

POS App Technical Manual

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Introduction

Overview

For our Third year project we decided to design a POS Application, which we called Order 66. Order 66 is an application aimed at Resturants,Bars and Cafes that will accompany and in the future replace your current till system. Order

66 uses a website admin interface which will allow an employer create his menu for his restaurant/bar/cafe, add all his employee details so he can easily manage their accounts, automatically create reports lastly have access to helpful usage statistics. Employee's can also download our Android Application which will allow employee's to create orders using the menu their employer has created and send orders so all other employee's can view them and start preparing them seconds after it has been sent.

Order 66 has many benefits for both the employer and the employee as it can help improve efficiency in the workplace which can in turn can provide greater returns for the employer. Not to mention making the employee's life that much easier as they won't have to worry about forgetting what was in each order, what order went to what table and did I tell me co-workers about the last order.

//FINISH ANOTHER PARAGRAPH

Glossary

POS App - Point Of Sale Application *WiFi P2P* - WiFi Peer to Peer

Operational Scenarios

Registering on the website.

Precondition — The company is not registered on the website.

Activation — The company wants to sign up on the website.

Description :

* The company owner/ manager goes to the website. * They press the 'Get Started' or 'Sign Up' buttons. * They enter the company details. * They enter the employer's details. * They click 'Submit' when finished.

Termination — The company is successfully registered to the website.

Adding an employee to the website.

Precondition — The employee is not registered on the website.

Activation — A new employee has started working at the restaurant.

Description :

* The company owner/manager goes to the website. * They sign into the company account. * They click 'Add New Employee' on the left. * They enter the employee's details. * They click the green '+ Add Employee' button when finished.

Termination — The employee is successfully registered to the website.

Removing an employee from the website.

Precondition — The employee is already registered on the website.

Activation — An existing employee has finished working at the restaurant.

Description :

* The company owner/manager goes to the website. * They sign into the company account. * They click 'Remove Employee' on the left. * They enter the employee's PPS number and name. * They click the red '- Add Employee' button when finished.

Termination — The employee is successfully removed from the website.

Adding a new menu item.

Precondition — The menu item is not registered on the website.

Activation — A new item is being added to the menu.

Description :

* The company owner/manager goes to the website. * They sign into the company account. * They click 'Add Menu Item' on the left. * They enter the item's name, description, and price * They select an item category. * They click the green '+ Add Employee' button when finished.

Termination — The item is successfully added to the menu.

Removing a menu item.

Precondition — The item is already on the menu.

Activation — The manager/owner wants to remove a menu item.

Description :

* The company owner/manager goes to the website. * They sign into the company account. * They click 'Remove Employee' on the left. * They enter the item's name, and price * They select an item category. * They click the red '- Remove Menu Item' button when finished.

Termination — The item is successfully removed from the menu.

Signing in to the app.

Precondition — The staff member has not signed into the app.

Activation — The user opens the app.

Description :

* The staff member selects the email box. * They enter in an email address. *

The staff member selects the password box. * They enter in a password. * They press the ‘Sign In’ button.

Termination — The staff member has logged into the app.

Creating an order

Precondition — The staff member has not already made an order.

Activation — A customer has decided to order a meal.

Description :

* The staff member presses the ‘Create an order’ button on the main menu or in the sidebar. * They select the table that the customer is sitting at. * They select a food item. * They staff member presses the green button to add the item to the order. * They are automatically returned to the menu screen. * They press the green button in the bottom-right of the screen. * The user is sent to the order screen. * The staff member presses the button in the bottom-right to send the order.

Termination — The order has been sent.

Receiving an order

Precondition — The staff member has not received an order.

Activation — Another staff member has created and sent an order.

Description : * The The staff member presses the ‘View all Open Orders’ button on the main menu or in the sidebar. * They select an order that they have received. * They complete the order. * Once completed, the staff member presses the green button to the delete the order.

Termination — The order has been deleted.

System Architecture

-Distribution of functions -Architectual components that are reused (Data strauctures?) -3rd party libarys highlighted here.

High-Level Design

-System models showing relationships between components & systems -eg DFD
Thisbusiness activity model visualizes the steps taken by the company staff when using the app.

