TEAM PROJECTS

Team 18

Software Design Report

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1. Introduction

1.1 Purpose

This Software Design Report describes the detailed structure of the components of the Helpdesk System and the details required to satisfy the requirements specified by the client Make-It-All

1.2 Overview

This report will have detailed explanation of the functionality and design considerations used for the system. System Overview covers the basic information of the system and how it works, Design Considerations explains our approach to designing this system and User Interface Design describes about User Interface considerations for the system. There is a section of User Considerations on how users are provided by additional functionality for the system and also a section of Conclusion for the prototype with additional functionality which our team will be working on the next parts of the module.

1.3 References

w3schools – CSS terminology
Google images – refer images of designs
Stack Overflow - coding solutions
jQuery - library

2. System Overview

This website consists of three pages - a login page, splash page and problem form page with the three pages being interlinked. The login page allows access only to the helpdesk operator(s). During login, they are shown a list of problems stored in the system and allows them to add more problems. The problem form page allows the operator to enter the details of a user, problem and also verify if the hardware/software is licensed and supported from the company. The problems are then registered into the system and can be accessed anytime.

2.1 System Functionality

First page of the website is the login page where the admin, in this case is helpdesk operator or technical specialist can login using their username and password – for the purpose of this prototype it is hard coded. Once they enter their details, they will be redirected to a splash page.

Splash page mainly consists of two lists - ongoing and resolved problems. The list consists of each problem with their details: date, name, ID and problem type which allows the user to choose an existing problem or create a new problem using new call button on the left side of this page and redirects to a problem form page.

In the Problem form page, the operator can enter the details of their caller with date and time of the call being registered automatically with the help of automated timing system and store to the database of call logs (which will be added in next part). Next comes the problem form where the caller explains their problem and the operator enters the required details, starting with whether the problem is hardware or software related. A serial number is asked if the issue is hardware related and/or software name if software related, to check if the caller's software and/or hardware is properly licensed and supported.

3. Design

Designing the software was one of the most important parts of this prototype. To make sure we had the right details needed for a complete design of our software, we asked the client if they had a colour scheme preference and they had no particular design requirements, so we decided to implement a simple and clean design for the system.

