

A
Summer Internship Report
On
"Android App Development"

(IT446 – Summer Internship - II)

Prepared by
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Under the Supervision of
Prof. Nirav Bhatt

Submitted to
Charotar University of Science & Technology (CHARUSAT)
for the Partial Fulfillment of the Requirements for the
Degree of Bachelor of Technology (B.Tech.)
for Semester 7

Submitted at



SMT. KUNDANBEN DINSHA PATEL DEPARTMENT OF
INFORMATION TECHNOLOGY

(NBA Accredited)

Chandubhai S. Patel Institute of Technology (CSPIT)
Faculty of Technology & Engineering (FTE), CHARUSAT
At: Changa, Dist: Anand, Pin: 388421.

July, 2019

DECLARATION BY THE CANDIDATES

We hereby declare that the project report entitled “**Android App Development**” submitted by us to Smt. Kundanben Dinsha Patel Department of Information Technology, Changa in partial fulfilment of the requirement for the award of the degree of **B. Tech** in Information Technology, from Department of Information Technology, CSPIT/FTE, is a record of bonafide **IT446 Summer Internship-II** carried out by me under the guidance of **Mr. Akash Padhiyar** We further declare that the work carried out and documented in this project report has not been submitted anywhere else either in part or in full and it is the original work, for the award of any other degree or diploma in this institute or any other institute or university.

Nirmal Kashyap (16IT059)

Mr. Akash Padhiyar
CEO,
Akash Technolabs.

CERTIFICATE

This is to certify that the report entitled “**Android App Development**” is a bonafied work carried out by **Nirmal Kashyap** under the guidance and supervision of **Prof. Nirav Bhatt & Mr. Akash Padhiyar** for the subject **Summer Internship-II (IT446)** of 7th semester of Bachelor of Technology in **Department of Information** at Chandubhai S. Patel Institute of Technology (CSPIT), Faculty of Technology & Engineering (FTE) – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred by the examiner(s).

Under the supervision of,

Prof. Nirav Bhatt
Assistant Professor
Smt. Kundanben Dinsha Patel Department of
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CSPIT, FTE, CHARUSAT, Changa, Gujarat

Mr. Akash Padhiyar,
CEO,
Akash Technolabs.

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CHARUSAT, Changa, Gujarat.

Chandubhai S. Patel Institute of Technology (CSPIT)
Faculty of Technology & Engineering (FTE), CHARUSAT

At: Changa, Ta. Petlad, Dist. Anand, Pin: 388421. Gujarat.

Acknowledgement

I got a golden opportunity to put out my best skills forward and do internship to experience the real-life problems and the real-life scenario of what can happen in the IT sector. I am sincerely thankful to many people. I would like to acknowledge them for their cooperation for making the internship and project very smooth for me.

I would like to express my gratitude towards our training guide **Mr. Akash Padhiyar** (CEO, Akash Technolabs, Ahmedabad) for placing complete faith and confidence in my ability to carry out this project and for providing me the time and his valuable guidance throughout the internship by constructive criticism and his constant interest. I am also thankful to **CHARUSAT University** for giving me a chance and helping me to undergo internship during the summer break.

Nirmal Kashyap (16IT059)

Abstract

In this era of technology, the human life is made more comfortable and full of ease, thanks to the rapid development in the technology and science sector. Expanding the business in the world full of competition, is thus made difficult. To outsmart the competitors and shine among them, one needs to be the best in their business, be unique and have good skills of campaigning their business and spread a word about it.

Here I had learned and implemented various independent modules in Android. The applications of many of these modules can be clearly seen in our day to day life. For e.g. Text to Speech and Speech to Text, Google Maps, SMS and Calls from within the Android apps, jumping from one activity to other or even other application itself i.e. uses intents, also uses various UI widgets like Rating bar, Progress bar and dialog, Date and Time picker, etc. even Sign In and Sign Ups, Splash screens, Animations and a lot more. Thus here I have implemented all these various applications separately as independent modules.