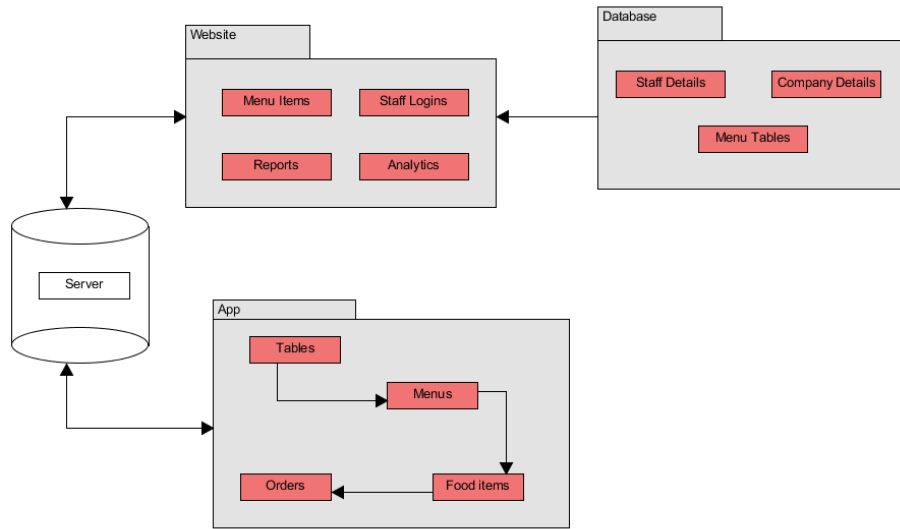


Figure 1: System Architecture

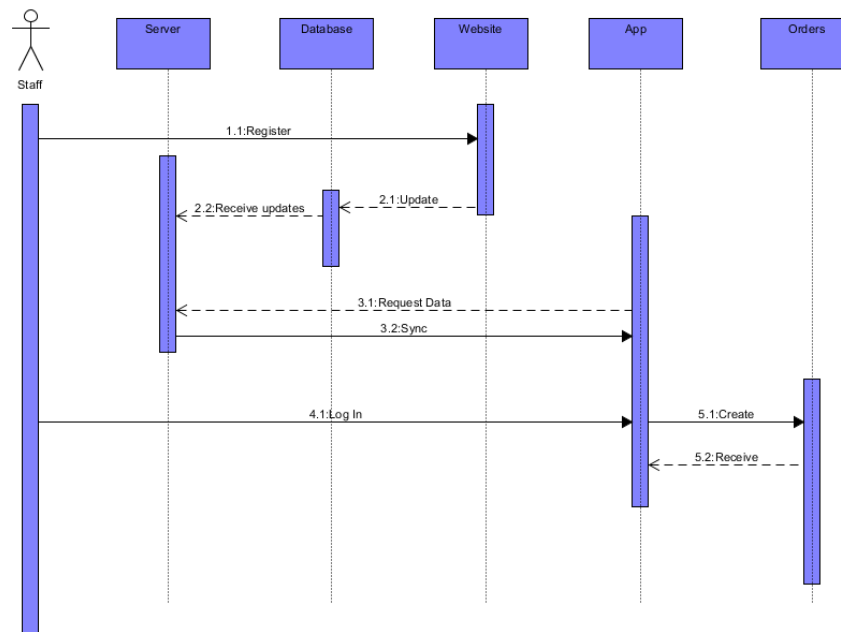


Figure 2: Sequence Diagram

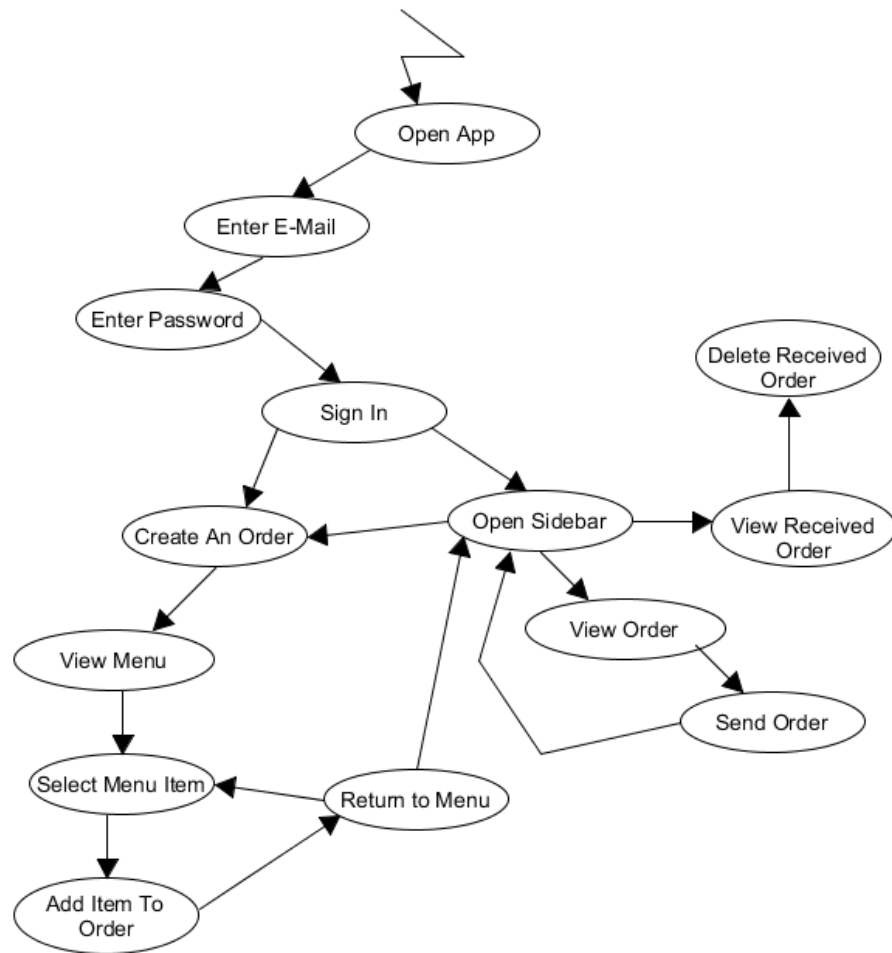


Figure 3: App BAM

This business activity model visualizes the steps taken by the company owner or manager when using the website.

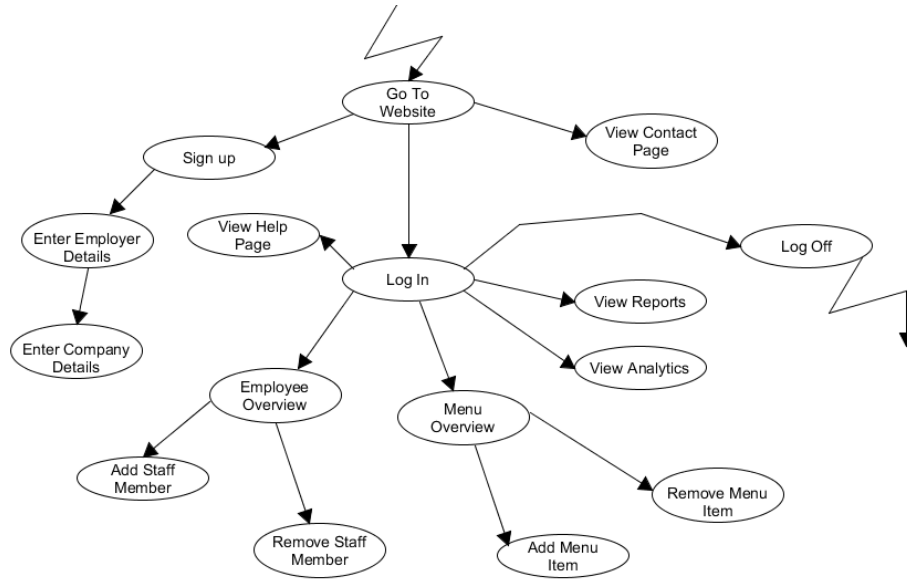


Figure 4: Website BAM

This data flow diagram highlights the flow of data through the project, as well as showing an overview of the process involved.

Problems and Resolution

-Major problems encountered (WiFi P2P)

WiFi P2P

After our initial design and research we intended to use android's native WiFi P2P library, that would allow us to be able to send data between two devices that are connected by a Local Area Network, this can also be achieved by using a mobile devices ability to create a hotspot, which would act as the Local Area Network. The issues we encountered was that the WiFi P2P library is a recent addition to the android framework and was previously called Android Beam meaning that only devices from API level 14 or higher would be capable of using the service.

