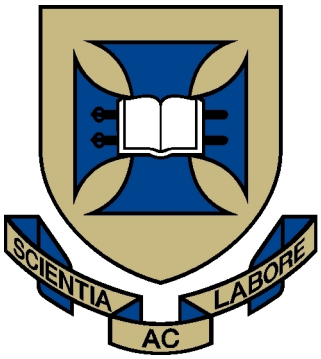
Daniel Fitzmaurice
(43961229)



University of Queensland

DECO1400 – Introduction to Web Design

Design Report

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Glossary

API Application Programming Interface. 1

Git A popular version control system for tracking a change history of code and providing easily collaboration between developers. Git is commonly used with an online public repository such as GitHub or GitLab. 1–3

JavaScript Browser scripting language used to provide interactive features. 1

React JavaScript framework which utilizes the virtual DOM and component based tree structure to improve application performance and reduce code duplication. 1

SmartHome An environment in which a series of different devices communicate and interact together to provide an end user with a more automated housing experience. 1

TypeScript Adds static type checking to JavaScript. 1

Todo list

Chapter 1

Design and Details

1.1 Introduction

Need to revisit this

This design report is used to describe the process used to design and develop a website for teaching and instructing people of how version control systems work and the typical process flow of Git.

1.1.1 Introduce Yourself

I am currently studying in my fifth year of Engineering majoring in Software at the University of Queensland. My expertise is in low level computing as well as website application development, using modern frameworks such as React and TypeScript. I have completed my thesis under the supervision of Alex Pudmenzky where I designed and constructed a website and mobile application which interfaced with a series of different SmartHome applications. I am currently working as a developer at Aurecon where my knowledge of React and JavaScript are used to develop applications and work extensively with industry Application Programming Interface (API)s.

Learning Strategy

Even though I have quite strong experience in JavaScript and website development, a lot of my experience has been through using frameworks and early release technologies. So my strategy is to create a well document which has good accessibility design and is supported incredibly well across all system. All features as well as most bonus features should be usable on all platforms.

Across my development I have not had much experience with the design phase of a project either, so it a goal of mine to embrace the design and learn as much as I can about the processing and thought procedures involved with designing and a website and not just jumping in immediately and developing.

1.2 Getting to Know Stakeholders

1.2.1 Target Audience

It is always essential to pick a target audience for a project before beginning, this will help to identify relevant content and ideas that should or should not be used. For this project the target audience is centred around people just beginning to learn about code or beginning to enter a professional environment where their code or actions will be marked and versioned. These sorts of people at typically around 18 to 22 years old and have some basic experience with computers and know how to work their way around the system. However they are still incredibly new to the environment and if content is not broken down in an understandable way then they can be easily

confused and lose interest.

Goals

With the target audience specified it can now be import to outline goals that should be followed to ensure the target audience is engaged.

Get all the references

Consumable Chunks: The target audience require information to be broken down into consumable chunks in which they can learn, reflect, and then use before moving on to the next chunk.

Direct Content Flow: Content chunks should also logically flow from one section to the next without large gaps in presentation. Not following this goal will ultimately result in the consumer losing track and becoming disinterested.

Simplistic Graphics: Following design patterns released by large web driven companies, such as Google and Facebook, content should be shown in a way that is not overcrowded and can be confusing. If graphics are used to illustrate a point they should be vector based to help provide a more defining and clean look.

Defined Website Theme: In order to engage the users and not make them lose interest, the website must have a clear and engaging theme that is applied site wide. This will help to reduce confusion about different sections of the site.

Clean and Polished: The site as a whole should be clean and usable site. This means performance should remain consistent and have an expected behaviour across the entire site. As well all graphics should be presented in a high quality and consistent manor, this can be achieved using vector graphics and rendering on the client side. Finally the site should function across all modern browsers and devices, as well as having accessibility support.

1.2.2 Chosen Educational Content

For this website, the goal is to be a resource for people wanting to learn about Git the version source control system. Git allows people to track and mark changes they are making to code as well as easily allowing other people to integrate and edit the code together. Git fits well into the target audience because it is becoming more and more essential programming jobs and is becoming assumed knowledge for every programmer. Therefore people just starting in industry might not have knowledge about this tool and therefore need to upskill quickly and efficiently.

1.2.3 Chosen Story

Find a story

Reference Character

The chosen character which this story is based off is Dr. Henry Walton Jones Jr, or more commonly referred to as Indiana Jones. This character fits into the target audience as most people growing up either watched one of the many movies or side television shows, or just know about the character from their friends. Indiana Jones also has a number of books and novels covering his adventures which helps in finding source materials.

The Story

The story being portrayed is based around Indiana Jones and his adventures through caves and tombs. This adventure has Indiana Jones in search of the sacred “Scroll of Lost Truths”, he will venture out to wild jungles in search of a cave where this scroll is said to be hidden amongst a long set of winding and mind boggling tunnels. The “Scroll of Lost Truths” is said to provide its wielder with the ability to recover any lost information and the history behind the information. In order to

help Indiana Jones through the tunnels, he will be keeping a record of all the actions he completes as well as the effects these actions have on the mystical tunnel.

How It Relates

In order to tie the story (Section 1.2.3.2) and the educational material (Section 1.2.2), many references need to be drawn in the story. Achieving this will help to create an understanding and flowing story line that will entice and draw users in to follow through to the end.

The different ties between Git and Indiana Jones are:

The History: In order to tie together the whole history aspect of Git, remarks will be made between the ancient carvings in the walls of the tunnel and how Git keeps track of all the code changes created.

Branching: The tunnels will be used to illustrate how in Git you can branch out and take a different route if it requires.

Single Source of Truth: Git can sometimes be referred to as the single source of truth. The scroll will demonstrate that by showing that once you master Git, you have the ability to traverse through history and create new history.

1.3 Navigation and Organisation

1.3.1 Card Sorting

1.3.2 Navigation Systems

1.3.3 Site Map

1.3.4 Visual Organisation

1.3.5 Interactivity and Funcitonality

1.3.6 Paper Prototyping

Chapter 2

Development and Implementation

2.1 Aesthetics

2.1.1 Style Guide

2.1.2 Aesthetics User Testing

2.2 Website Implementation

2.2.1 Accessibility, Graceful Degradation & Progressive Enhancement

2.2.2 Security & Privacy

2.2.3 Hi-Fi User Testing

Chapter 3

Conclusion

3.1 Course Reflection

Bibliography