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ABSTRACT

The Online Food Ordering System's main purpose is to maintain track of information such as Item Category, Food, Order, and Shopping Cart. It keeps track of information about the Item Category, the Customer, the Shopping Cart, and the Item Category. Only the administrator gets access to the project because it is totally built at the administrative level. The project's purpose is to develop software that will cut down on the time spent manually managing Item Category, Food, Customer, and Delivery Address. It saves the Order, and Shopping Cart information.

Intrinsically ordering food through online food app has become an innate human tendency. Those vendors offering the food products and services through online food app have shown remarkable growth in the most recent years. It is for this rationale that 65% of Indian population comes under the bracket of 18-35 years considered as tech savvy youth prefers to utilize technology for ease of life.

Increased demand of restaurant-goers generated the need for much attention for the hospitality industry. Providing much option with ease of ordering and delivering is the need of the hours. Technological interference has become mandatory to improve the quality of the service and business in this industry. Evidences are already existed for partial automation of food ordering process in the country; most of these technologies implemented are based on wireless technologies.

CHAPTER-1

INTRODUCTION

1.1.1 Android Programming

The Android operating system is the largest installed base among various mobile platforms across the globe. Hundreds of millions of mobile devices are powered by Android in more than 190 countries of the world. It conquered around 75% of the global market share by the end of 2020, and this trend is growing bigger every other day. The company named Open Handset Alliance developed Android for the first time that is based on the modified version of the Linux kernel and other open- source software. Google sponsored the project at initial stages and in the year 2005, it acquired the whole company. In September 2008, the first Android-powered device launched in the market. Android dominates the mobile OS industry because of the long list of features it provides.

It is user-friendly, has huge community support, provides a greater extent of customization, and a large number of companies build Android-compatible smartphones. As a result, the market observes a sharp increase in the demand for developing Android mobile applications, and with that companies need smart developers with the right skill set. At first, the purpose of Android was thought of as a mobile operating system. However, with the advancement of code libraries and its popularity among developers of the divergent domain, Android becomes an absolute set of software for all devices like tablets, wearables, set-top boxes, smart TVs, notebooks, etc.

Programming Languages used in Developing Android Applications

- Java
- Kotlin

Developing the Android Application using Kotlin is preferred by Google, as Kotlin is made an official language for Android Development, which is developed and maintained by JetBrains. Previously before the Java is considered

the official language for Android Development. Kotlin is made official for Android Development in Google I/O 2017.

1.1.2 Java

Java is one of the most popular and widely used programming language. It has been one of the most popular programming languages for many years. Java is Object Oriented. However, it is not considered as pure object oriented as it is provided support for primitive data types (like int, char, etc) runs on Java Virtual Machine (JVM) regardless of the underlying architecture.

Java syntax is similar to C/C++. But Java does not provide low level programming functionalities like pointers. Also, Java codes are always written in the form of classes and objects. Java is used in all kind of applications like Mobile Applications (Android is Java based), desktop applications, web applications, client server applications, enterprise applications and many more. When compared with C++, Java codes are generally more maintainable because Java does not allow many things which may lead bad/inefficient programming if used incorrectly. For example, non-primitives are always references in Java. So, we cannot pass large objects (like we can do in C++) to functions, we always pass references in Java. One more example, since there are no pointers, bad memory access is also not possible. When compared with Python, Java kind of fits between C++ and Python. The programs written in Java typically run faster than corresponding Python programs and slower than C++. Like C++, Java does static type checking, but Python does not.

1.1.3 Kotlin

Kotlin is a statically typed, general-purpose programming language developed by JetBrains, that has built world-class IDEs like IntelliJ IDEA, PhpStrom, Appcode, etc. It was first introduced by JetBrains in 2011 and a new language for the JVM. Kotlin is object-oriented language, and a “better language” than Java, but still be fully interoperable with Java code. Kotlin is sponsored by Google announced as one of the official languages for Android Development in 2017.

Key Features of Kotlin:

- Statically typed – Statically is a programming language characteristic that means the type of every variable and expression is known at compile time. Although it is statically typed language, it does not require you to explicitly specify the type of every variables you declare.
- Data Classes – In Kotlin, there are Data Classes which lead to auto-generation of boilerplate like equals, hashCode, toString, getters/setters and much more.
- Concise – It drastically reduces the extra code written in other object-oriented programming languages.
- Safe -It provides the safety from most annoying and irritating NULL Pointer Exception by supporting nullability as part of its system.
- Interoperable with Java – Kotlin runs on Java Virtual Machine (JVM) so it is totally interoperable with java. We can easily access use java code Kotlin and Kotlin code from java.
- Functionally and Object-Oriented Capabilities – Kotlin has rich set of many useful methods which includes higher-order functions, lambda expressions, operator overloading, lazy evaluation, operator overloading and much more.
- Smart Cast - It explicitly typecasts the immutable values and inserts the value in its safe cast automatically.
- Compilation time – It has higher performance and fast compilation time.
- Tool-Friendly – It has excellent tooling support. Any of the Java IDEs – IntelliJ IDEA, Eclipse and Android Studio can be used for Kotlin. We can also be run Kotlin program from command line.

1.1.4 Android Studio

Android Studio is the official IDE (Integrated Development Environment) for Android app development and it is based on JetBrains IntelliJ IDEA software. Android Studio provides many excellent features that enhance productivity when building Android apps, such as:

- A blended environment where one can develop for all Android devices
- Apply changes to push code and resources changes to the running app without restarting the app.

- A flexible Gradle-based build system.
- A fast and feature-rich emulator.
- GitHub and code template integration to assist you to develop common app features and import sample code.
- Extensive testing tools and frameworks.
- C++ and NDK support.
- Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine, and many more.

1.1.5 SQLite

SQLite is a relational database management system (RDBMS) contained in a C library. In contrast to many other database management systems. SQLite is not a client-server database engine. Rather, it is embedded into the end program.
SQLite generally follows PostgreSQL syntax. SQLite uses a dynamically and weakly typed SQL syntax that does not guarantee the domain integrity. This means that one can, for example, insert a string into a column defined as an integer, but does not guarantee such conversions and will store the data as-is if such a conversion is not possible.
SQLite is a popular choice as embedded database software for local/client storage in application software such as web browsers. It is arguably the most widely deployed database engine, as it is used today by several widespread browsers, operating systems, and embedded systems (such as mobile phones), among others. SQLite has bindings to many programming languages.

1.2 Objectives

The main objective of this app is to manage the details of item category, food, order, shopping cart.
The purpose of the project is to build an application program to reduce the manual work for managing the above information.

To provide efficient authorization and security.

To achieve integration of all records of shopping cart.

To achieve the good representation of food items and restaurant details.

Better synchronization of data.

CHAPTER-2

REQUIREMENT SPECIFICATION

2.1 SOFTWARE SPECIFICATION

Operating System: Windows Vista 7/8/10
Software: Android Studio
Language: Kotlin

2.2 HARDWARE SPECIFICATION

Processor: X86 Compatible processor with 1.7GHz clock
Speed Ram: 4GB or greater Hard
Disk: 400 GB min
Monitor: VGA/SVGA
Keyboard: 104 keys standard
Mouse: 2/3 button optical / mechanical

2.3 USER CHARACTERISTICS

Every user

- Should be comfortable with the basic working of the computer.
- Must have basic knowledge of English.
- Must have skills of Android Studio and Kotlin.