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Chapter 1. DESCRIPTION OF THE COMPANY

1.1 ABOUT Akash Technolabs:

- ☐ We have rich experience of 7+ years in offering Website Design, Web Development, CMS, Ecommerce Solutions, Mobile Apps and Digital Marketing Services to business of all statures whether you are a small business or a corporate company.
- ☐ Our team of young and skilled developers have expertise to deliver the perfect web and mobile apps solutions...
- ☐ Akash Technolabs offers experienced and comprehensive help for a wide range of business needs and can help you to work smarter and reach your goals. Have a look at the professional services Akash Technolabs offers, and let's talk.
- ☐ The location of the company is as under:
K/6,Shree Krishna Center Above
Crossword Mithakhali Six Road,
Navrangpura Ahmedabad,Gujarat-380009
- ☐ I was working under Mr. Ronald Macwan during the days of my internship where I got to learn about Android and he guided me throughout the completion of my internship period.
- ☐ The services offered by Akash Technolabs are Android and iOS App development , E-commerce development, WordPress development, CMS development , Domain & Hosting , SEO & Digital Marketing.

1.2 COMPANY PROFILE:

Company name:	Akash Tecchnolabs
Company website:	https://akashtechlabs.com/
Company email id:	info@akashtechlabs.com
Company address:	K/6,Shree Krishna Center Above Crossword Mithakhali Six Road, Navrangpura Ahmedabad,Gujarat-380009
Number of employees:	15
Head office address:	Ahmedabad
Contact person name:	Akash Padhiyar
Contact person phone number:	+91 99786 21654
Contact person email id:	info@akashtechlabs.com
HR name:	Akash Padhiyar
HR phone number:	+91 99786 21654
HR email id:	info@akashtechlabs.com
Technology:	Android, iOS, PHP, E-commerce Development, Wordpress , CMS, SEO & Digital Marketing

Chapter 2. INTRODUCTION

2.1 PURPOSE OF SUMMER INTERNSHIP:

- The purposes of summer internship for us include the following:

1. Learn more about our field or industry:

Along with job shadows and informational interviews, internships are one of the best ways to truly learn about our field from a real-world perspective. While the classroom certainly teaches us important information, there's something different about implementing those teachings with a real client or customer.

2. Apply knowledge learned in the classroom:

Again, there's a big difference between learning about strategies and tactics and applying them. Interning helped us learn how our classroom knowledge applies to real situations and reinforces concepts taught in classes.

3. Gain valuable work experience:

Internship helped us get this real-world experience while still in college. Internship programs are a great way to generate more work samples for our professional portfolio and gave us real accomplishment stories for our resume and online profiles.

4. Decide if this is the right path for us:

Working for a company in our industry can give us valuable insight into whether the industry is the right choice for us. It's best to know as early as possible, and an internship can help us do that.

5. Develop and build upon skills:

Learning new skills in an internship can help us in future employment opportunities and might give us a leg up on our competition in future application processes.

6. Gain valuable networking contacts:

Another benefit to completing an internship is the contacts that we made. Networking is often one of the best ways to land a new job and a primary way to learn about unadvertised job opportunities.

7. Learn about the world of work:

When we choose to intern at a company, we'd experience first-hand what it's like to work in an office, interact with supervisors and co-workers, and handle customers or clients.

2.2 Android Introduction:

Android is a software package and Linux based operating system for mobile devices such as tablet computers and smartphones.

It is developed by Google and later the OHA (Open Handset Alliance). Java language is mainly used to write the android code even though other languages can be used.

The goal of android project is to create a successful real-world product that improves the mobile experience for end users.

There are many code names of android such as Lollipop, Kitkat, Jelly Bean, Ice cream Sandwich, Froyo, Eclair, Donut etc.

Features of Android

The important features of android are given below:

- 1) It is open-source.
- 2) Anyone can customize the Android Platform.
- 3) There are a lot of mobile applications that can be chosen by the consumer.
- 4) It provides many interesting features like weather details, opening screen, live RSS (Really Simple Syndication) feeds etc.

