

MINI PROJECT (2021-22)

“BEING GLA” Project Report



Institute of Engineering & Technology

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Declaration

We hereby declare that the work which is being presented in the Bachelor of technology.

“**Being GLA**”, in partial fulfillment of the requirements for mini Project viva voce, is an authentic record of our own work carried by the team members under the supervision of our mentor Mr. Sharad Gupta.

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Certificate

This is to certify that the above statements made by the candidates are correct to the best of my/our knowledge and belief.

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INTRODUCTION

About the Project

Being GLA is an android application made to facilitate users with a solution so that user are able to take better health decisions. Whether you're looking to better understand your feelings or experiencing anxiety, depression, or high levels of stress, This application is designed to help you to feel better by connecting with counsellors. It is a hassle-free and pinpoint accurate platform with retrieving information of each and everything related to basic healthcare, including information of the best counsellors available. We also provide details of Counsellors to which you can consult and discuss all your queries and also ask for a counselling.

The main goal of the service is to make your decision making easy regarding mental health. At any time, search for therapists and treatments while remaining anonymous, and offer a number of ways to stay engaged, like know about your body mass, how to reduce your mental stress etc. Not the mental health app are meant to supplement a licensed therapist, it can be great tools to help you manage your mental health concerns and treatments.

This software is provided as an online only resource so that it may be continually extended and updated.

Motivation

Mental Health android application are a perfect platform for people to get knowledge about any particular problem. The basic objective of developing this project are:

- Ability to talk to a licensed mental health professional
- Conversations are private and secure.
- Allows you to connect with peers who understand what you're going through
- Therapists can diagnose and treat different conditions



Acknowledgement

The satisfaction that accompanies the successful completion of this project would be incomplete without the mention of the people who made it possible, without whose constant guidance and encouragement would have made efforts go in vain.

I consider myself privileged to express gratitude and respect towards all those who guided us through the completion of this project. I convey thanks to my project guide **Mr Manoj Varshney** of Computer Science and Engineering Department for providing encouragement, constant support and guidance which was of a great help to complete this project successfully.

Last but not the least, we wish to thank our parents for financing our studies in this college as well as for constantly encouraging us to learn engineering. Their personal sacrifice in providing this opportunity to learn engineering is gratefully acknowledged.

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Introduction

App development, also known as client-side development is the practice of that a user can see and interact with them directly. The challenge associated with app development is that the tools and techniques used to create the app change constantly and so the developer needs to constantly be aware of how the field is developing.

Developing a application we follow these steps:

- **Planning**, which involves identifying a need, consideration of solution options, and possibly considering the features of competing applications.
- **Analysis**, which involves documenting the functional requirements for the app and anticipating potential problems that may be encountered.
- **Design**, which involves defining how the app will work and what features and components it will have.
- **Construction**, which is where the actual programming occurs using the requirements and design as a guideline.
- **Testing**, which involves trying out the app looking for errors and confirming that documented requirements are met.
- **Implementation**, which involves making the app available for people to use.
- **Support**, which involves monitoring the user experience. Sometimes recommendations for revisions arise. If those recommendations are pursued, they'll go through the lifecycle also.

The objective of designing a app is to ensure that when the users open up the app they see the information in a format that is easy to read and relevant. This is further complicated by the fact that users now use a large variety of devices with varying screen sizes and resolutions thus forcing the designer to take into consideration these aspects when designing the app. They need to ensure that their app comes up correctly in different browsers (cross-browser), different operating systems (crossplatform) and different devices (cross-device), which requires careful planning on the side of the developer.

Pre-requisite

Hands-on knowledge of Java, Android Studio and Xml is essential before working on the concepts for making of application.

Technologies Used

Android Studio

Android Studio is the official Integrated Development Environment (IDE) for android application development. Android Studio provides more features that enhance our productivity while building Android apps. Android Studio was announced on 16th May 2013 at the Google I/O conference as an official IDE for Android app development. It started its early access preview from version 0.1 in May 2013. The first stable built version was released in December 2014, starts from version 1.0.

