

An Investigation into the Use and Importance of Effective Personnel Scheduling and Time Management Tools in the Workplace

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1. Introduction

The project was about the use of personnel scheduling and time management tools in the workplace and how effective and important they can be.

The initial problem was with how The Gwyn Hall used Smartsheet to rota their members of staff. However, this was causing issues for management, including there being 3 rotas for 6 different roles throughout the business. This led to staff not seeing their name on the rota if looking at the other rotas. Smartsheet did not offer validation, so it has led to management either under or overstaffing through human error. This would lead to a hindering of day-to-day business operations due to misuse.

The project was completed over a few months by creating an application suitable for The Gwyn Hall to use alongside a project proposal, initial viva, major report, final viva and an exhibition poster.

3. Findings

A literature review was conducted in order to meet Aim 1 - To understand the use of time management tools and scheduling software in the workplace. The subtopics within the literature review included What are Time Management Tools?, What is Personnel Scheduling?, What is a Rota?, What is Shiftwork?, Misuse and Drawbacks, Legal Considerations, Current Tools and Technologies, Potential Development Platforms and Development Requirements.

The definitions of time management tools, personnel scheduling, a rota, a shift and shiftwork were found through research. The research into the benefits of using each of these terms was also conducted. The misuse and drawbacks had its own section. This section of the literature review highlighted issues such as the effect on an employee's health, social life, work efficiency and quality and an imbalance between work and home life. This section also provided information on catastrophic events that could have been caused by these issues. The events included Chernobyl, the Rhine chemical spillage and the Exxon Valdez. The legal considerations included The Working Time Regulations 1998 and The Data Protection Act. The current tools and technologies included Smartsheet, Papershift and spreadsheet software. The potential development platforms included a Windows Forms Application, Xamarin or a website-driven database. Each point mentioned within the paragraph was researched.

The application developed was a Windows Forms Application that utilised MySQL to read, write and delete from two database tables using SQL queries.

2. Aims & Objectives

Aim 1 - To understand the use of time management tools and scheduling software in the workplace.

Objective 1 - Using secondary research methods, identify suitable sources to use for secondary research and literature reviews.

Objective 2 - Understand if sources found are credible using CRAAP analysis.

Objective 3 - Undergo primary research with client to understand current rostering practice.

Objective 4 - Examine data gathered.

Aim 2 - To develop a workplace time management application.

Objective 1 - Utilize primary and secondary data to understand what is required within the application.

Objective 2 - Use requirements to aid design of application.

Objective 3 - Develop Application.

Objective 4 - Test and refine application in conjunction with client.

4. Conclusions

The aims and objectives were met within the project. Suitable sources were gathered and judged to be credible using CRAAP analysis. Primary research was completed with an interview with the client to understand their current rostering practice. The transcript of the interviews allowed requirements to be created. The requirements helped aid the design of the application and the design helped aid the development. Once the app was developed, testing was completed.

If this project were to be completed again then a different data-gathering technique could be used. Sending a company-wide questionnaire could have been more beneficial. This could have gained further insight into what more employees think of the old system or for feedback on the newly developed application.

The application could have been considered a success as a result of security, functionality, usability, compatibility and system testing.

5. Recommendations

There were plenty of adverse health issues that were found through research. So much so that an entire project could be completed purely on this topic. Chapter 71 of "Principles and Practice of Sleep Medicine", Shift Work, Shift-Work Disorder and Jet Lag, has an indepth insight into these issues.

The application that was developed does not incorporate shift minimization. This could have been a subtopic researched further within the literature review or developed within the application itself.

The application that was developed did not utilise any automatic shift generation through the use of algorithms. This is an example of what the application could have used if there was more time allocated to the development of the application. This has been applied by P. Eveborn and M. Ronnqvist in their developed software, "Scheduler - A System for Staff Planning".