3.1 Design Implementations

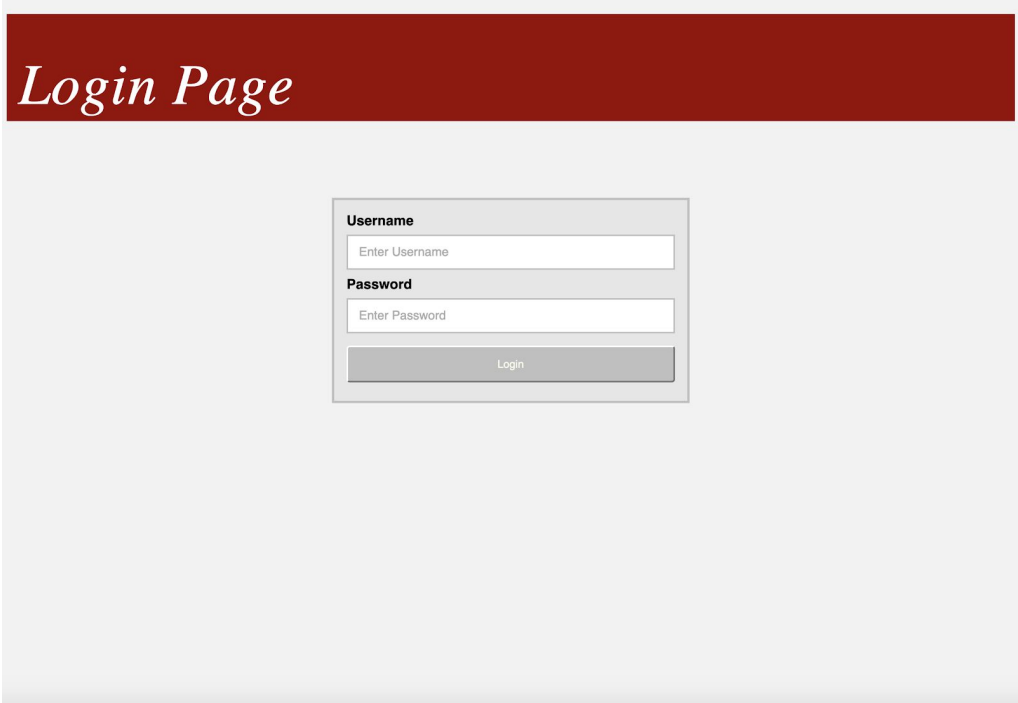

Figure 1.

Figure 1 is the layout of the login page. This is the first page displayed when using the system. The users of this system can add their login details and gain access to the other pages. We chose the layout to be simple and clean, red as the header colour highlighting the page name and grey to keep the box for login visually simple to the user. The button for login is large and clear, so the user can log into the system with no difficulties. We have maintained the same colour scheme and layout all across the system to maintain a professional design.

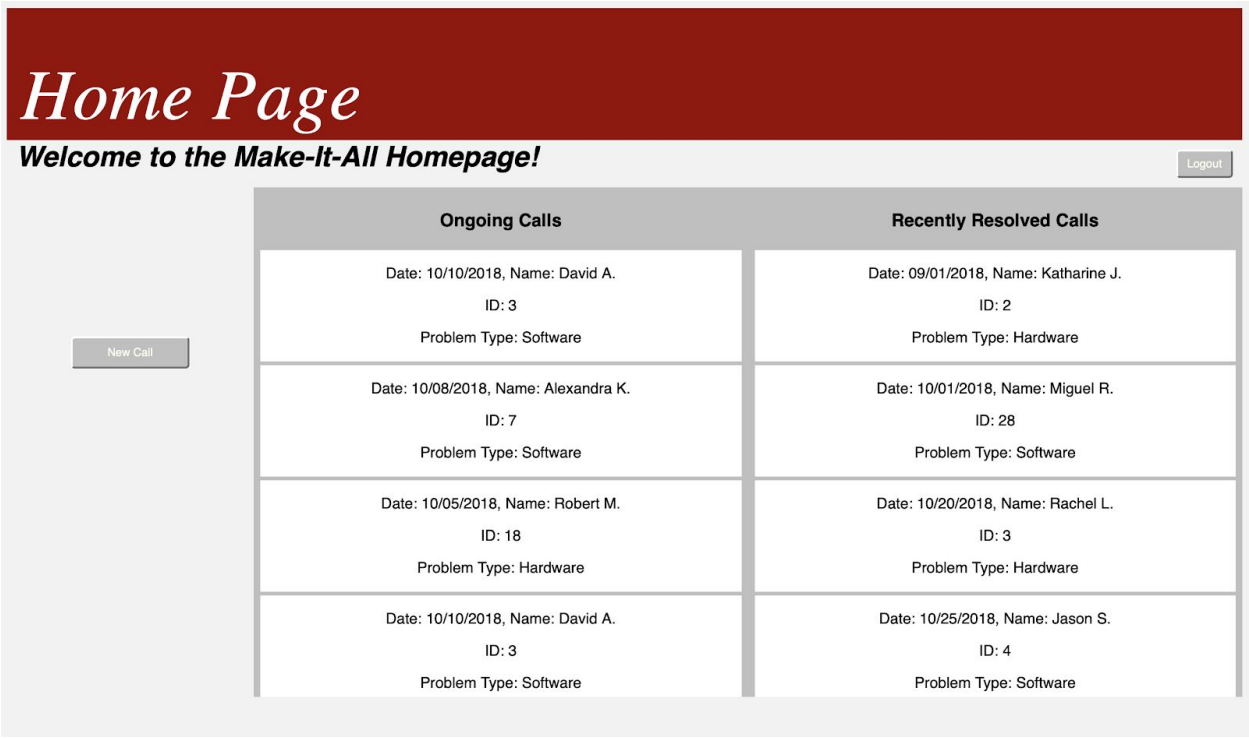

Figure 2.

