**MAKERERE  UNIVERSITY**

**FACULTY OF COMPUTING AND INFORMATICS TECHNOLOGY**

**SCHOOL OF COMPUTING AND INFORMATICS TECHNOLOGY**

**DEPARTMENT OF COMPUTER SCIENCE**

**BACHELOR OF SCIENCE IN COMPUTER SCIENCE**

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**COURSE NAME: USER INTERFACE DESIGN**

**COURSE CODE**:

**Course Work**: Assignment one.

**Lecturer**: MUGWANYA RAYMOND

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MEMBERS

|  |  |  |
| --- | --- | --- |
| **NAME** | **REG NUMBER** | **STUDENT NUMBER** |
| **MWAITA JOSHUA** | **16/U/7890/PS** | **216018350** |
| **AGABA DAVIS** |  |  |
| **ABILA RAPHAEL** |  |  |
| **NAKAFEERO PENINAH** |  |  |
| **OJIAMBO ABEL** |  |  |
| **SEMATE BRIAN** |  |  |
| **MUKASA PETER** |  |  |
|  |  |  |

**PROBLEM STATEMENT**

There has been a limited access to repair and maintenance of gadgets service in the public and this is due to lack of information about the existence of well-trained engineers to provide such services. This makes it tiresome for someone to walk around in order to look for such services. Some times setting requests for such services is hard and this because most of the companies have so many customers and this makes it hard to monitor their customers.

**USER ANALYSIS**

The intended system aims at targeting a wide category of people in the public and these include the following: -

**Novices.**

These are people who have less or little knowledge about the system and they majorly include the first-time users of the system with the following characteristics:

* They are beginners in the technology world and therefore have limited skills when it comes to using computers.
* These need step by step guidance on how to use the different aspects of the system and computers at large since most of them are illiterates.
* They have little knowledge about the use of the system and how it works such as how to load the system website and navigate to his own interest.
* Their major interest is wanting to find out more about the different features of the system that is to say they are so inquisitive.
* They have a challenge for interpreting designs in that in most cases images could be used to present information to the users of the system.

**Intermittent Users**

This group of individuals lie in between the novices and experts and have the following characteristics:

* They have some knowledge on how to use the platform to achieve their purpose but have less knowledge regarding the implementation of the web platform.
* They can access the current system and achieve what they want using the basic knowledge they possess.

**Technology Experts/ Expert Users.**

This category of users is well equipped with computer knowledge and are able to navigate through quite a number of websites with skillful techniques there by achieving what they want using the web browsers of their own choice. Expert users could be system administrators, experienced users of the system. These people possess the following characteristics:

* They can achieve whatever task they need the computer to perform with its limited capabilities of the systems.
* They are also able to interpret the graphical representations of information used on the system.
* Since they know what the system is supposed to produce, they can easily express their feeling about a particular system after using it in most cases.
* They basically have a clue on what is supposed to be done when interacting with systems.
* Having possessed specific knowledge about a particular subject, they can be called upon for assistance and advice about a misbehaving system.
* Their attitude about the use of the system is positive.

**Conclusion on system users.**

User access to computer systems is usually constrained or influenced by so many factors rating from the level of access to the physical disabilities of individuals such as sight problems, deafness or even an intended user of the system could be lame. This calls for physical assistance in their operability on the new system which has been because of the limitations they are exposed to due to their physical states.

**TASK ANALYSIS**

The Electronics repair system comprises of a variety of tasks that are performed by both the users and administrators of the system, A few of which include; creating an account and log in, make maintenance or repairs request, view all maintenance/repairs requests, filter requests, approve/reject a repair/maintenance request, mark request as resolved once it is done.

**1. Making repair/maintenance request**

This is basically done by the users of the system when they need to carry out a repair and maintenance request. Any user who is legible to make this request should have an account in the system. And for one to have an account, the following has to be done: -

In order to successfully create an account, the user should;

* Fill user name.
* Fill in the password.
* Email.
* Location.
* Submit these credentials.

To login

* Simply type the user email.
* And the password.
* Press the login button.

This is possible using the account creation and login page in the application.