Features of Android Studio

- It has a flexible Gradle-based build system.
- It has a fast and feature-rich emulator for app testing.
- Android Studio has a consolidated environment where we can develop for all Android devices.
- Apply changes to the resource code of our running app without restarting the app.
- Android Studio provides extensive testing tools and frameworks.
- It supports C++ and NDK.
- It provides build-in supports for Google Cloud Platform. It makes it easy to integrate Google Cloud Messaging and App Engine.

These build files are visible to the top-level under Gradle Scripts. And the app module contains the following folders:

- **manifests:** It contains the AndroidManifest.xml file.
- **java:** It contains the source code of Java files, including the JUnit test code.
- **res:** It contains all non-code resources, UI strings, XML layouts, and bitmap images.

When you're developing for multiple form-factors, screen sizes, and resolutions, you need to verify that changes you make to your UI look great on every screen you support. With the Layout Validation window, you can preview layouts on different screens and configurations simultaneously, so you can easily ensure your app looks great across a range of devices. To get started, click on the Layout Validation tab in the top-right corner of the IDE.

Xml

XML stands for Extensible Markup Language. XML is a markup language much like HTML used to describe data. XML tags are not predefined in XML. We must define our own Tags. Xml as itself is well readable both by human and machine. Also, it is scalable and simple to develop. In Android we use xml for designing our layouts because xml is lightweight language so it doesn't make our layout heavy.

In this article we will go through the basic concepts of xml in Android and different XML files used for different purpose in Android. This will help you in writing a UI code to design your desired user interface.

1. Layout XML Files: Layout xml files are used to define the actual UI (User interface) of our application. It holds all the elements (views) or the tools that we want to use in our application. Like the Textviews, Buttons and other UI elements.

2. Manifest xml File (Mainfest.xml): This xml is used to define all the components of our application. It includes the names of our application packages, our Activities, receivers, services and the permissions that our application needs. For Example – Suppose we need to use internet in our app then we need to define Internet permission in this file.

The Relative Layout is very flexible layout used in android for custom layout designing. It gives us the flexibility to position our component/view based on the relative or sibling component's position. Just because it allows us to position the

component anywhere we want so it is considered as most flexible layout. For the same reason Relative layout is the most used layout after the Linear Layout in Android. It allow its child view to position relative to each other or relative to the container or another container.

JAVA

Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. It is a computing platform for application development. Java is fast, secure, and reliable, therefore. It is widely used for developing Java applications in laptops, data centers, game consoles, scientific supercomputers, cell phones, etc. Java plays an important role in development of Android applications because business logic is written in Java. You can say that knowledge of core java is must for the development of android application. Knowledge of advance Java is a plus point for the development. With the knowledge of advance Java, you can add new features to the application. Let's start to discuss the role of Java in android development by taking a look at the features of Java which makes it popular language for the Android development. Java is platform independent, it means that Java code can run on any platform. It doesn't require the source code on that machine at which platform, where it will be executed. A class file (.class file) can be executed on any platform i.e Windows, Linux, Mac etc. It means your code is portable.

Many more reasons are there which makes Java important and mostly used. To develop Android application, it plays a very important role. All basic concepts of Java are used in development. Use of concepts of advance Java provides amazing features in our application

You can Recently a new official language is declared named kotlin which is also very much similar as Java. To learn kotlin also, you should have a sound knowledge of core Java. So, we have seen that knowledge of Java is must of Android development and its role is indispensable in app development.

Google Firebase

Google Firebase is a Google-backed application development software that enables developers to develop iOS, Android and Web apps. Firebase provides tools for tracking analytics, reporting and fixing app crashes, creating marketing and product experiment.