Figure 2 is the splash page/home page of the system. In this page, the user can see two lists of Ongoing Calls and Recently Resolved Calls. Our aim was to design this page with easy and structured layout, the user can easily go through the list of calls. These two lists contain individual calls, each containing Date and Problem Type of the call, name and ID of the caller. The page also contains a logout feature for the operator to log out of the system. When the operator receives a call, they can click on the ‘New Call’ button on the left side of the page and redirects to a Problem Form. The helpdesk operator can easily identify the caller’s problem and let the caller know that the particular problem is being dealt with. For example , a caller may have certain issues with their printer and the operator can let them know that their problem is currently being dealt with by a certain specialist.

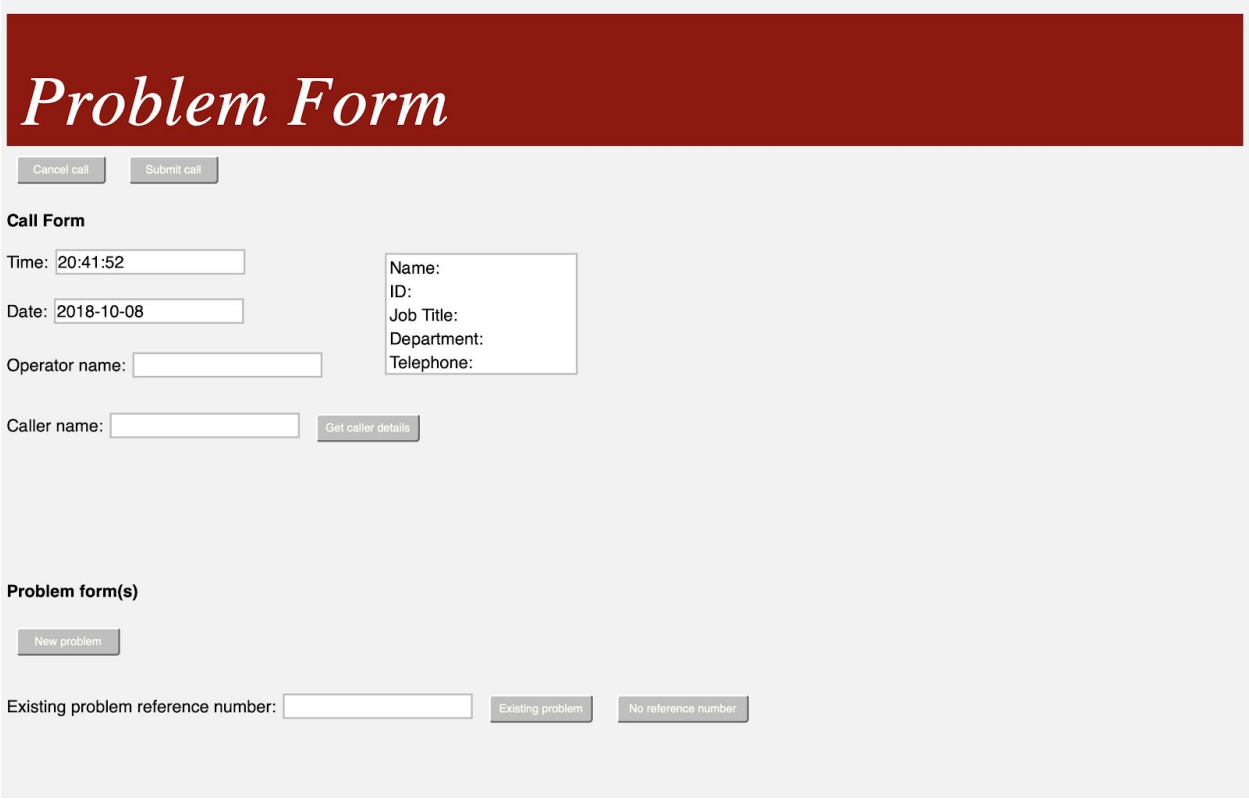

Figure 3.

