to deciding what to study at university, although he looked into pursuing a science subject, he ultimately chose to follow the path that he knew and enjoyed the most, history. What he loved about doing a degree in history is that he was always learning and discovering something new. One minute he was learning about smugglers in seventeenth-century Britain, the next the development of the blockbuster in Hollywood! After graduation he became a Heritage manager.</p>
---	--

Scenario:

Fred came home after another long night in the office. He came home tired and wanted nothing else but spend the evening quietly. After kissing his child good night and leaving his wife to watch her favourite TV show he quickly escaped to welcome confinement of his home office.

After watching few videos on YouTube he became frustrated. There was no quality content added that day and he was interested in quite particular field. Australian cultural Heritage.

He did not want to watch another of History Channel "Aliens among us" episode. He begun searching randomly around the web for any site that would provide his mind a stimuli he needed. He quickly realised that there were no quality websites concerning Australian History. Most of them were simple library databases that he had no knowledge of patience to peruse and others were outdated and ugly looking.

Then, he came upon a website that looked at no other. His eyes met with the image of something that looked as a site of an old wooden wall with a battered map hanging off it, with extremely dated photographs and nothing else but a ship in a bottle with welcoming words "History of Australian Convicts". All elements appeared to merge together seamlessly and the appearance of the website seemed to require a lot of work to make.

Curious, what it means he moved his cursor around the page. First, his cursor found the map and to his surprise it changed colour subtly and a small window popped up: Click to learn about Convict Ship Routes and more.

Intrigued, he clicked and another page appeared quickly. It looked as an old map, similar to the one he just clicked on with ships moving back and forth on animated waves. His eyes widened. It was Google Maps he realised. Same he used at phone sometimes but looking as no other he had seen. Pleased, his cursor hovered above the arrow ship was moving on. Another information window popped up: "click to learn about the ship".

He clicked. A Wikipedia page loaded showing him the information about the ship. He read and came back to the page. He quickly learned he can click on ports and learn about them as well.

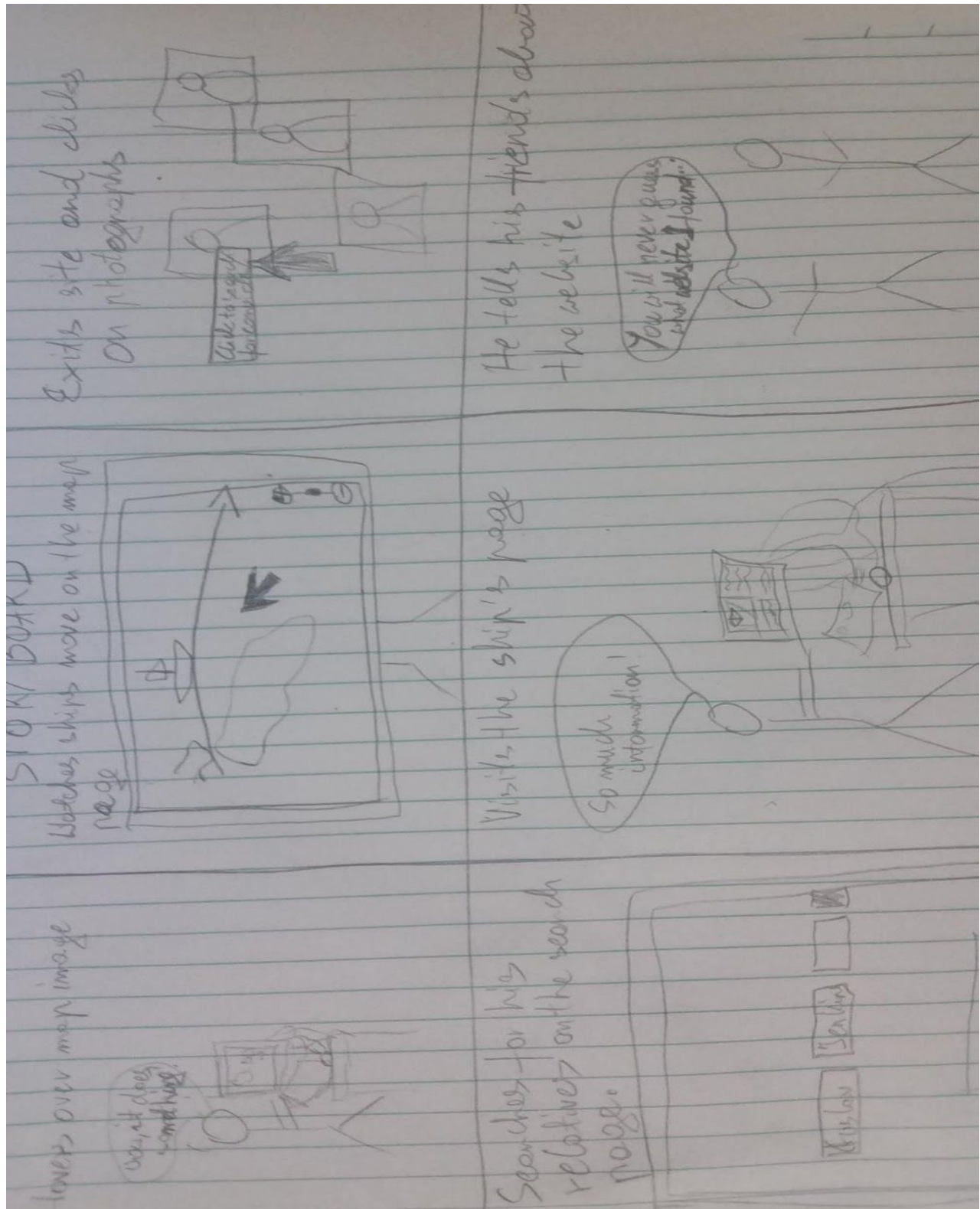
He left after an hour of playing around on the page and clicked on photos on the main page. The page loaded and it appeared to be some sort of search site. The description explained to him that he can search for convicts using their first and last name, the ship they came on, punishment they received and more. Below, he saw how many people clicked the search button and he was one of the first few dozen who did so.

