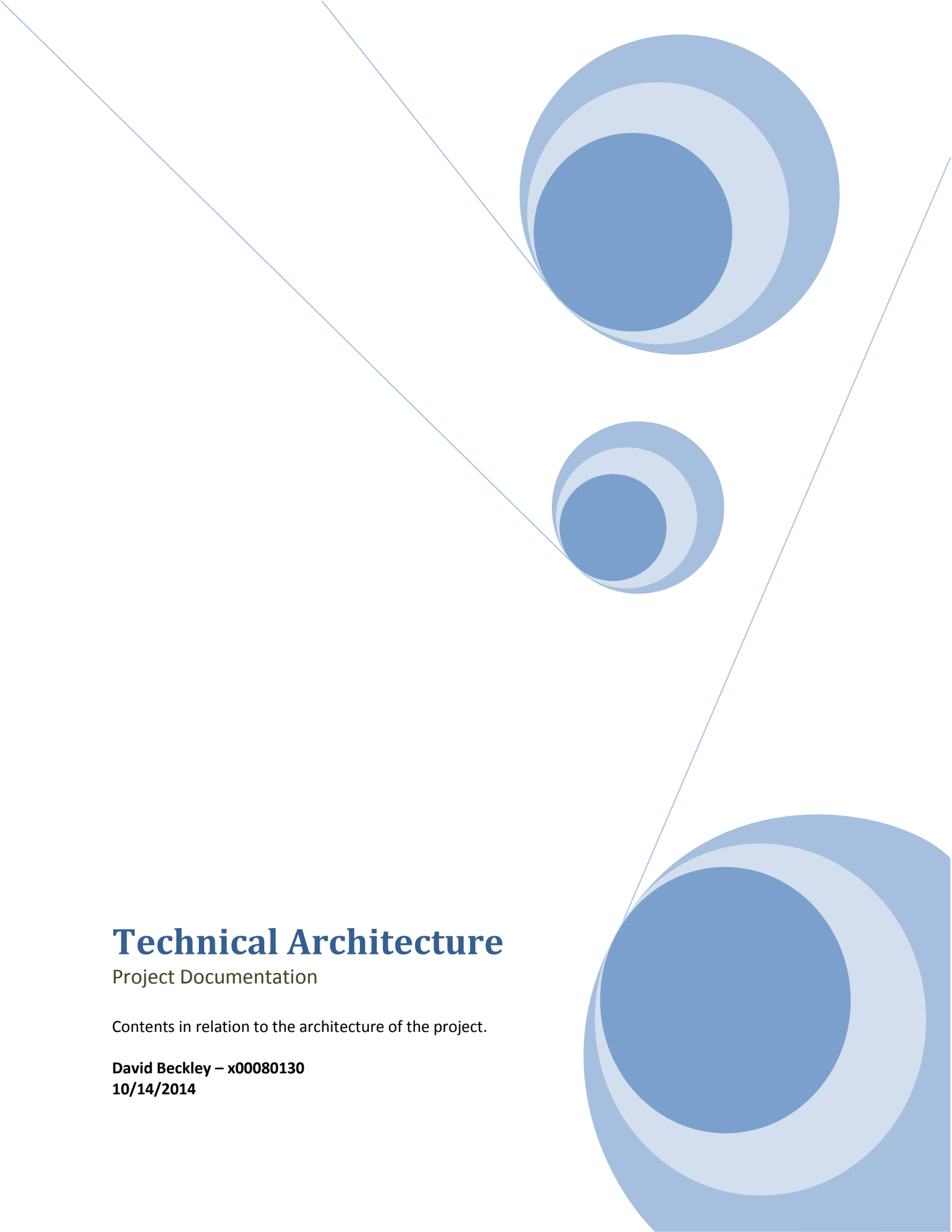


Technical Architecture

Project Documentation

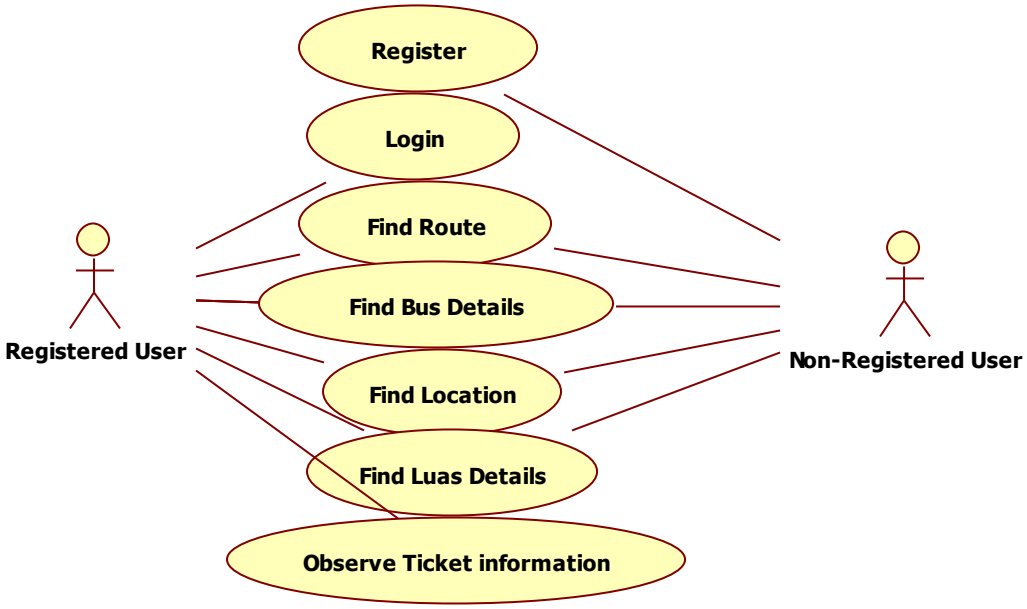
Contents in relation to the architecture of the project.