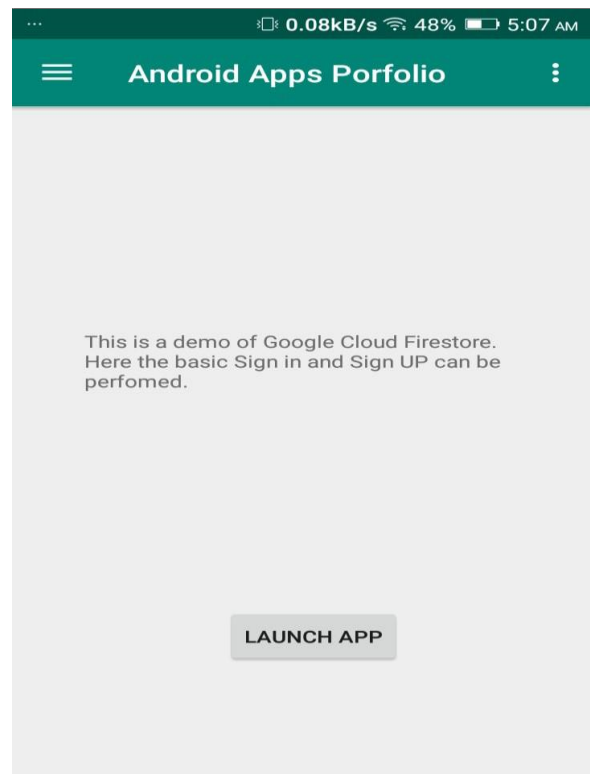
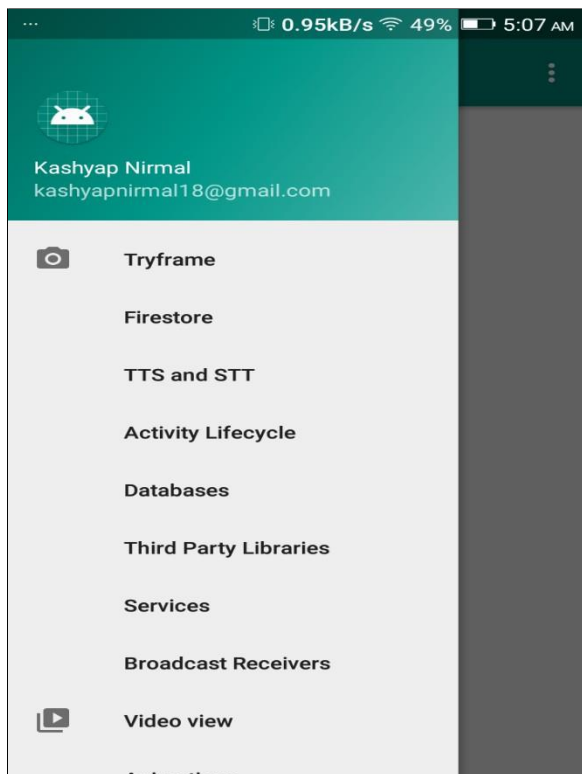
It provides support for messaging services(SMS and MMS), web browser, storage (SQLite), connectivity (GSM, CDMA, Blue Tooth, Wi-Fi etc.), media, handset layout etc.

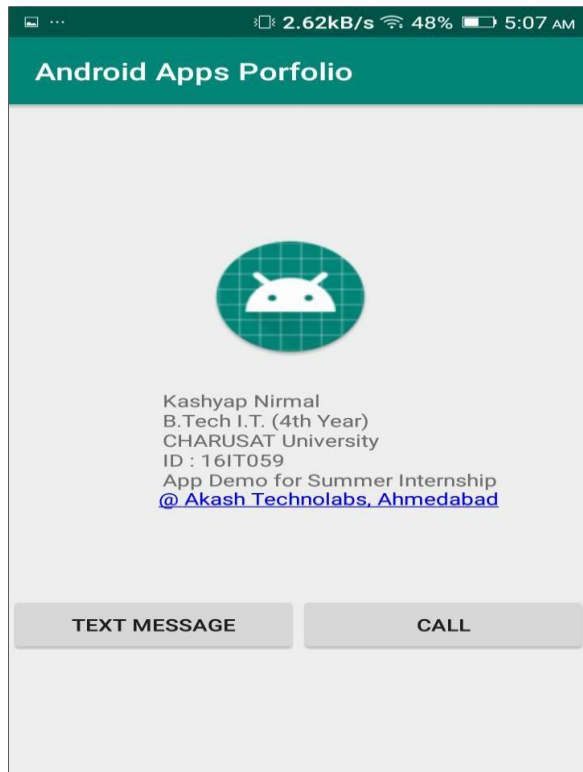
There are many android applications in the market. The top categories are:

