

Project Research Document

Transport Analysis System

David Beckley

X00080130

Aim

The aim of the project is to demonstrate how many people rely on public transport but also display the different fare information so users can see any savings they can achieve but switching forms of public transport. In order to achieve this goal I will create a transport analysis system based on surveys conducted from students within the college of IT Tallaght. The survey will be made up of a series of questions related to what form of transport an individual takes to and from the college. See bottom of document to observe a sample survey that will be asked.

From the surveys collected, the data will be represented on different forms of graphs such as pie and bar charts that will be created using the D3 (Data Driven Documents) JavaScript library. The graphs will be illustrated on a web based application created in Visual Studios 2013 using languages such as C#, CSS, and HTML. From the graphs, users can observe information such as:

- The most popular form of transport
- Cost on average per week for each forms of transport
- Cheapest mode of public transport
- Leap card users

From the information gathered by the students in relation to public transport, the system will retrieve information on cost of tickets from transport websites such as: www.buseireann.ie, www.dublinbus.ie, [http://www.irishrail.ie/](http://www.irishrail.ie) and [http://www.luas.ie/](http://www.luas.ie) display the information to the user.

Target Audience

The target audience for the functionality of the system is the students within the college of IT Tallaght. Other alternative target audiences include transport researchers from the different forms of public transport. From just from a small amount of surveyed people, these researchers can see how their own company fares compared to their other competition and make future decisions based on the data.

Existing Applications in this domain

In your research have you found anything close to this idea? List these in table form and identify similarities and differences

Application	Similarities	Differences
http://www.transportforireland.ie/getting-around-dublin-city-on-an-average-morning/	Graphic demonstrations	Much more data gathered

Platform, Technologies and Libraries

Web based Application

For the overall all programming of the project I will use visual studios ultimate 2013 as my platform. Through the use of this application, I will use other libraries such as Javascript, HTML, CSS and C#.

Data Illustration:

In order to demonstrate and present my results from the surveys, I will use either D3 or Tableau. D3 is a JavaScript library that is used to manipulate documents based on data, while Tableau is an application that reads information from a .csv file and displays it in the form of graphs.

Website Scraper: Webscraper extension for chrome

These particular pieces of software will be used to scrap/pull data from the different websites as mentioned above. The scrapers will pull data related to the ticket information of each form of public transport and relay it to the project.

Deployment: Azure

Host the project on the cloud where the project can be accessed on any machine.

The risks

What are the main risks to the project? (i.e. are you depending on 1 library to provide key functionality?)

1. **Project Failure** – with every project there is a chance of failure. In this case the project could fail in multiple areas, i.e. Connectivity with Azure during deployment, inaccurate representation of survey details on graphs etc.
2. **Multiple libraries/software** – This can be a risk as there might not be support for different libraries within the project.
3. **Webscarper failure** - This is a main risk in this case as the project will be using website scrapers to pull information from different websites. The issue is might be difficult to pull the right information and as this is a key feature in my project it will need to be resolved.
4. **Lack of information** – Lack of information from the surveys can lead to not enough graphical data to accurately demonstrate preferred transport