David Beckley – x00080130
10/14/2014

Table of Contents

1.0 Use Cases

—Per use case (total of 6):



1.1.1 Title (goal)

Register

1.1.2 Primary Actor

Non Registered User

1.1.3 Scope

Non-Registered users have the ability to register with the system though have restrictions in relation to systems functionality

1.1.4 Level

Priority level of 4

1.1.5 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

As a User/Admin I want to be able to provide the users with the ability to register with the system in order to distinguish the different levels of users. For non-registered users they will only have access to the system's ability to find bus/luas route information i.e. only the number and route while registered users have access to the same ability but also ticket information.

1.2 Title

Login/Logout

1.2.1 Primary Actor

Registered User

1.2.2 Scope

Registered users have the ability to login/logout of the system

1.2.3 Level

Priority level of 4

1.2.4 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

As a User/Admin I want to be able to provide the users with the ability to login and logout of the system in order to distinguish the different levels of users. For non-registered or non logged in users they will only have access to the system's ability to find bus/luas route information i.e. only the number and route while registered or currently logged in users have access to the same ability but also ticket information.

1.3 Title

Find Route

1.3.1 Primary Actor

Registered User/Non-Registered User

1.3.2 Scope

Non-Registered and registered users both have the ability to find the nearest bus/luas route to the college

1.3.3 Level

Priority level of 1

1.3.4 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

As a registered and non-registered user both have the ability to find the closet bus/luas route to the college. Users enter their current location i.e. road name or town into the GUI and the system will generate where the present location is to the nearest transport route on the Google Maps API. On Google Maps the Stick figure will represent the current location of the user while the route of the nearest transport route will be highlighted.

1.4 Title

Find Bus/Luas Details

1.4.1 Primary Actor

Non Registered User/Registered User

1.4.2 Scope

Non-Registered and registered users will have the ability to find bus details i.e. what bus number/luas line is the route that is highlighted

1.4.3 Level

Priority level of 2

1.4.4 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

Non-registered and registered users have this functionality available from the system. Once the nearest transport route is discovered based on the users current location, the system will highlight the route. Once the user's clicks on the route the system will generate details in relation to the bus number and maybe bus times

1.5 Title

Find Location

1.5.1 Primary Actor

Non Registered User/Registered Users

1.5.2 Scope

Non-Registered and registered users both have the ability to find their location as it's the bases of the other functionality within the system

1.5.3 Level

Priority level of 1

1.5.4 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

The applications GUI will have textboxes in order for the users to enter their current location i.e. road or town. Once enter the Google Maps API will generate their location through its code.

1.6 Title

Find Bus/Luas Details

1.6.1 Primary Actor

Non Registered User/Registered User

1.6.2 Scope

Non-Registered and registered users will have the ability to find bus details i.e. what bus number/luas line is the route that is highlighted

1.6.3 Level

Priority level of 2

1.4.4 Story

the body of the use case is simply a paragraph or two of text, informally describing what happens.

Non-registered and registered users have this functionality available from the system. Once the nearest transport route is discovered based on the users current location, the system will highlight the route. Once the user's clicks on the route the system will generate details in relation to the bus number and maybe bus times

1.7 Title

Observe Ticket Information

1.7.1 Primary Actor

Registered Users

1.7.2 Scope

Registered users will have the ability to observe ticket information. This the main difference between the guest and registered user.

1.7.3 Level

Priority level of 2

1.5.4 Story

Once the user searches for the location and the closet route is discovered, the system will generate the ticket information via a webscraper. The webscraper is based off each of the transport sitemaps of their websites.

2.0 Technical Architecture

2.1 Software Components

Platforms: MVC Web Application
Database: Microsoft Azure
Web scraper: Chrome Extension or
Data illustration: d3/Tableau
Google Maps API

2.2 Platform libraries

MVC Web Application - C#/HTML/JavaScript/CSS/Google Maps API
Microsoft Azure - .NET Framework
D3 – JavaScript/CSS
Tableau – VizQL: A visual query language

2.3 Distribution and Deployment

The system will be a RESTful application with interactions between the Azure database that will store the clients user login details, route locations, bus numbers etc. The webscraper will be supported by an extension in chrome where the sites ticket information will be pulled from.

2.4 Risks

1. Azure renting period – The maximum amount of days that is available for renting the Azure service is 150 days. The projects due date is May of next year and because of this there is a issue where must be started in the development of the system: Functionality or Connectivity. Issue can be resolved if an extension is received.
2. Learning Difficulty – As with all projects there is a learning curve involved. The misunderstanding of software/libraries/API's in their functionality can increase risk in the completion of the project.
3. Webscraper – The problem with webscraping functionality is the reliance on the sitemap of the website that the system is pulling information from. If the sitemap were to change a key feature of system will not be operational.