Firebase offers a number of services, including:

- Analytics – Google Analytics for Firebase offers free, unlimited reporting on as many as 500 separate events. Analytics presents data about user behavior in iOS and Android apps, enabling better decisionmaking about improving performance and app marketing.
- Authentication – Firebase Authentication makes it easy for developers to build secure authentication systems and enhances the sign-in and onboarding experience for users. This feature offers a complete identity solution, supporting email and password accounts, phone auth, as well as Google, Facebook, GitHub, Twitter login and more.
- Cloud messaging – Firebase Cloud Messaging (FCM) is a cross-platform messaging tool that lets companies reliably receive and deliver messages on iOS, Android and the web at no cost.
- Realtime database – the Firebase Realtime Database is a cloud-hosted NoSQL database that enables data to be stored and synced between users in real time. The data is synced across all clients in real time and is still available when an app goes offline.
- Crashlytics – Firebase Crashlytics is a real-time crash reporter that helps developers track, prioritize and fix stability issues that reduce the quality of their apps. With crashlytics, developers spend less time organizing and troubleshooting crashes and more time building features for their apps.
- Performance – Firebase Performance Monitoring service gives developers insight into the performance characteristics of their iOS and

Android apps to help them determine where and when the performance of their apps can be improved.

- Test lab – Firebase Test Lab is a cloud-based app-testing infrastructure. With one operation, developers can test their iOS or Android apps across a variety of devices and device configurations. They can see the results, including videos, screenshots and logs, in the Firebase console.

Use cases

Firebase use cases include:

- Create onboarding flows – developers can give users a quick, intuitive sign-in process using Firebase Authentication. They allow users to sign into their apps via their Google, Twitter, Facebook or GitHub accounts in less than five minutes. Developers can also track each step of their onboarding flows to enhance the user experience. Additionally, developers can use Google Analytics for Firebase to log events at each step of their onboarding flows, create funnels to determine where users are dropping off and use remote configuration to make changes to their apps to see how those changes affect conversions.
- Customize a “Login” screen – developers can use personalization to give every user the best experience by customizing the initial screen based on a user’s preferences, usage history, location or language. Developers can define audiences based, in part, on user behaviors and show targeted content to each audience.
- Progressively roll out new features – developers can launch new features with minimal risk by first testing those features on a few users to see how they work and how users respond. Then, when developers are satisfied, they can roll out their apps to the rest of their users.

Requirements

a). Software Requirements:

- Technology Implemented: Android Studio
- Languages/Technologies Used: JAVA,XML.
- Software use for Backend: Google Firebase.
- IDE Used: Android Studio
- Device: Android
- GitHub: GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere. GitHub Repository: A GitHub repository can be used to store a development project. It can contain folders and any type of files (HTML, CSS, JavaScript, Documents, Data, Images). A GitHub repository should also include a license file and a README file about the project. A GitHub repository can also be used to store ideas, or any resources that you want to share.

b). Hardware Requirements:

- Processor Required: Intel i5
- Operating System: Windows 10
- RAM: 4GB
- Hardware Devices: Computer System
- Hard Disk: 256GB

