Driver Dashboard

January 2016 - May 2016

PRCO304 - Final Year Project

Project Initiation Document (PID)

Contents

1. Introduction

Plymouth Citybus Ltd are a local bus Company based at Milehouse Bus Depot, Plymouth, UK. With around 500 staff, of which 350 are bus drivers, the firm would like a system to work as a Performance Management Tool for monitor their drivers' performance and statistics. This tool will be used in their new initiative of having 1-1 meetings with every driver on a 12 month basis, a new objective set by Senior Managers in the firm.

2. Business case

2.1 Business need

Currently, the firm does not conduct one-to-one interviews with their drivers, due to time constraints on both the staff and the required information. To conduct this meeting currently, the firm would need to access 5 separate systems and run reports from each, detailing a driver's Attendance, Accident Reports, Driving Standard, Complaints and other reports relevant to the individual. My system plans to show the data in a graphical manner, pulling in each of the systems' data into a central location, which can then be reported on systematically.

2.2 Business objectives

To implement a new performance management system that will:

a. Show data in a graphical view that can be marked against
b. Compare driver statistics to company averages
c. Amalgamate data into a single system, allowing direct reporting
d. Keep information up to date by refreshing data each period when new data is entered
e. Allow One-To-One Meetings to be used to produce this data in a report for the staff member

3. Project objectives

1. Upload Driver Information into Database
2. Add Driver Pictures into the database
3. Import CSV files which currently represent driving data
4. Present the data on the "Dashboard"
5. Use historic data to build averages
6. Host the application on an accessible PC for managers

4. Initial scope

Initially, a test driver has been set up with the firm, based on my profile, who will be the first “entrant” into the system. With this profile I will attempt to iterate a thin slice of the entire system, allowing lookup of driver data, statistics and performance. I will work through each of the disciplines, Attendance, Accident Reports, Driving Standard, Complaints, so the dashboard will be built up gradually with these features. Each feature will pull data from a database and update the screen accordingly.

5. Method of approach

As part of my initial contact with Plymouth Citybus, I designed and presented to the involved staff (Managing Director and Operations Manager) an initial prototype of how I envisaged such a system being represented. From this user feedback has lead to additional iterations of the prototype, now at version 4, which has been agreed as the design of the new system that is being built.
As the scope and end product is in the most part agreed, I will be working in an Agile way in order to iteratively build up the final product, working through each discipline as follows:

I. Attendance - Show a driver's sickness record and trend
II. Accident Reports - Show a record and trend of a driver’s accidents, both blameworthy and non-blameworthy.
III. Driving Standards - Using RIBAS, an installed RAG (Red, Amber, Green) eco-driving system, which is fitted to all of the buses. The existing system can output CSV data, which will then graphically shown by my system.
IV. Complaints - Feedback from both Members of the public and internal awards will be shown for this feature

Due to working on site with my client, I will be able to give daily updates to them in a “standup” style meeting, as well as giving a show and tell at the end of each week's work to show my progress to them.

Regarding technologies, I am looking to build a Python / Flask application, which will run from a Virtual Machine that I will create. The VM itself will contain a Postgres database, which will be compiled with data that I will import from the .csv output files the existing systems at Plymouth Citybus output.

6. Initial project plan

1 week sprints - Report compiled during Sprints

Sprint	Expected Start Date	Expected Comp. Date	Deliverables / Outcomes
0 - Initiation	01/02/16	08/02/16	PID Submission
1 - Requirements / Legal	08/02/16	15/02/16	Analysis of existing business processes; Requirements document; Evaluation of possible development technologies;
2 - Design	15/02/2016	22/02/2016	Design documents (Architecture; DB schema; GUI style guide;
3 - Iteration 1	22/02/16	29/02/16	Iterating on the above with Driver Information import
4 - Iteration 1 continued	29/02/16	06/03/16	Iterating on the above with Driver Information being shown
5 - Iteration 2	06/03/16	13/03/16	Iterating on the above with Driver Attendance Information being imported
6 - Iteration 2 continued	13/03/16	20/03/16	Iterating on the above with Driver Attendance Information being shown
7 - Iteration 3	20/03/16	27/03/16	Iterating on the above with Driver Accident Information being imported
8 - Iteration 3 continued	27/03/16	03/04/16	Iterating on the above with Driver Accident Information being shown
9 - Iteration 4	03/04/16	10/04/16	Iterating on the above with Driving Standards Information being imported
10 - Iteration 4 continued	10/04/16	17/04/16	Iterating on the above with Driving Standards Information being shown
11 - Iteration 5	17/04/16	24/04/16	Iterating on the above with Complaints Information being imported
12 - Iteration 5 continued	24/04/16	31/04/16	Iterating on the above with Complaints Information being shown
13 - Iteration 6	01/05/16	End of Project	Report finalisation; Completion of work; Any additional features that have been requested

6.1 Control Plan

The following Agile control techniques will be employed:

- Highlight reports weekly throughout the whole project (End of Sprint Reviews)
- Daily (as required) meetings with those who I need information from at Citybus
- Weekly review meetings with project supervisor until Easter and as needed there-after, to review progress, plans and deliverables.
- Weekly Show and Tell sessions with the Managing Director and Operations Manager to show progress on the system.
- Communication plan (see Section 6.2)
- Risk management (see Section 7)

6.2 Communication plan

- Daily (as required) meetings with those who I need information from at Citybus
- On-site discussions will allow instant response to queries
- Weekly review meetings with project supervisor until Easter and as needed there-after, to review progress, plans and deliverables.
- Weekly Show and Tell sessions with the Managing Director and Operations Manager to show progress on the system.

7. Initial risk list

Risk	**Management Strategy**
Company unable to work within Project Deadlines	I have been accepted after discussions with the Managing Director to work on-site at Citybus, in their offices, where the people I need for this project are all based.
Backup and Storage of Work	I will use GitHub as my source management tool, which itself is cloud based and backed up.
Schedule Overrun	I have planned to use every week in my initial plan, however there is overtime options of working with the firm for additional hours that I can utilise in case of overrun.
Requirements Confusion	By pre-building a prototype before project start - the clear vision has already been defined. Removing this risk.

8. Testing Strategies

8.1 Initial Quality Plan

Quality Check	Strategy
Design of Front-End Screens	Weekly Show and Tells will give feedback - initially based on agreed prototype
Code Quality	PEP8 and Flake8 standards of coding checked using tools

8.2 Initial Testing Plan

Testing Method	Test Objective
Ruby Capybara Testing	Check all web application pages are live
Unit Testing	To be implemented if time permits to check internal system functions