- Entertainment
- Tools
- Communication
- Productivity
- Personalization
- Music and Audio
- Social
- Media and Video
- Travel and Local etc.

2.3 GENERAL INFORMATION ABOUT THE WORK CARRIED OUT:

- During the first few days, I was assigned the task to brush up my skills on Android using Android Studio using Java as the back end programming language and create small demo apps for the basics.
- Here I have learned many things but have implemented them as independent modules. The things were like Activity Life Cycle, Fragments, Intents, UI widgets, Styles and Themes, Drawables, Speech to Text and Text to Speech, Services, , Broadcast Receiver, Tryframe, Google Firestore , etc.





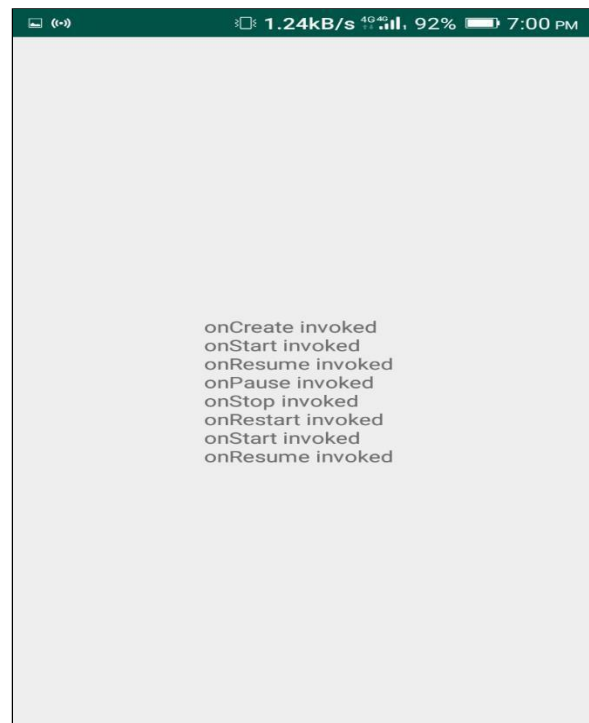
- Activity Life cycle methods:

The android Activity is the subclass of ContextThemeWrapper class. The 7 lifecycle method of Activity describes how activity will behave at different states.

- I. **onCreate()**
- II. **onStart()**
- III. **onResume()**
- IV. **onPause()**
- V. **onStop()**
- VI. **onRestart()**
- VII. **onDestroy()**

