Perform information architecture analysis and design a web service. Research, evaluate and compare web frameworks. Implement the selected framework and emerging technology into the web service. Test and assess the implementation.

WEB701 Report

Web Technologies

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Contents

[Design (Milestone 1) 2](#_Toc172705895)

[Project Brief 2](#_Toc172705896)

[Requirement Analysis 3](#_Toc172705897)

[Site Goals 3](#_Toc172705898)

[User Experience 3](#_Toc172705899)

[Site Content 4](#_Toc172705900)

[Site Structure 4](#_Toc172705901)

[User Stories 5](#_Toc172705902)

[Project Management 5](#_Toc172705903)

[CRUD Analysis 6](#_Toc172705904)

[Evaluation (Milestone 2) 6](#_Toc172705905)

[Development (Milestone 3) 6](#_Toc172705906)

[Conclusion 6](#_Toc172705907)

[References 6](#_Toc172705908)

# Design (Milestone 1)

## Project Brief

The Tech Reconnect charity is a technology supply charity in the Nelson region who offer refurbished and second-hand technology (phones, computers, tablets, chargers, headphones, etc.) to the local community. This provides many benefits, including helping those in need to stay connected with friends and family, and providing devices for children to sue in schools.

We need a website for the Nelson region for members of the community to be able to donate devices and for members of the charity to manage and distribute the tech to those in need.

The purpose of the new website is to help with the distribution of the service or product by members of our charity to customers. Like a “food bank”, the website lets members register and describe the service or products they are providing, the number and frequency of the offerings.

The website lets members of the community (beneficiaries) access the service, by providing tokens that can be “spent” in the service. To achieve our goal, we would like to have an online token function on our website that let a beneficiary access a limited number of tokens, for example the system needs a mechanism that verifies that a member of the community is accessing the service and that the token belongs to a particular community member. The website needs some homepage text about general information of our products and services such as: types, characteristics, quality factor, usage and benefit.

We require the following features on the website:

1. Charity members and beneficiaries can register, log in and administer their own accounts. Members use the website to register their products and services, and beneficiaries use the system to acquire tokens.
2. Interactive element(s) that engages the website user.
3. The system provides an interface that the members can use to accept a token in a transaction.

## Requirement Analysis

### Site Goals

**Mission**

The purpose of this webapp is to provide a place where those in need can acquire technology to improve their wellbeing, education, and community connectedness. The app will allow anyone in need from the Nelson/Tasman region to register and receive tokens, which can be traded for technology of their need (phones, headphones, computers, chargers, modems, etc.). The goal of this service is to help give everyone the opportunity to education, upskilling, communication, and connectivity to friends and family.

**Goals**

Short-term: give access to technology for education and learning to children in poverty as well as devices to connect friends and families living apart.

Long-term: a more educated, connected and capable community.

**Intended Audiences**

The intended audience of this webapp are people living in the Nelson/Tasman region in a poverty situation, who cannot afford to obtain fundamental technology.

**Visiting Reasons**

1. As someone in need looking for services to assist them
2. As a benefactor of the charity to collect tokens and make a purchase
3. As a donator to donate equipment or other support

### User Experience

The webapp should be simple and intuitive to use on any device, making it accessible to anyone in need.

**Audience**

1. Children from a family living in poverty:
   1. Require computers for school
   2. Phones for communicating with parents and friends
2. Adults living in poverty:
   1. Phones for communication with friends, family and relatives
   2. Device for important emails and banking (rent, bills)
   3. Device for online upskilling or tertiary education
   4. Wi-Fi access and modem for internet at home
3. Donators
4. Charity members (admins)

**Scenarios**

Write 3 to 4 short scenarios that describe how the website is going to used. Write “grungy” persona descriptions.

Get personas from the scenarios

Sue Wilson (32, female, 3 kids, no partner, restaurant waiter)

Sue works as many shifts as she can get to cover her expenses and look after the kids, but she barely earns enough to get by. Her oldest child is just starting intermediate and requires a laptop for BYOD which she cannot afford. Her brother lives in Palmerston North and was recently diagnosed with cancer. Since her phone broke, she can only communicate with her family and check emails by visiting the library which has public Wi-Fi. She wants to be able to communicate with her family easily to keep updated and be able to support them, as well as provide a laptop to her son so he can get a good education and learn how to use technology.

Elias Walker (13, male, student)

Elias studies at Nelson College and is in year 10. He has a passion for coding and IT. He had been using his mum’s old laptop for his schoolwork, however it was 10 years old and recently stopped working. His family don’t earn enough to be able to afford a new laptop, so he has had to use school computers in the library to do any homework as he no longer has access to a computer at home. This also puts huge limitations on him being able to learn and explore coding.

Are using the app ^^^^^

**Competitive Analysis**

Look for and write about other websites like your one, e.g. charity and goods distribution websites. At least three, best would be five. For each website write about their functional and visual layout. What do they have in them that is useful, and what is not useful? Write a summary of the requirements you have discovered

Pros cons

### Site Content

Content and Functional requirements

Write a summary of the required content of the website and list the Functional requirements.

What pages and what goes on each page

Dynamic content?

Functionalities – login, register,

Hierarchies

Content includes written text, images, forms, navigation within the website. Functional requirements are identified in the brief.

Group and Label your Content

Use a number of “stickies” or a whiteboard to represent the content in your website. Oragnise that into groups and potential “hierarchies”

### Site Structure

**Metaphors**

Using metaphors to explain how things work and look – desktop was modelled and inspired by actual desktops and folders and files

What is the real world physical thing they’d have to do if they didn’t have the app – shop?

Organisational metaphor: - related to the actual organisation, what does the organisation need to do, who is the team, who is the charity, how the website is metaphorically related to the organisation

Functional metaphor: - website for firefighters should be like a firestation

Visual metaphor: - look and feel to best fit, shop front? Colour, theme, layout, look like phone/computer? (white, black, colour)

What the design means?

**Site Structure List**

Write a text based hierarchical listing of your website. This should come from your Grouping and Labeling work.

Architectural “blue print”

Create a graphical diagrammatic map of the site, that includes navigation links, e.g. a Visual representation of the site’s structure

Define navigation

In your diagram indicate Global navigation and Local navigation.

Visual Design

Do a couple of wireframes and mock-ups

Don’t talk about database

Can do mobile and PC but not required

Couple of variations

Colour-blindness, accessability

## User Stories

### Project Management

From your previous information architectural analysis , extract a series of User Stories, to be used in an Agile process. Your Scenarios and Functional requirements can guide your in this. Read here https://www.atlassian.com/agile/project-management/user-stories

Write a list of features – this is actually identified in your previous analysis, from the “Blue Print” site structure diagram.

Create a “backlog list” of features (and tasks) you need to do to build the website.

### CRUD Analysis

CRUD analysis – API prototype

Produce a CRUD table – details to come, that lists the proposed INSERTS (creates) , RETRIEVALS, UPDATES and DELETIONS of data required in the implementation of your website.

Create an API that implements these for your website. At least with testable “mockups”. of functionality,

# Evaluation (Milestone 2)

To be completed later.

# Development (Milestone 3)

To be completed later.

# Conclusion

To be completed later.

# References

**There are no sources in the current document.**