SET08114 Report

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Abstract

Following the assignment of creating a mobile application of functional use to the end user, "Report" (alpha stage name) has been created. This app removes much of the room for error provided by an already in-use task-reporting system implemented in care homes currently.

1 Introduction

Due to first hand experience of this current system, working as a handyman in care homes as a day job, the application created allows nurses and other relevant staff to report issues to the maintenance workers, maintaining a log of outstanding and completed tasks. Report also extends this further by adding profiles for individual workers, and would eventually be rolled out on multiple devices around care homes and relevant businesses.

Referencing You should cite References like this: [**?**]. The references are saved in an external .bib file, and will automatically be added to the bibliography at the end once cited.

2 Software Design

The following activity diagram, *figure 1*, presents the steps taken to perform a typical task entry into the system and the resulting actions that can be taken after the task is submitted to the system.

The preliminary Report Page user interface is provided below, containing all features necessary for allowing complete understanding of the task presented. These fields all contain validity checks to ensure proper use of the app is maintained, including two required text fields and one optional text field. As referenced in *figure 1, Activity Diagram*, these fields can all be updated later by maintenance workers as and when required, all apart from the date of submission, which would never foresee-ably need to change.

3 Application Implementation

As the application's main intention is to record and process tasks, the implementation of this functionality was put ahead of all other add-on features - such as worker profiles and
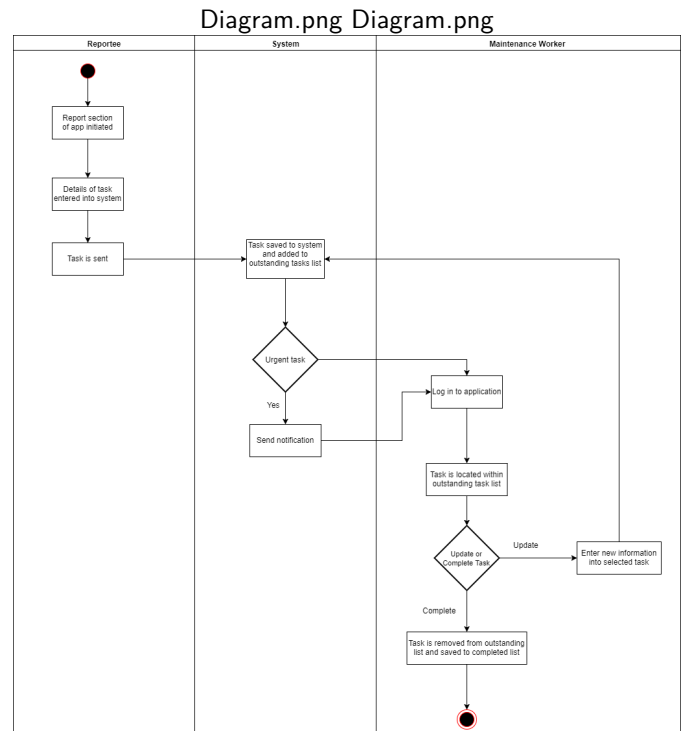

Figure 1: Activity Diagram of typical task processing

registration.This implementation is shown in *figure 3, Report Page Implementation*.

When all tasks were being recorded by the system and displayed to a designated page, the workers' profiles were then implemented. Each worker has been given the functionality to choose a profile picture and enter contact details, which is available to all users of the app for viewing.

4 Critical Evaluation

Regarding the original concept of the application, the current version of Report achieves the required functionality of a task processing app, with added functionality of user profiles, resets in a settings page, and added functionality for displaying an extending notification for tasks marked as urgent in the priority spinner.

4.1 Comparison against contending application

One of this application's contenders is the Microsoft Outlook task organising system. In this application, that is currently

