# Chapter 2: LITERATURE SURVEY

## 2.1 SG Fitness Freaks

"SG Fitness Freaks" is an application software that is developed to help in managing various activities in the gym.

. It performs all the tasks that the owner performs manually on paper and therefore does the job a little easier.

. In this system, we can easily manage the gym details, member's records, in easy way. Thus, there are a lot of repetition can be easily reduced which in return reduces the data redundancy.

## 2.2 Functional Feature:

- Registration is available.
- Adding a new student.
- Payment methods are given.
- Notifications can be generated.

## 2.3 History of software

We spend most of our days using computers at work, smartphones when we're out and about, and tablets and PCs at home. Technology, especially software, has become such an integral part of both work and daily life, it's hard to remember a world without it. In fact, finding a world without computers might be harder than you think; they have been around now for decades. Software has made the impossible possible, and the laborious and tedious, fast and easy.

Over time, software systems, programs as well as applications, continue to develop. These changes will require new laws and theories to be created and justified. Some models as well would require additional aspects in developing future programs. Innovations and improvements do increase unexpected form of software development. The maintenance issues also would probably change as to adapt to the evolution of the future software. Software process and development are an ongoing experience that has a never-ending cycle. After going through learning and refinements, it is always an arguable issue when it comes to matter of efficiency and effectiveness of the programs.

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Types of Software

1. Application Software which is software that uses the computer system to perform special functions or provide entertainment function beyond the basic operation of the computer itself. There are many different types of application software, because the range of tasks that can be performed with a modern computer is so large—see list of software.
2. System Software which is software that directly operates the computer hardware, to provide basic functionality needed by users and other software, and to provide a platform for running application software. System software includes:
3. Operating System which are essential collections of software that manage resources and provides common services for other software that runs "on top" of them. Supervisory programs, shells and window system are core parts of operating systems.

In practice, an operating system comes bundled with additional software (including application software) so that a user can potentially do some work with a computer that only has one operating system.

4. Device drivers which operate or control a particular type of device that is attached to a computer. Each device needs at least one corresponding device driver; because a computer typically has at minimum at least one input device and at least one output device, a computer typically needs more than one device driver.
5. Utilities which are computer programs designed to assist users in the maintenance and care of their computers.

6. The primary purpose of each SG Fitness Freaks Gym is to enable the gym owner to manage the data in a easier way and reduce the workload on himself.

## 2.4 Technologies used

Application uses the Android Studio for the front-end and Firebase for storing the data.

Android Studio is the official IDE for android application development. It works based on IntelliJ IDEA, You can download the latest version of android studio from Android Studio 2.2 Download, If you are new to installing Android Studio on windows, you will find a file, which is named as android-studio-bundle-143.3101438-windows.exe.So just download and run on windows machine according to android studio wizard guideline.

Android Studio was announced on May 16, 2013 at the Google I/O conference. It was in early access preview stage starting from version 0.1 in May 2013, then entered beta stage starting from version 0.8 which was released in June 2014. The first stable build was released in December 2014, starting from version 1.0. The current stable version is 3.1 released in March 2018.

The following features are provided in the current stable version:-

- Gradle-based build support
- Android-specific refactoring and quick fixes

- Lint tools to catch performance, usability, version compatibility and other problems
- ProGuard integration and app-signing capabilities
- Template-based wizards to create common Android designs and components
- A rich layout editor that allows users to drag-and-drop UI components, option to preview layouts on multiple screen configurations
- Support for building Android Wear apps
- Built-in support for Google Cloud Platform, enabling integration with Firebase Cloud Messaging (Earlier 'Google Cloud Messaging') and Google App Engine
- Android Virtual Device (Emulator) to run and debug apps in the Android studio.

Android Studio supports all the same programming languages of IntelliJ and PyCharm e.g. Python and Kotlin and Android Studio 3.0 supports "Java 7 language features and a subset of Java 8 language features that vary by platform version." External projects backport some Java 9 features.

Everything you need to build on Android

Android Studio is Android's official IDE. It is purpose built for Android to accelerate your development and help you build the highest-quality apps for every Android device.

It offers tools custom-tailored for Android developers, including rich code editing, debugging, testing, and profiling tools.

The Android Emulator installs and starts your apps faster than a real device and allows you to prototype and test your app on various Android device configurations: phones, tablets, Android Wear, and Android TV devices. You can also simulate a variety of hardware features such as GPS location, network latency, motion sensors, and multi-touch input.

Configure Builds Without Limits

Android Studio's project structure and Gradle-based builds provide the flexibility you need to generate APKs for all device types.

Robust and flexible build system

Android Studio offers build automation, dependency management, and customizable build configurations. You can configure your project to include local and hosted libraries, and define build variants that include different code and resources, and apply different code shrinking and app signing configurations.

Firebase and Cloud integration

The Firebase Assistant helps you connect your app to Firebase and add services such as Analytics, Authentication, Notifications and more with step- by-step procedures right inside Android Studio. Built-in tools for Google Cloud Platform also help you integrate your Android app with services such as Google Cloud Endpoints and project modules specially-designed for Google App Engine.

Eliminate Tiresome Tasks

Android Studio provides GUI tools that simplify the less interesting parts of app development.

Layout Editor

When working with XML layout files, Android Studio provides a drag-and-drop visual editor that makes it easier than ever to create a new layout. The Layout Editor was built in unison with the ConstraintLayout API, so you can quickly build a layout that adapts to different screen sizes by dragging views into place and then adding layout constraints with just a few clicks.

APK Analyzer

You can use the APK Analyzer to easily inspect the contents of your APK. It reveals the size of each component so you can identify ways to reduce the overall APK size. It also allows you preview packaged assets, inspect the DEX files to troubleshoot multidex issues, and compare the differences between two APKs.

Code templates and sample apps

Android Studio includes project and code templates that make it easy to add well-established patterns such as a navigation drawer and view pager. You can start with a code template or even right-click an API in the editor and select *Find Sample Code* to search for

examples. Moreover, you can import fully functional apps from GitHub, right from the Create Project screen.

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