Full time

BSD 3106

Software Computing project

Implementation

Customer and Worker Review Application

20/03080

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Table of Contents

1   <u>Implementation strategy</u>

The type of implementation the customer review and worker application system will use will be an implementation of a modified application to replace an existing one.

The previous restaurant systems which mostly comprised manual data and files will be replaced by a more computerised version that will make work in the restaurant more computerised.

2   <u>Implementation deliverables</u>

2.1 <u>Software installation</u>

Before installing the software one must check first the compatibility of the device on which the software is being installed. The software is an android app and thus requires an android phone. The software requirements of the phone are:

➤ Ram 4GB and above

➤ Storage capacity of at least 8GB and above

➤ Android 10+

There are two ways of installing the software:

1. We will provide the manager with the APK file of the software which he or she will send to the workers and the workers will send to the customers.

2. The manager, workers and customers will be able to access the software through the play store where they will download and install it.

3 Conversion plan

In the conversion plan, we will review the project plan and create test files. In this stage the only parts of the system undergoing the change will be the customer review section, the worker suggestion and performance section. The parties involved will be:

➤ Users

➤ Programmers

➤ Database analysts

3.1 Files conversion strategy

Here we create computerised files from the existing files.

The menu will be computerised. The meals of the day and the specials will be visible to the waiters on their phones once they log in to the system.

The reviews made by customers and complaints have been computerised and once the customer sends the review it will be stored in the database. Then the manager will be able to access them and make a review.

3.2 Data conversion strategy

Here the existing data from the previous system will be transported to the new system. The data will be entered to the new database by the manager and the workers will register once more to the new system.

The data entry methods by the staff will be changed. Instead of waiters writing orders in papers. The waiter just needs to click and press the add button beside the dish requested and the information will be sent to the database. This will help to know what types of meals are more popular and how to improve them.

The performance of the worker will not only be observed physically but the system will be able to calculate the time the worker logged in to when the worker logged out. Then it will create reports of how they used the app and which areas they tried to access.

3.2.1 Creating test files

During data conversion, test files were created to ensure the app was operating smoothly and meeting all the objectives of the user.

Test data was also created to ensure the database stored information properly. It also ensured that the data could be retrieved from the database

3.2.2 Data Quality Assurance and Control

In this process will check the data both before and after data conversion to remove anomalies and check its quality. The measures of data quality are based on data quality characteristics which are suited for the MCWES system. Examples are:

➤ Accuracy – accuracy is essential for login and registration for the workers and manager

➤ Completeness – the system will be able to effectively deliver the required values that are available

➤ Validity- the data collected should be according to the rules of the MCWES system. The worker cannot login as a customer and vice versa
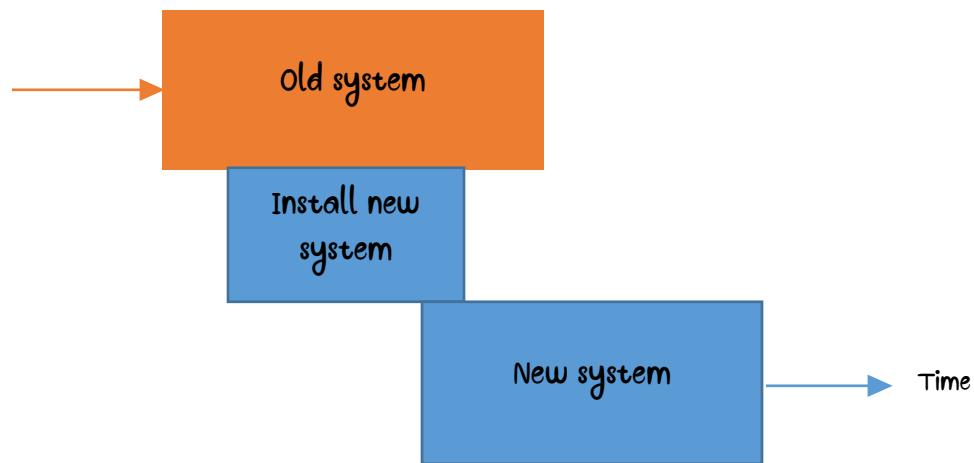
3.3 Hardware conversion strategy

The changes that will be done to the hardware is that most the workers and customers will require a phone instead of using papers to convey their message. The phone should be a touch screen android phone where the workers will use for data entry and customers will use for reviews.

3.4 <u>Conversion methods</u>

The conversion method that will be used will be **parallel**.

This will allow both the old system and the new system to run for a specific time. This will allow them to use both the old and new systems since the new system will not change everything from the old system.

The advantage of using this is that one will be able to check the new data against the old data thus we would be able to catch any errors during processing of the new system.

```
        ┌──────────────────┐
───────>│    Old system    │
        │                  │
        └──────────────────┤
        │  Install new     │
        │    system        │
        ├──────────────────┴──────────────┐
        │            New system            │────────>  Time
        └──────────────────────────────────┘
```

4 Training plan

In this stage, the workers, and manager will be taught how to use the system and its tools. A user manual will be created that directs each user on their requirements. The system also has provided hints that will direct the user on how data will be entered.

4.1 Training methodologies

➤ Instructor-led — Here we will go to the exact location of the restaurant and in a meeting teaching them how to use the MCWES system.

➤ One-on-one — This will be used if any of the workers have an issue using the system or during login into the database

➤ External sources — videos and tutorial pictures will be made to make it easier for the user to use

4.2 Resistance to change plan

Problem	Solution
Some users will not like the idea of login one has to be online which means always buying data which is costly.	The new system will help them get bonuses easily as their performance will be easily tracked. The data required to login is not a lot
Some users unable to understand the new system	The user manual and video tutorial will explain to them in detail.
Fear of losing their jobs	The MCWES will bring ease to the workers in their activities as they will not be any situation of mix-up in items ordered

5 Software maintenance plan

5.1 Information centre: help desk

Here is a department or tools that help assist with software failure.

Examples are the online help desk and the IT help desk.

Functions of the help desk

- ➤ Problem management – Analyse the main problem to prevent recurring or future errors in the software

- ➤ Service catalogue – shows all services regarding the Multiplex customer and worker experience management system

- ➤ Offer technical support to the workers and manager i.e. if they need assistance in analytics

- ➤ Use an issue tracker that allows the manager and support agent to record issues and provide timely updates to the users

5.2 Automatic support

The software was created with play integrity API that will protect the software from risky interactions. This will allow the appropriate actions to take place to reduce the attacks.

The software will automatically show actionable error messages that will help the user to fix the problem.

5.3 Resident expert

The managers in the restaurant will be trained on being the resident expert on the MCWES. The managers will have access to the database and all its tools and thus will be able to correct any errors in the system.

5.4 Disaster recovery plan

This is a plan that contains detailed info on how to respond to unplanned events such as natural disasters, cyber-attacks and many others.

Most of the data of the system are stored in the google cloud storage which is safer and has strategies in case of unforeseen errors.

These are the recovery plan considerations:

➤ Recovery Time Objective(RTO) —

- o describes the amount of time the MCWES application can be down, typically measured in hours, minutes or seconds.

- o The RTO for MCWES will be 40minutes.

➤ Recovery Point Objective(RPO)-

- o Describe the age of files that must be recovered from the backup for normal operations to resume.

5.5 Providing back up

The MCWES is connected to Firebase real-time database and the google cloud API where all the data can be backed up daily.

Since the database is online it is safer thus loss of data due to hardware malfunction will not happen.

6 References

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