Project Research Document
Transport Analysis System
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Aim

The aim of my project is to build a system that will be used as a transport locater to IT Tallaght. The system will build on the information that will be gathered from surveys carried out in the college. The surveys will support the need for the system though students within the college already have the knowledge about the route and form of transport there is to the college, it could be used by students or any person that has a desire to find travel information on what mode of transport is available to and from the college. Users will be able to enter their location into the system and in response the system will generate the nearest bus/luas bus route or stop to the static location of the college. The system will use a webscraper to pull ticket fare details from the two different websites depending on which mode of transport is closest to the user: The webscrpaer will pull information from:

Standard Fare

- http://www.dublinbus.ie/en/Fares--Tickets/Fare-Information/Fares/
- http://m.luas.ie/tickets-fares/ticket-types-and-fares/single-and-return-tickets.html

Leap Card

- http://www.dublinbus.ie/en/Fares--Tickets/Leapcard/
- www.luas.ie/leap-card-fares.html

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 fairs compared to their other competition and make future decisions based on the data. The system will be designed for students of the college but future expansion if the system is successful; can be for the system to generate the ticket/bus information for other colleges.

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
http://maps.google.ie/intl/en/landing/transit/#dmy	GUI and operations	International Scale location route details

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 or I/O

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. Also by using a websrcaper I am left vulnerable to how each of the webpages are mapped through a sitemap. If the website sitemap where to change the webscraper would need to be reconfigured and would break a portion of the system.
4. **Lack of information** – Lack of information from the surveys can lead to not enough graphical data to accurately demonstrate preferred transport