#### **Goal**

Efficiency: -This will give the administrator ease to monitor the requests made by their customers.

Safety**:** - The account creation and login will also ensure proper authentication and tracking of information of the different users of the system thus boosting security.

**2.Viewing all maintenance/repairs requests**

This can be performed by both the users and the administrators of the system, requests that have been submitted to the system can be accessed in the following ways;

1. **Accepted requests**

These are approved requests made to the system by the administrators.

1. **Requests in progress**

This task enables the administrator and customer have a view of the progress on the requests being worked on.

1. **Rejected requests.**

In case the requests made by the user are not meeting the terms and conditions of the company, the administrator will be able to reject such requests and therefore the customers and the administrators will be able to view these requests.

1. **Closed or approved requests.**

This will enable the users to see which of his requests have been approved.

**Goals**

Easy to learn: - The interfaces are expected to be user friendly with an aspect of direct manipulation of mere clicking on the different request buttons to provide the necessary information.

3. **Marking request resolved once its completed.**

Once the request has been worked on fully, the administrators will be able to mark them and therefore the customers and administrator will have the view of all of such requests.

**Goal**

Effectiveness: -Through marking the completed tasks, effectiveness of the system is being portrayed to the users of the system since completed tasks can be cleared done.

**DOMAIN ANALYSIS**

The domain of the system has can be analyzed by using the following diagrams.

* Use Case Diagrams
* Entity Relationship Diagram

The diagram below shows the entity relationship diagram



**The Diagram below shows the use case diagram for the system.**



There was someone who needed to have his phone fixed and he needed to look for a repair and maintenance system. He needed to communicate the detail of the problem to the repair center and the staffs at the repair and maintenance center needed to know the customers detail. Through this analysis we were able to know what exactly was needed for the system.

**SCENARIO.**

**This plus scenario shows some potential positive aspects of the Electronics Maintenance system at Nakawa Repair and Maintenance center.**

*“A client called Mutima Richard wakes up in the morning at his home in Ntinda and prepares to go for work but his phone fails to work and he doesn’t know what could be the problem. He remembers that he has an account with the Electronic Maintenance system.*

*He decides to get his laptop, connects it to the modem and he accesses the Electronics Maintenance System and the system prompts him to login and he enters the device details and the system shows him the details of the person who will work on his device and his schedule and finds out that the mechanic will come to the garage by 8am. Richard decides to make an appointment within the next hour i.e. 11am. Richard is prompted to enter the kind of service that he is in need of i.e. whether it’s a maintenance or repair service that he is need of and then requests for it. The systems fortunately show Richard a thank you message and adds his name and his request into the data base. The administrator in charge of the repair and maintenance system views the Richard’s request and then sends the mechanics to him. He later approves Richard’s request as seen.*

*Richard feels happy because he has been able to make his request for repair with the mechanics without moving to the repair and maintenance center hence saving the transport costs, the time inconveniences and he is able to use his time before 11am well and meets the mechanics at the right time and he is glad he has been worked on.”*

**This negative scenario shows some potential negative aspects of the Electronics Maintenance system at Nakawa Repair and Maintenance center.**

*“A client called Mutima Richard wakes up in the morning at his home in Ntinda and prepares to go for work but on reaching work his phone fails to work and he doesn’t know what could be the problem. He remembers that he has an account with the Electronics Maintenance system.*

*He decides to get his laptop connects the modem and he tries to access the Electronic Maintenance System. Unfortunately, he cannot access it due to poor Internet connection at his work and he realizes that he forgot his laptop and he can’t recall the telephone number of the receptionist meaning he can’t do the booking for any service while away from the repair and maintenance center. He decides to board a Taxi and passes by the repair and maintenance center to order for the services since it’s the only remaining option and on reaching the repair and maintenance center finds queue of people waiting to make order for the different service due to the failure of the system and he waits until it is his turn and makes the order. He then reaches his work late.*

*Richard feels unhappy due to the cost of time, and transport he has incurred and he leaves disappointed due to the inconvenience”*

**STORY BOARD**

This will give the users a concept on how to use intended new system by outlining the possible activities to be performed with as shown below: -

Login

The very first