Figure 3 is the Problem Form page. Caller Form and Problem Form are the two parts of this page since a singular caller can have multiple problems and the operator can enter the details of the call. Date and Time is automated by the system, the operator can enter their name and the caller name to verify if the caller exists in their company database by clicking on ‘Get Caller Details’. Next the operator can issue a problem by clicking on ‘New Problem’ and a dropdown appears to show the problem type. As shown in Figure 4, when entering a caller name, details of the caller can be obtained on right side of the caller form which helps the operator to have a better understanding of the caller which could be useful to either provide a solution or assign to the right specialist.

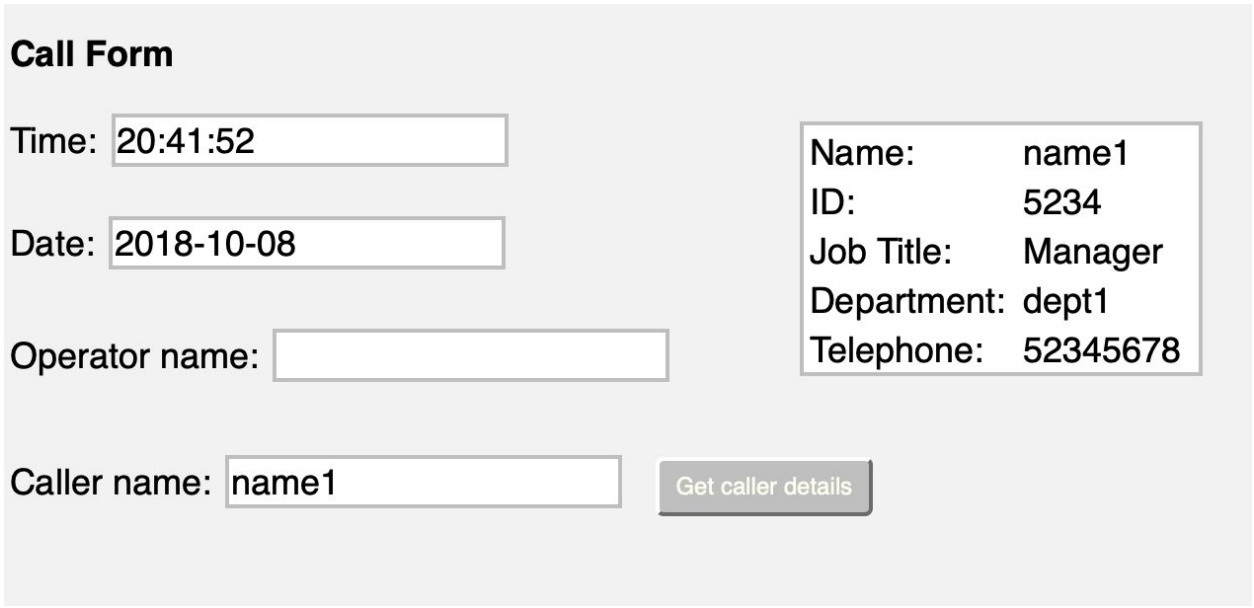

Figure 4.