Another issue we came accross was that the P2P services acts similarly to a bluetooth connection as it uses WPS for security and as a result needs the user

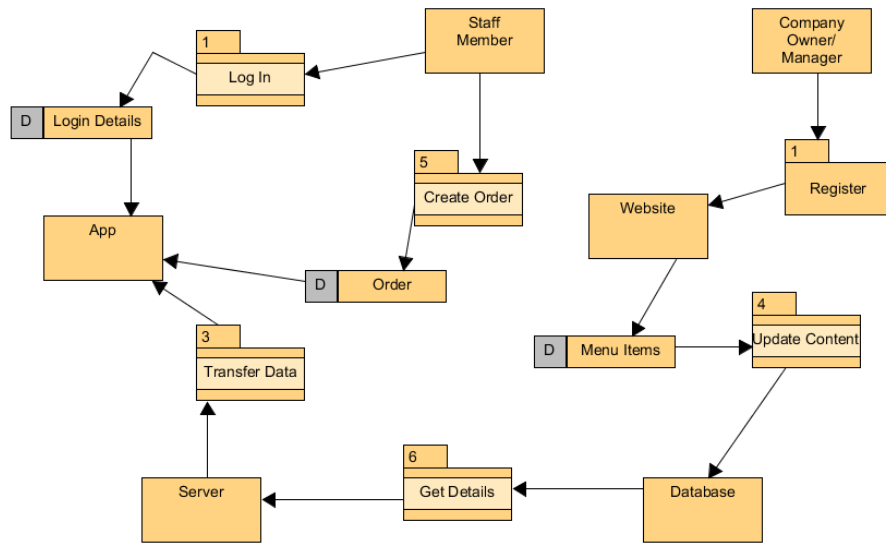


Figure 5: DFD

to hit accept for each file transfer.

Another issue which was the most major was the once two devices were connected, one device would become the group owner and would act as the server while the rest would act as clients. The problem was that the group owner was only able to receive files and to become the group owner, you would have to disconnect and reconnect, meaning the user would have to accept the connection again which wasn't practical as if a waitress wanted to send an order to the kitchen, she could but then to get any updates on the status of the order, the waitress would have to accept the connection from the kitchen each time they wanted to change the order status.

Lastly disconnecting from a group was not very consistent as the group was only destroyed after the group owner disconnected and the connection timeout was reached. This meant that users would may have tried to disconnect to an empty group while the other user may create a new group or their Status would change from available to either busy and wouldn't be able to be found by the searching devices.

Our solution to these issues was to try an alternative method, which resulted in the application requiring an Internet connection to be able to function. We used the HTTP POST request to run PHP files on a server that would handle accessing and storing all our data on a MYSQL Server.

Installation Guide

Required Software/Hardware

- Android Studio
- Order66 Project Files
- Android Device
- USB Cable

As our application is not on the Google Play Store, you will have to install it through Android Studio and run it through your device that way. To do so, follow these steps.

Step 1

Employer Setup

Order 66 requires a signup process through our website which will allow you to create your menu and different accounts for your employee. 1. Go to order66.finnianoneill.ie 2. Press the Sign Up button in the top left hand side of your screen. 3. Fill out the form accordingly 4. After filling out the form, you will be brought to your Dashboard, on the sidebar on the lefthand side of the screen, press “+ Add Menu Item” 5. Here you can add all your menu items and some usefull statistics once you get using Order 66. 6. Lastly you can add some employee accounts, by pressing “+ Add Employee” and filling out the small form.

Step 2

Android Studio Installation

1. Go to developer.android.com and download the Android Studio .exe file.
2. Once it's finished downloading, launch the .exe file you downloaded.
3. Follow the setup wizard to install Android Studio and you can leave all the settings as default. A video can be found at this link

Step 3

Order 66 Project Files

1. Go to the Order 66 Website
2. On the homepage below the Heading text there is a button that says “Download Order 66” Download Order 66

Step 4

1. Once you have downloaded Order66.zip, unzip it and open Android Studio.
2. When Android Studio opens choose “open exsisting project” and navigate to Order66.
3. When it opens, press the green play button at the top of the screen seen here Press the Green play button
4. Then connect your Android device to your computer using your USB cable and it should appear on the menu.
5. Then select your device as the deployment target.
6. Allow the computer time to build and install the application, and once you see it open, you can press the red stop button.
7. Disconnect your device and Order 66 will be still installed. All your Menu Items will be available once you login.

Appendices