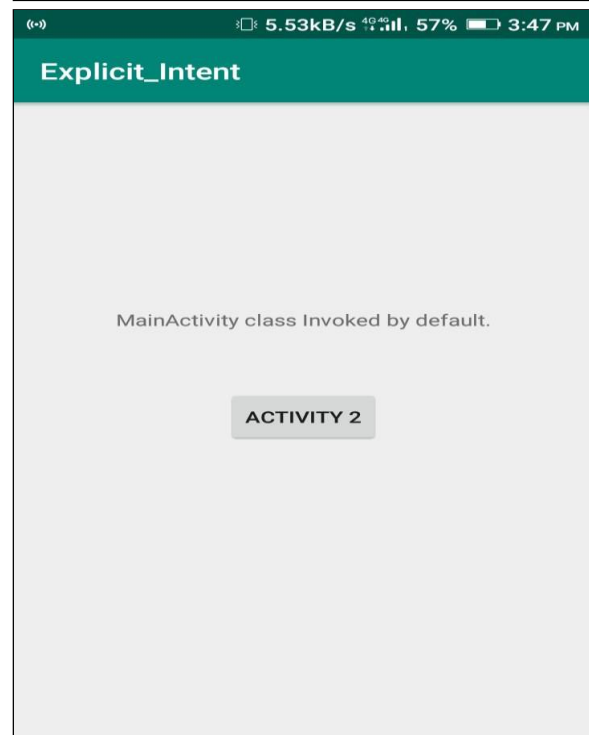
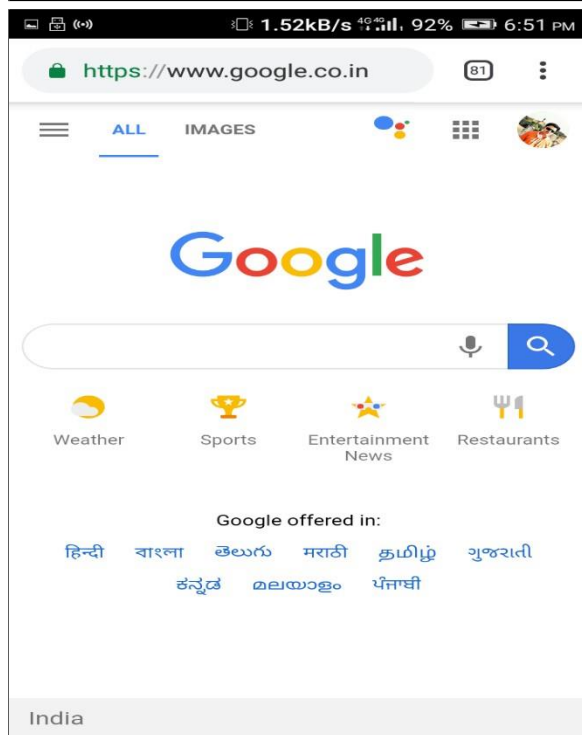
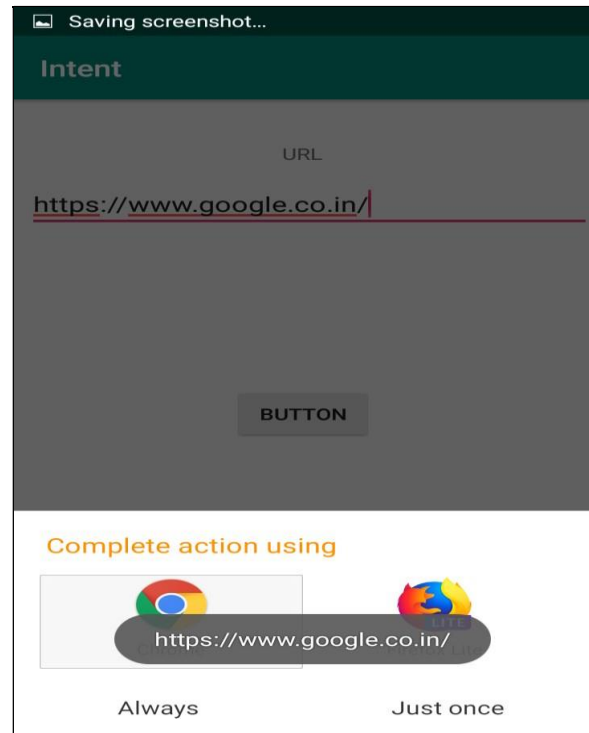
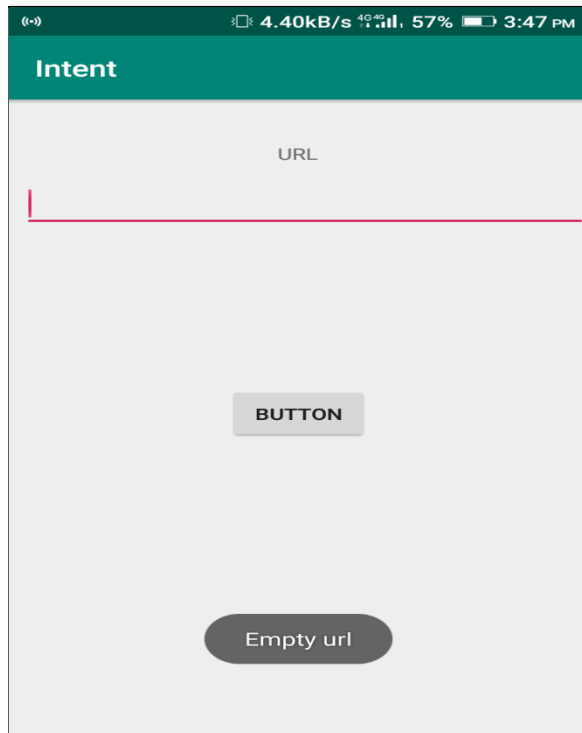
Here the **onCreate** is invoked only once when an app is launched for the 1st time. After that **onStart** and **onResume** are invoked always. **onPause** and **onStop** are called when the app may be interrupted. And once when the app is uninterrupted again **onRestart** and **onStart** are invoked. **onDestroy** is invoked when the app is sent back as background app.