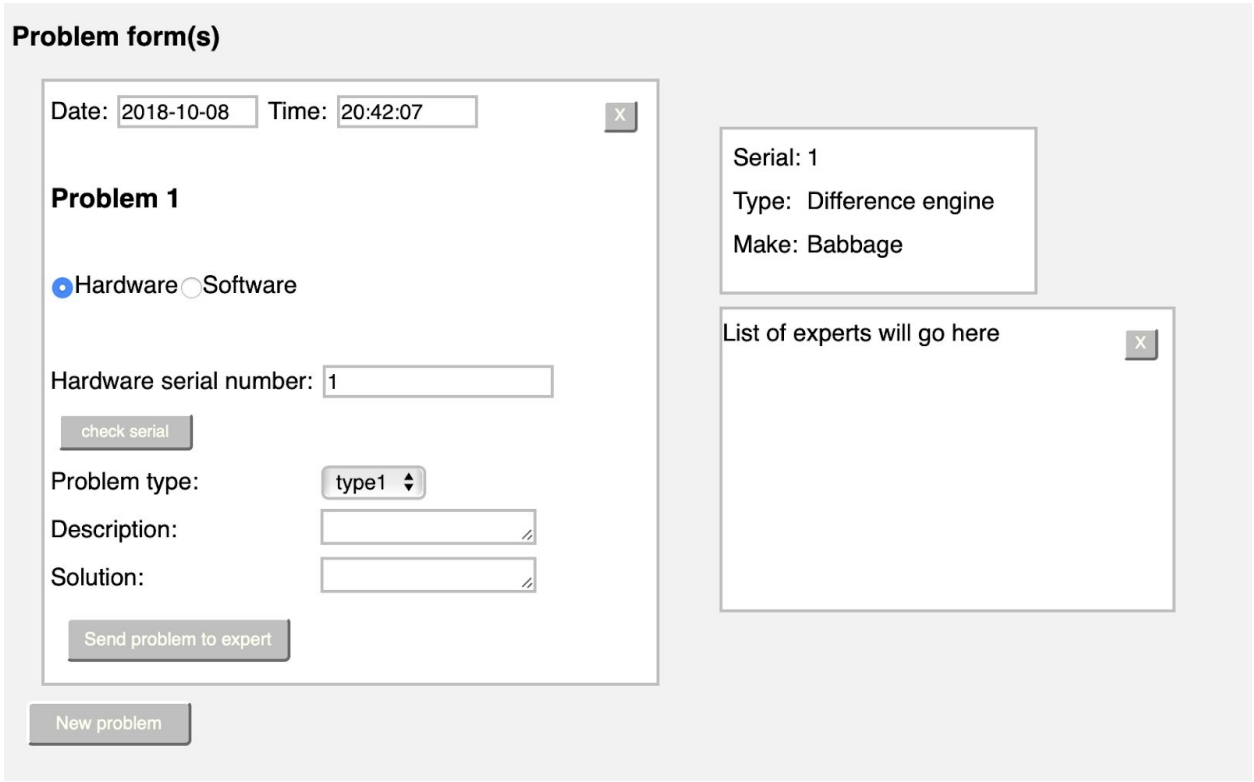

Figure 5.

Figure 5 illustrates the problem form and the part of the problem form page where the details of a problem can be recorded into the system. Date and Time is retrieved from the automated system. When using this Problem Form, the operator can choose between software or hardware issue and enter the serial number for hardware issue or operating system as seen in Figure 6 when a software problem type is selected. ‘Check Serial’ button allows the operator to check if the serial number is licensed and verified. As specified by the client, each problem needs to be linked to the closest problem type, hence including the problem type dropdown where a problem type can be selected from a list of multiple existing problem types. Additional comments can be given to a problem if needed to be more specific about the problem and solution if the problem is solved either by the operator or the specialist. It will be a background task that the user won’t be able to see (will be added in the next part). As of now, we have made the assignment of a problem to the specialist manual so the operator can choose the specific specialist needed for the problem by clicking on ‘Send Problem to Expert’ and a list appears on the right where we will be adding names of specialists in the next part. When the problem is solved by the operator , the operator can submit the problem form. If the problem is send to the assigned specialist, the specialist logs in the date and time of the problem solved.

