Logbook Task 3: Option 4, Task 15

Findings of Systems Design Research: Enhancing Helpdesk Productivity

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## Introduction

The purpose of this document is to detail the systems design research conducted on the Helpdesk facilities within the ICT unit. It will comprise of an analysis of the current system in place and any shortcomings in the current system. It will then describe any meetings conducted with important stakeholders, such as key Helpdesk staff who can highlight any other shortcomings and issues they feel need to be resolved. Finally, a proposed solution to these shortcomings and issues will be proposed and outlined.

### **1.1 Background**

A colleague and I were tasked by our manager with investigating and developing a solution to issues with the current functionality of the Helpdesk. The way in which the Helpdesk conducts many common tasks is not optimal and the staff desire a more efficient solution to maximise time and energy. My manager, therefore, tasked us with developing an application to carry out these tasks. As part of the development process for this application, it was necessary to conduct a systems design research in order to better understand the current Helpdesk system and how to best design and develop the application to suit the needs of the Helpdesk staff.

### **1.2 Research Scope**

The Systems Design research scope will exclusively comprise of the current system in place in the Helpdesk to conduct various common tasks. This includes the processes themselves that are conducted, how they are conducted, and any feedback received when the processes are complete. These are the areas that will be integral to the development of the Helpdesk application.

### **1.3 Research Objectives**

The following are the objectives of this systems research:

* Analyse the current system in place in the Helpdesk and identify any issues that could be alleviated with the application.
* Meet with key stakeholders in the Helpdesk to discuss the current system, any issues they have identified, and any ideas for the application they may have, such as features they may desire the application to have.
* Design and develop an application that will solve any issues raised and contain as many desired features as possible.
* Document all findings and solutions.

## 2. Current System Analysis

The Helpdesk staff currently carries out several common tasks, generally every day. They rely on using Oracle Developer to retrieve and update information. This means that they have to manually input SQL queries/statements to get results and responses. Manually inputting SQL queries/statements, can lead to incorrectly formatted queries/statements that can potentially corrupt or erase databases, therefore it is important that these queries/statements are automatically run instead.

Some of the tasks the Helpdesk staff carry out require constant running in order to provide updates on certain processes and queues. This can be very time consuming and means that Helpdesk staff cannot complete other tasks. Therefore, it is important that these process/queues updates can be regularly generated instead of manually inputting a query/statement.

As the Helpdesk staff mainly use Oracle Developer, there is no dedicated interface for them to run queries/statements. Therefore, a Graphical User Interface wherein Helpdesk staff can run queries/statements, check for process/queue updates is essential.

## 3. Stakeholder Meeting/Interview

My colleague and I organised a meeting with the Helpdesk manager. The Helpdesk manager was the designated spokesperson for the Helpdesk staff. The meeting was conducted in person over the course of an hour. My colleague and I had prepared a series of questions and topics to discuss at the meeting. The questions and topics were designed to extract as much information as possible from the stakeholder in order to better understand the issues at hand, which in turn would ensure that our developed application would be an optimal solution to these issues.

The following are issues and suggestions discussed and raised at the stakeholder meeting:

* **PDF Generators and Queues:** At the moment, the database is manually queried in order to see how many PDFs are in the queue to be printed. This queue is checked again every 10 - 30 minutes to ensure that it is continuing to move as expected. If the queue is stalled for any reason, the printing must be manually stopped and restarted. For File Plans, Special Reg Maps and S Maps, an .exe file was previously run, but this has not been in use for a number of years. The application should contain means to check these queues without having to manually query the database and to receive notifications on its progress.
* **Reporting:** Potential to automate Bulk Transfer reporting in which data is extracted from excel files and other data and files are imported.
* **Generating Folios:** Possibility of automating the folio generating process by inputting folio number and running SQL query/statement automatically to generate the folio.
* **Database Supervisor:** Currently various queries are sent to the Database Supervisor because other users do not have the related database permissions to make the changes. Some of these queries include: Changes of Ownership, Dates, Limited Owners and Draft Cancellations. Other queries usually run by the Database Supervisor, such as Adding Instruments, could possibly be run in the application.

My colleague and I discussed these findings with our manager and together we were able to formulate ideas for the application, which were combined and moulded to create the application.

## 4. Proposed Solution

From our findings in conducting an analysis of the current system as well as meet with all concerned stakeholders, my colleague and I propose, as previously discussed, an application exclusively for the Helpdesk staff. The application will consist of the following:

* **User Interface:** The application will have a Graphical User Interface that will consist of a series of widgets that will each contain an input field and buttons for each respective task that will be handled by the application. There will also be visualisations for queue updates and printing. These will include graphs and pie charts. The application itself will be accessible within the already existing ITRIS network. It will only be visible to those on the Helpdesk and the application developers.
* **Update User Roles:** One of the many tasks conducted by the Helpdesk, this will consist of a widget inviting the user to input a valid user, and then to select a role to update, which will be updated by running a SQL query/statement when the user clicks a button once they are satisfied with their choices.
* **Add Instrument Number:** Another task which will consist of an input field in which users insert a valid instrument number, and will receive a notification whether the number already exists, or is new and has now been created.
* **Update Ownership:** Similar in functionality to the Update User Roles task, users will be able to update ownership of folios by clicking a button to run a SQL query/statement.
* **PDF Generation:** This will consist of an input field to insert the desired pdf name, a button to click to generate it, and a notification that the PDF has been generated.
* **Queue/Printing:** Automatically query the database every 10 - 30 minutes to check if the queue/printing is running as expected, and display the current status of the queue on the dashboard of the application.

## 5. Conclusion

By conducting this systems design research, my colleague and I were able to find shortcomings and issues within the current system in use by the Helpdesk. After meeting with the stakeholders, we were able to better understand the issues at hand and thus design and develop the optimal solution. The application we have proposed will alleviate the workload on the Helpdesk staff and allow them to perform and attend to their other tasks while also saving time performing others. By automating the process of running various queries/statements we can eliminate the risk of incorrect queries breaking databases, whilst also making the Helpdesk system more efficient.