After searching for his relatives and finding few of them he returned to the main menu and clicked on the ship in the bottle image.

The page loaded with massive galleon at the front and text to the next. He did not require

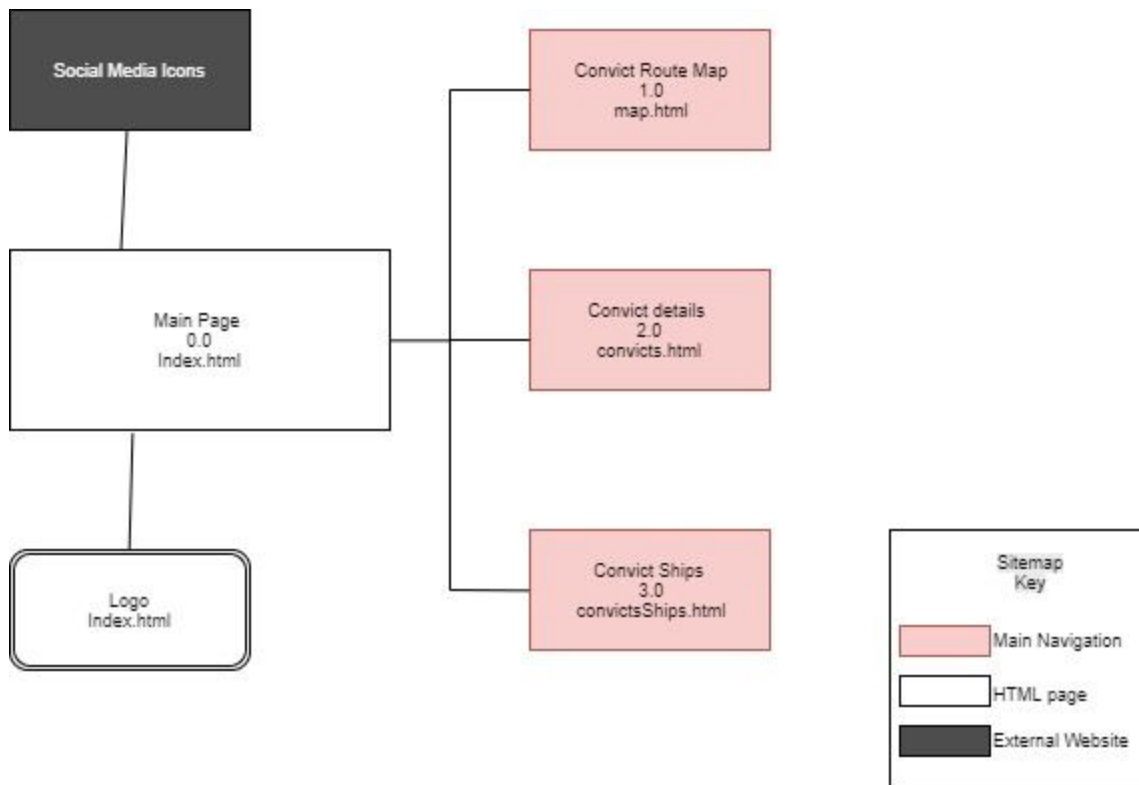
explanation this time even though it was provided to him that it was the page describing the ships that transported convicts to Australia. He could even see all the convicts each vessel shipped. His browsing came to a halt when his annoyed-looking wife appeared at the door asking him why he is not in bed yet. Startled, he glanced at his watch. It was late at night and he lost track of time. The website was great fun. He quickly went to bed but he knew he will go back to that website soon.