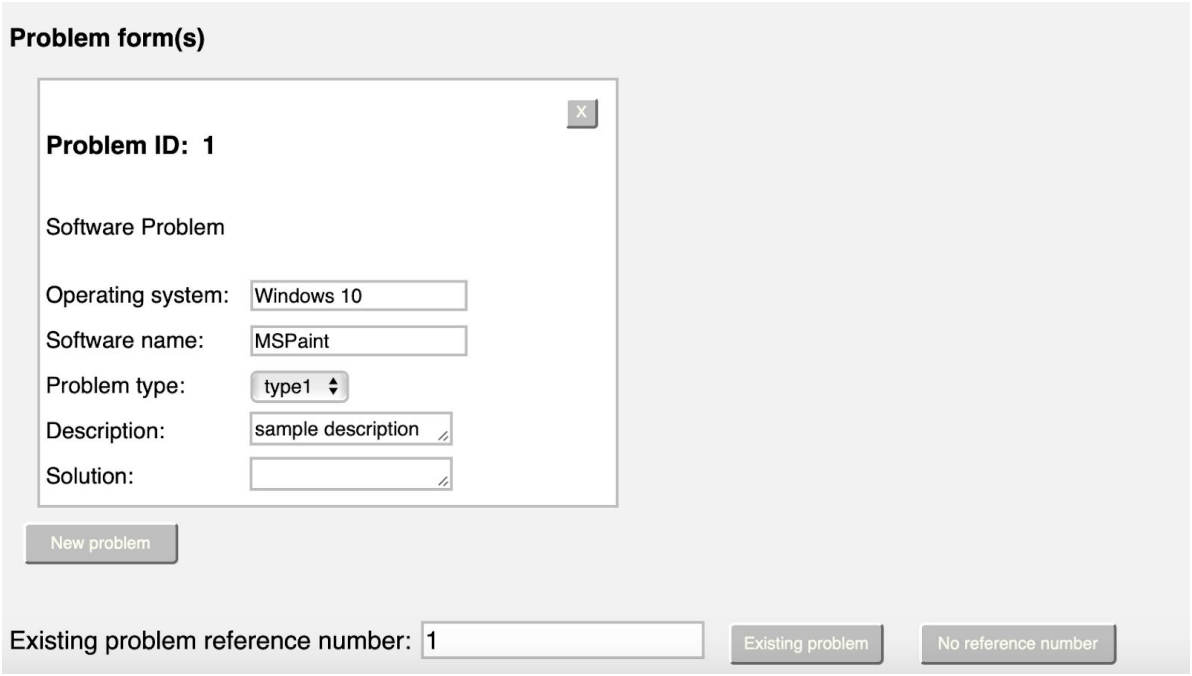

Figure 6.

When a caller calls again related to their previous problem, the operator can search for it using the ‘Existing Problem Reference Number’ text box to enter the reference number given by the user after the problem was issued earlier. Clicking on ‘Existing Problem’ shows the list of problems the caller previously issued. In some cases, the caller may not remember their reference number, in that case the operator can click on ‘No Reference Number’ button which

shows a dropdown list of Previous Problems shown in Figure 7 sorted by Date and Time of the call and choose the existing problem of the user. Our team had asked the client on what other ways could an operator check for the caller's previous problems and the client responded by saying that the problems can be accessed either by a reference number provided to the caller or by accessing their problems using the Date and Time of their call.