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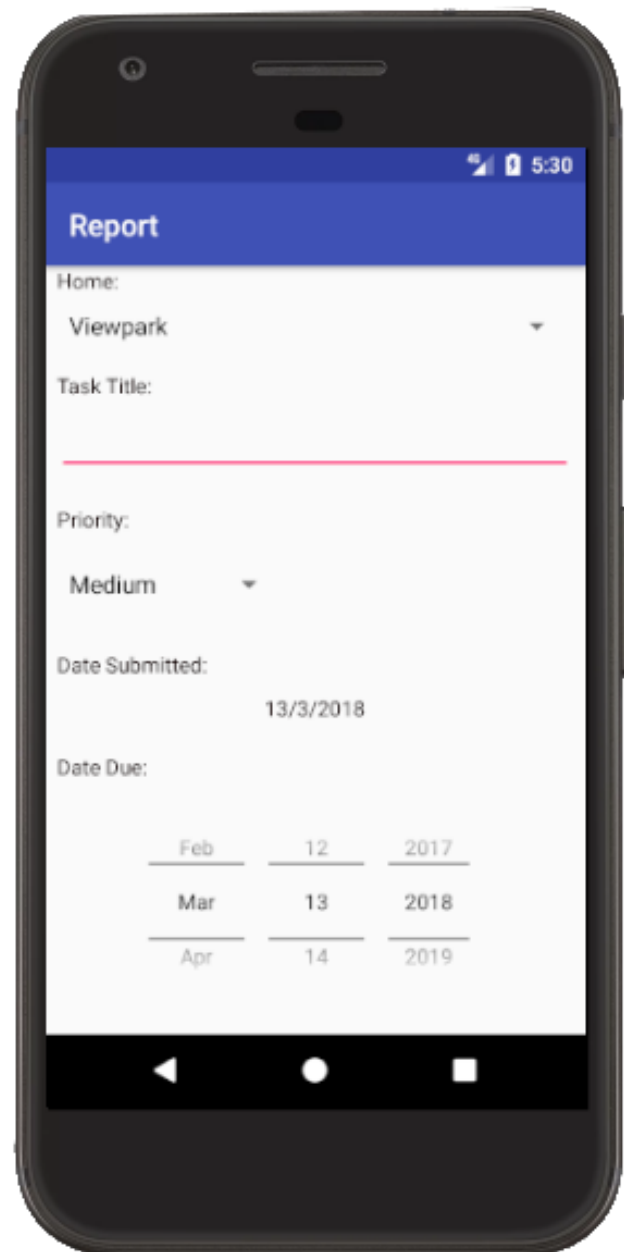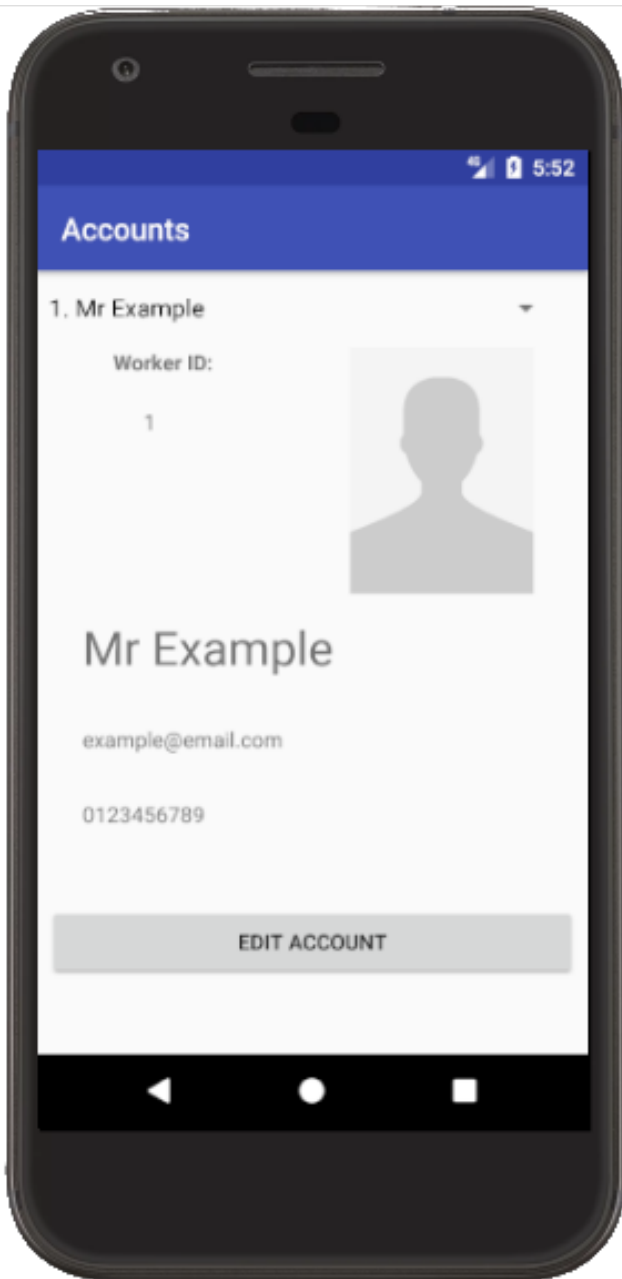Figure 2: Preliminary UI of Report Page

Figure 3: Implementation of Report Page

used in the care home environment, staff are required to access a single computer and word an email in a specific manner that allows the email to be received and transformed into task. Many problems arise on a daily basis due to the ambiguity that surrounds this process, with many staff returning to word of mouth to report a problem, claiming they "don't know how to work that thing".

It should be noted that the care homes used as inspiration for this application are situated next to each other and are under one umbrella company, sharing staff, residents, and all other manner of materials and resources.

Report streamlines the entire process, built in two sections. The first section, reporting a task, designed to be as user friendly to non-computer literate users. The process is simple, making use of spinners to narrow the selection of what care home the task is for, as well as the priority of the task, removing any possibility of typos.

Working on the assumption that the maintenance workers are more technically-minded and at least somewhat computer literate, the task processing and profile managing aspects hold more functionality for the user. Profile holders can update their page with useful contact details, should the need arise to bypass the app and get in touch personally.

4.2 Furthering of the Application

In the task page, the next implementation would ideally be a filter of tasks, allowing workers to sort through workloads relating purely to factors such as home, priority, date due, etc.

Workers would also be able to add their set of professional qualifications to their profile, as their work schedule, to prevent wasted time in trying to contact a particular worker when they are unavailable. Perhaps a "currently available"/"currently unavailable" marker on their profile would allow for real time updates on the availability of workers.

The implementation of a GPS tracker was attempted, however, in the time allotted for the development of the application, was not achieved. Intentionally, the app would send real time updates to users on the front page as to where their nearest maintenance worker was within a certain range.

5 Personal Evaluation

During the development of this application, I have expanded my knowledge of the use of features in Android such as notifications, dialogs, and receiving images from galleries and cameras. I have gained this knowledge primarily through use of online developer guides and resource libraries.

When certain problems arose, I would investigate the multitude of options available to me in implementing a particular feature. As with every assignment and program developed, I have furthered my ability to produce code to a greater standard than previous.

Figure 4: Implementation of Profile Page