Storyboard



SiteMap

Main objective of the website is to provide a valuable historical resources that are interactive. After careful analyzing the needs of the audience and the main focus of the website. The following sitemap was created.



Each of the sections were put in the main navigation bar and categorized by their content. There are 3 main sections of the website:

1. Convict Route Map - one of the main components. It utilises Google maps API and shows Convicts Ships routes.
2. Convict Details - second main component that shows SLQ database information about convicts.
3. Convict Ships - third main component that shows SLQ database information regarding convict ships.

Website wireframes for each layout

Main Page - index.html

Main Page consist of 6 main sections.

- 1) Left section shows an image of the map that redirects to Convict Route Map
- 2) Redirect the user to site with references to our data
- 3) Provides the information about the authors of the site
- 4) Additional information about the site and its purpose
- 5) Right section shows an image of convicts that redirects to Convicts section
- 6) Left bottom section shows an image of Convict ship that redirects to Convict Ship section.
- 7) Title - main title of the web system

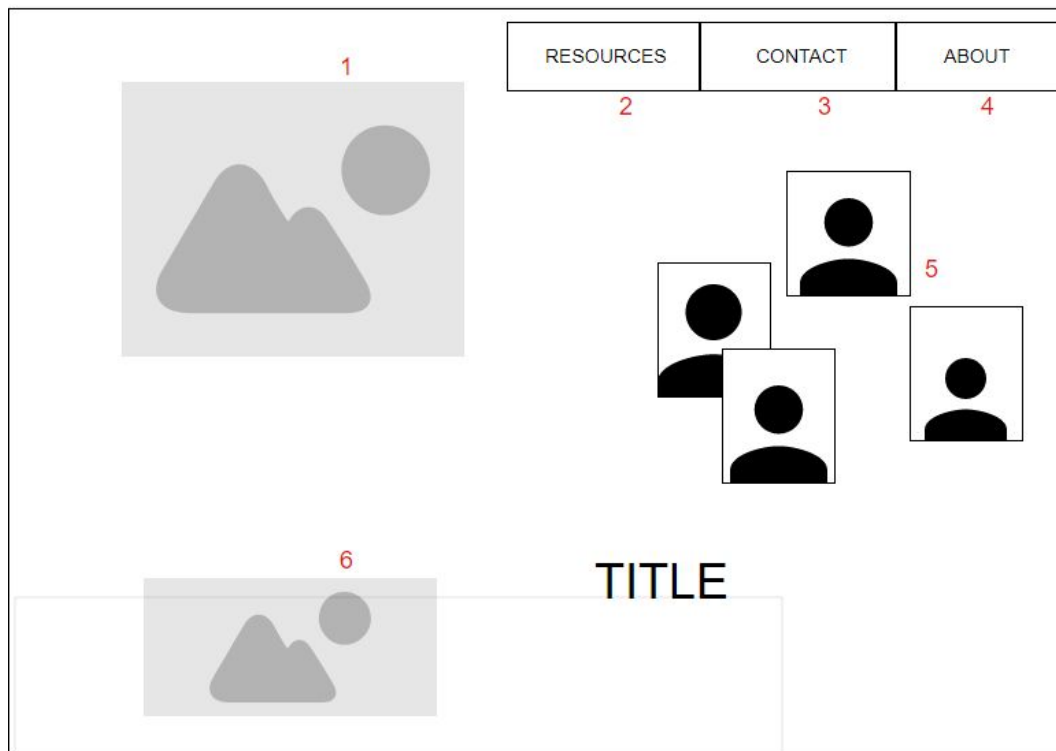


Figure 9 Main Page Wireframe

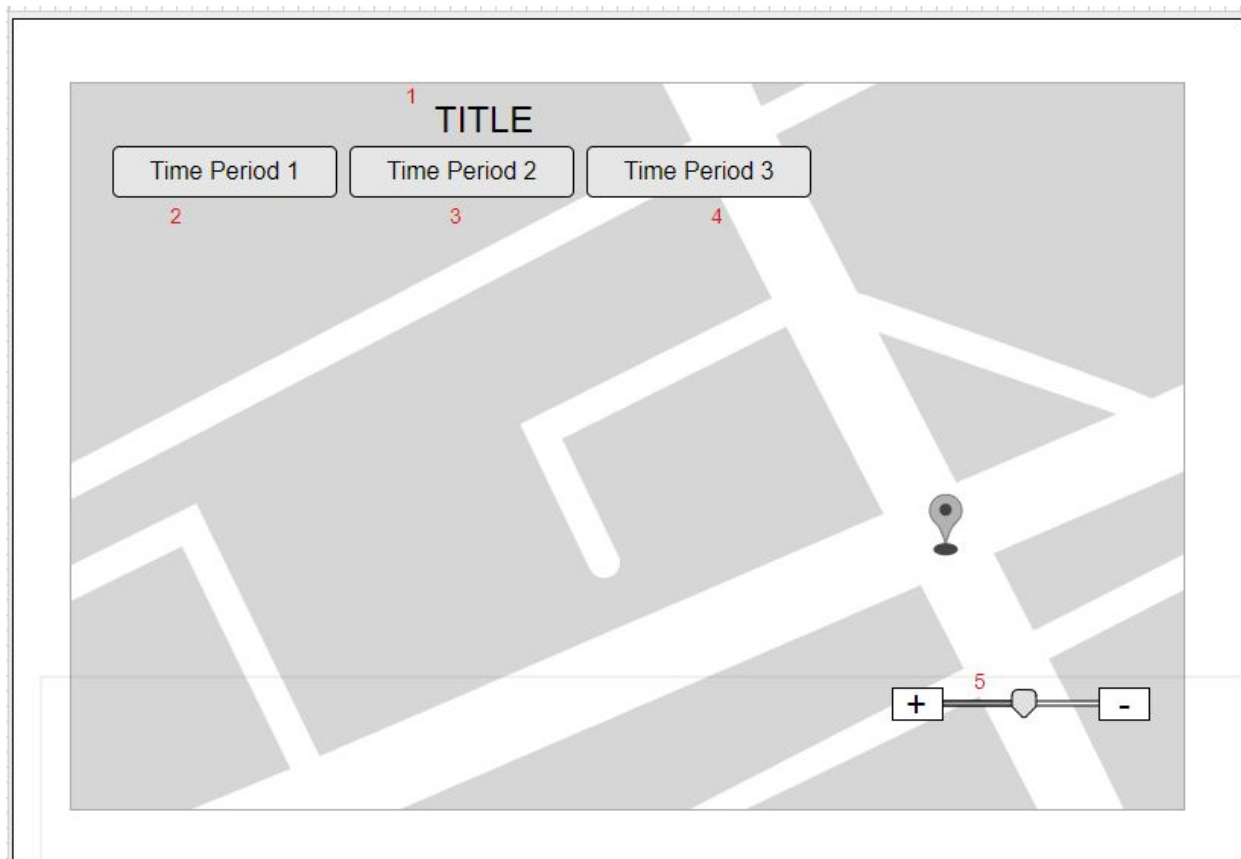


Figure 10 Convict Route Wireframe

Convict Route consist of 2 main sections.