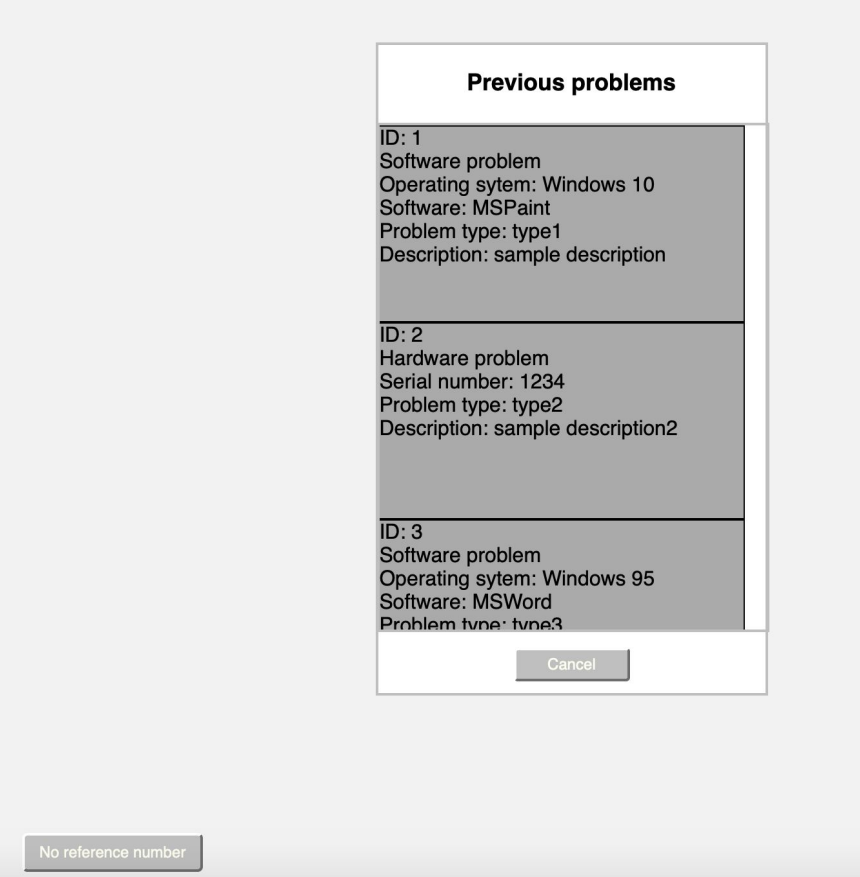

Figure 7.

3.2 User Interface Design

We have ensured our approach to implement design layouts in the system to be user-friendly. We have added a user-friendly layout where the users can easily access the website with no difficulties with clear and large buttons and instructions where to type and click to use functionalities of the system. The design is extremely easy to read because clear fonts have been chosen, the colours of text to the background we have chosen are clearly defined and hence easy to read. The pages are user friendly and layout of the website is in logical and systematic order, so the user can find all the necessary functions in a sequential order.

4. User Considerations

We have added certain functionality to make things easier for the user of this system. A Login page is made for the operator with username and password hence only the required admin staff can login to the system. The design of this prototype is simple and clean with consistent design through all the pages. When the operator looks for a problem in the splash page, it is visually simple to find a problem from a list of problems since the layout is in the form of a list. We have added functionality for the date and time of the call to be automated, which reduces errors while making a form and saves time for the operator to make logs of a call. They are then used across the problem form page to automatically enter details in the problem form as well as refer previous problems. Hardware and software checks are added when a problem form is written, which checks the database to make sure they're licensed and verified from the company. The user of this system can assign a problem to the specialist either manually or automated, depending on the availability of a specific specialist or general specialist which can handle the problem. If a caller calls about an existing problem, the operator can check their reference number to find an existing problem, else they can see through a list of previous problems. We will be adding the functionality to search a problem based on the date and time of the issued problem.

5. Prototype Limitations

Our Prototype doesn't have the functionality of individually checking every problem by clicking on the problem on the splash page and to move problems from ongoing calls to resolved calls when a problem is solved but it will be something to work on for the next parts of the project. We will implement functionality of a unique login username and password for users to log into the system. In this prototype we have made basic functionality of checking for a specialist when a problem cannot be solved by the operator, but in next stages we will have a proper functionality to allocate a problem to a specialist with lowest number of problem forms. We will be adding functionality where analysts can use our system to see how well the helpdesk specialists are performing in solving the problems, how well the equipment and software the company uses is performing in the next part of this project. Most of these limitations are related to lack of a database where we can retrieve data for our system.

6. Conclusion

In conclusion, this Software Design Report, our team have implemented all of the requirements given by the client and approached this project taking all of those requirements into consideration. To get additional information on the requirements , we have emailed the clients about certain requirements and implemented more functionality to meet those requirements. The prototype we made has limited functionality when using the operations in the system for the obvious reasons of not having a database to obtain certain information needed to run the system.