User Interface

1. SplashScreen



2.Login Screen

3.OTP Screen



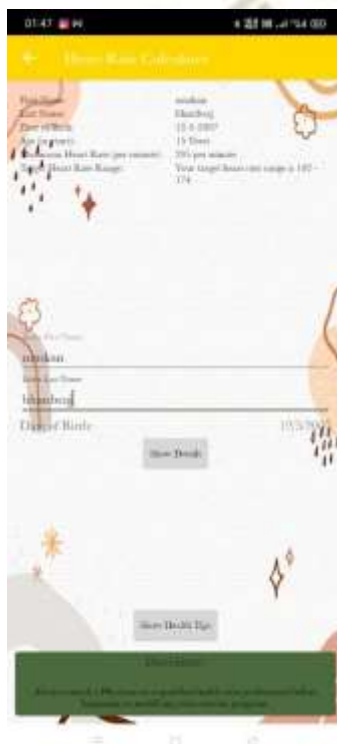
4.MainActivity



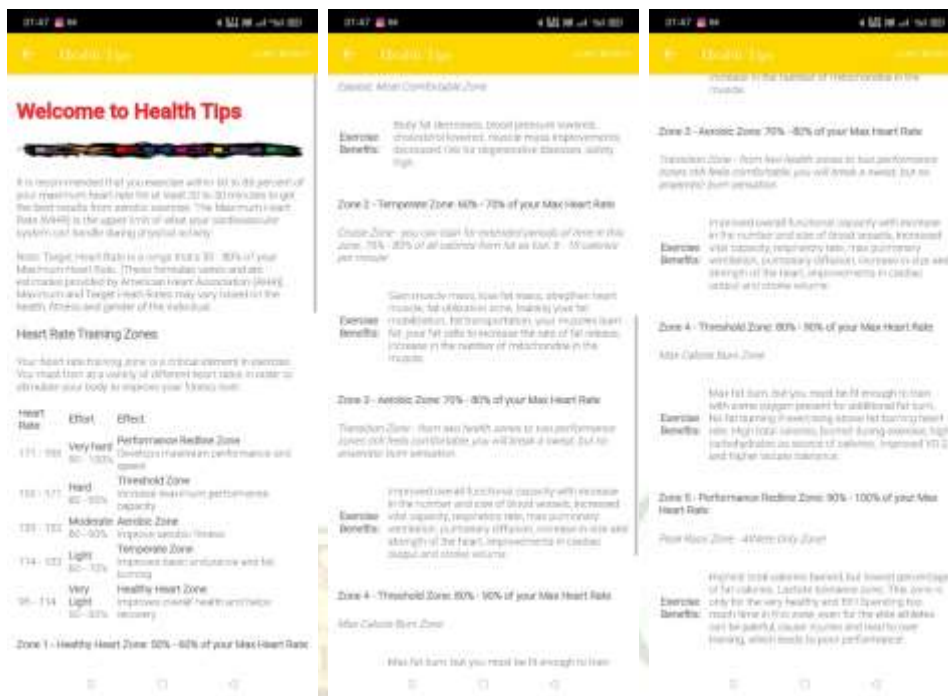
5.BMI Activity



6.Heart Rate Activity



7. HealthTipActivity



8. Counsellor Call



IMPLEMENTATION AND USER INTERFACE

Creating an Application with screen sketches is the best way to communicate your vision to the App. Making the concept clear to the developer is probably the most important factor in successful App development. Yet it is one of the most common problems or obstacles in a App development outsourcing project. No matter what the marketing and profit goals are or if you are outsourcing an app for your personal use, you need to fully design and document the app concept if you expect a programmer to make your vision a reality. Developers are not mind readers and even descriptions given during conversations can be very fleeting or interpreted differently. Fully documenting your concept, therefore, leaves little to chance.

The two most important things to do are:

- A) make a comprehensive description of how the Application works and what it does (functionality) and
- B) create a comprehensive description of what the user sees and does (look and feel).

Implementation of the Being GLA

Implementation of Being GLA was carried out in fragments.

First of all we designed a Splash Screen. Screen consisted of – \

1. Login With OTP

- A navbar positioned at the top with login with OTP
- In centre,a Country Code Icon
- A Edittext where we have Enter the mobile no.
- Then at the bottom a Gen OTP named button.

2.After that we create many screens in which many functions done by them-

- BMI Calculator
- Heart Rate calculator
- Counsellor Call
- Emergency Call
- Sleep ASMR

3.In the backend we connected Firebase for database operations using java.

Where we also connected details of users in backend.

- We make a config file in which our contact no. is stored.
- That file contains then how much time we login by contact,it shows all details regarding login.
- Our app consists of more than10 beautifully designed screens . Which helps user to provide deep information about relevant mental health issues.

Conclusion

We have completed our project within time limit with the coordination of our team members under the supervision of our mentor Mr. Manoj Varshney

Our project repository is available at:



Bibliography

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CERTIFICATES



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This is to certify that

Gyanendra Pratap Rai

has demonstrated an understanding of the solutions and technologies covered in the Certificate in Android with Core Java course and has successfully completed the training programme held during 15th June, 2021 - 31st August, 2021

A handwritten signature in black ink, appearing to read "SANTU", with a stylized flourish at the end.

Santu Purkait
Director
Netcamp Solutions Private Limited

Thank You