- 1) Google Map API interface which will show moving ships and other interacting elements.
- 2) 3) 4) Buttons that once pressed filters the elements assigned to this particular time period.
- 5) Zoom in/out tool.

Convict Details -convicts.html

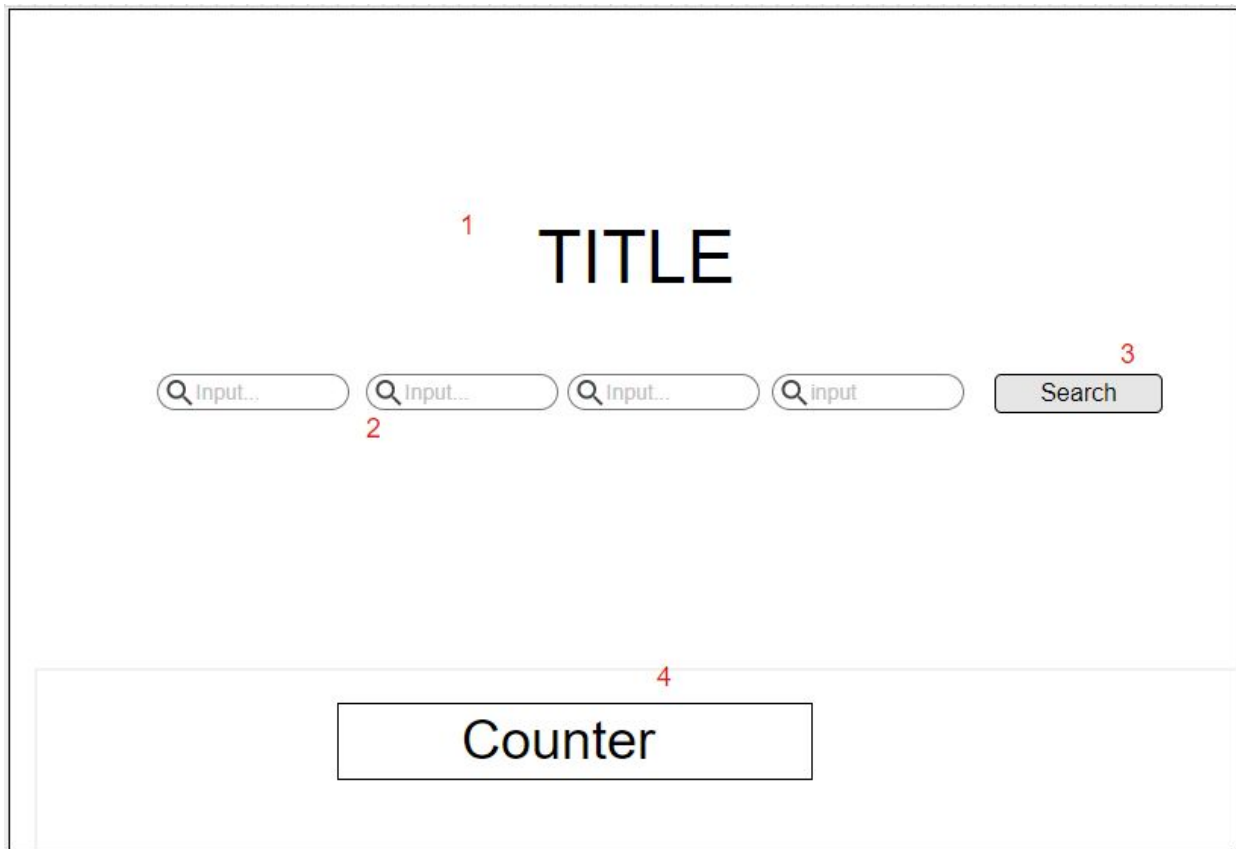
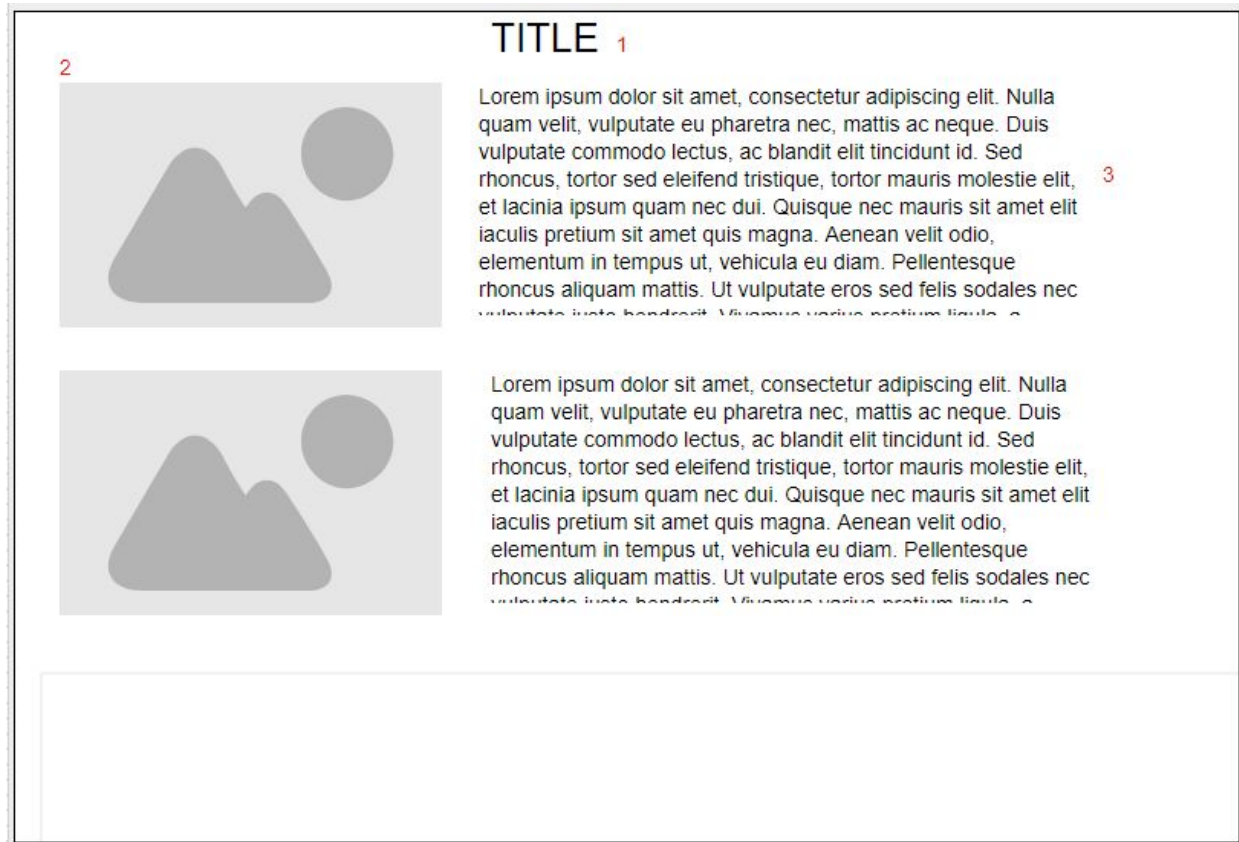


Figure 11 Convict details Wireframe

Convict details - convicts.html

Convicts details will consist of 4 main sections.

- 1) Title of the page and subheading describing the function of this tool
- 2) Data inputs with different attributes such as name,surname, date of birth etc.
- 3) Search button to start searching particular Convict in our Database
- 4) Counter element that adds 1 to overall score each time user searches for Convict



Ships details will consist of 3 main sections.

- 1) Title of the page and subheading describing the function of this tool
- 2) Photo of particular ship
- 3) Details about the ship

Example mockup of the site

