

1.1 Problem outline

During my time studying at university I have been working in the hospitality industry, while this is extremely enjoyable to the main problems I continually run into is the time and effort it requires to create a full weekly rota for all staff members that can be distributed easily to all members of staff. In my experience building a rota from scratch can sometimes take up to 5 hours a week as staff requests, busy service periods, staff training levels and many more factors have to be taken into account. Once all these factors are considered and the rota has been published, there is always an unforeseen circumstance such as a staff member being unable to work or wanting to swap their shifts with another employee, or an unexpected increase in customers. This again results in time and effort spent wasted looking at a rota when a manager's time could be spent focusing on more beneficial tasks. Every company within the hospitality industry is different but the majority share the same common problem of the time, effort and cost associated with creating rotas for their employees. Furthermore, other 'back of house' tasks such as staff training, and payroll management take valuable time and effort to complete to high standard.

1.2 Proposed problem solution

The proposed solution to the problem described above is to develop an application that eases the time, effort, and costs associated with the 'back of house' tasks in the hospitality industry. The application would aim to solve the problems by developing a staff rota system that makes it easy to plan, edit and publish rotas. As well as this, staff attendance and the hours worked per shift can be recorded allowing for easy creation or integration of payroll summaries. A staff training area will also be integrated that can improve and track staff training levels. These provided solutions would help to create an application that would reduce the associated problems surrounding 'back of house' hospitality management.

1.3 Proposed users

The proposed software system would have two main users of a manager (or administrator) that and a general employee and the way they interact with application will differ depending on what type of user they are.

A general employee can use the application to view their designated shifts for each week. They can request and manage their time off as well as being able to contact another colleague to arrange a shift swap or picking up an extra shift if someone is unavailable to work. An employee can use the system to start and end their shift by using a designed time and attendance clock that will be able to track the total hours they have completed and compile them into a timesheet for each individual staff member. Furthermore, they can learn and track their own performance at any time by using the training area that uses topics specifically designed by the manager or administrator.

A manager would have all the same functionality as a general employee will have however, a manager or admin will be allowed to easily build rotas based upon employee availability, their training and cost. They can use the application to reduce the stress associated with the changing a rota. For example, if a staff member is unable to work, they can easily find another staff member to cover the now unallocated shift. A manager can also view and approve each employee's timesheet and based on the information provided they can view payroll summaries. One such summary may for example compare total wage costs against weekly sales and would enable business to track costs. To ease staff training, a manager can create training for employees to complete at their own pace. For instance, for the training of a point of sale system a manager could create and upload a guide on how to use it and a quiz could be designed that an employee would answer it and the results would be sorted. As a result, each employee's training levels can be tracked.

1.4 Proposed timetable

By using information provided in 'CSC 7057 Handbook 2019/2020' a proposed timetable has been drawn up that will ensure that both the developed software application and the written dissertation will be delivered within the specified timeframe. As per the handbook, the dissertation has been split up into six sections. Each section will be completed simultaneously with the development and testing of the application and a proposed timetable of start and due dates can be seen in *Table 1*. In terms of defining potential problem areas at this stage is difficult as key phases of development have not begun yet and so it is hard to pinpoint when and where a problem may arise. As this is the case each task has been allocated a number of extra days as a 'grace period' to ensure that if any problems do arise, they can be dealt with and will not hinder the completion of the whole project. On the other hand, some areas may not take as long as expected and so the time saved can be used to start working on the next required section. It should also be noted that some of the required

sections are dependent upon other tasks being finished before work can begin on it. For example, in order to complete 'Chapter 6 – Evaluation and Conclusion', the majority of all development of the application must be finished before being able to draw a critical conclusion on the project.

Task	Start Date	Due Date	Total Days
Chapter 1 - Submission of Project Plan	04-May	22-May	18
Chapter 2 - Solution and Justification Development Model	22-May	05-Jun	14
Chapter 3 - Requirement Analysis	06-Jun	20-Jun	14
Chapter 4 - UI Design	22-May	01-Jun	10
Chapter 4 - Software System Design	08-May	31-Aug	28
Development of Application	01-Jun	31-Aug	91
Testing of Application	01-Jun	31-Aug	91
Chapter 5 - Implementation	17-Aug	31-Aug	14
Chapter 6 - Evaluation and Conclusion	17-Aug	31-Aug	14
Final Sprint of Application Development and Testing	01-Sep	07-Sep	6
Demo Preparation	07-Sep	11-Sep	4
Submission		18-Sep	

Table 1 - Purposed timetable