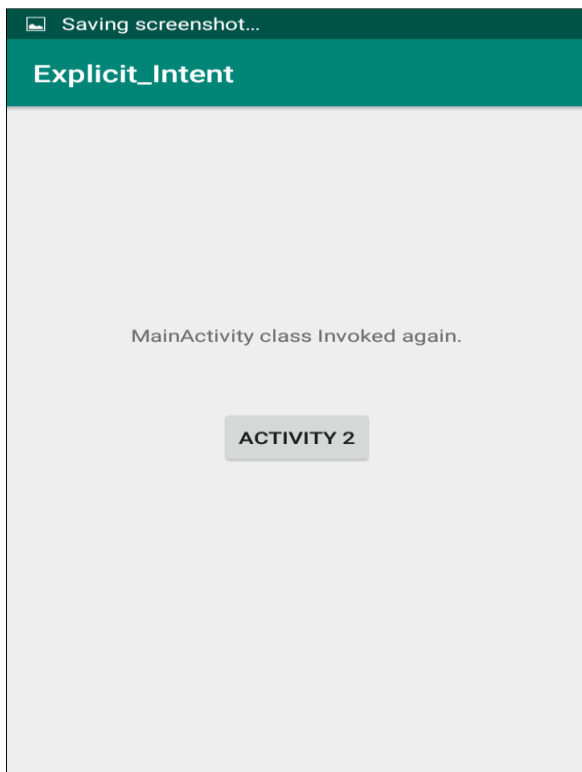
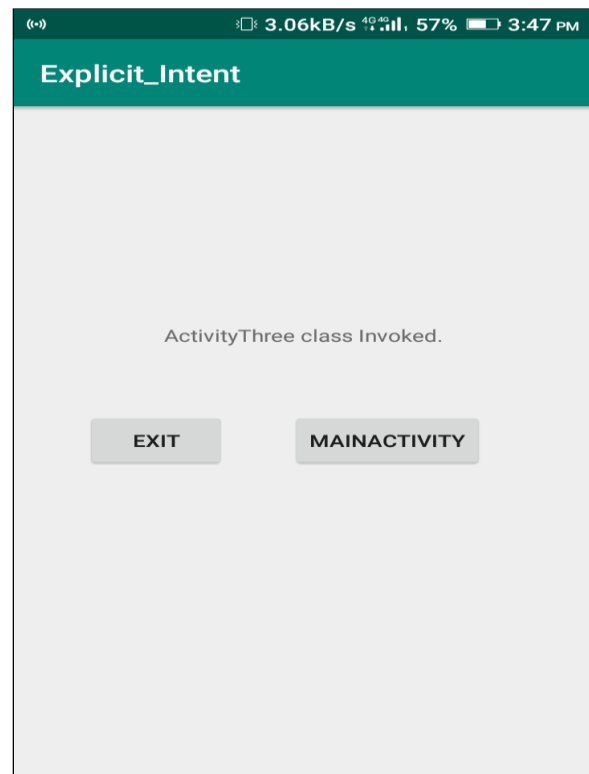
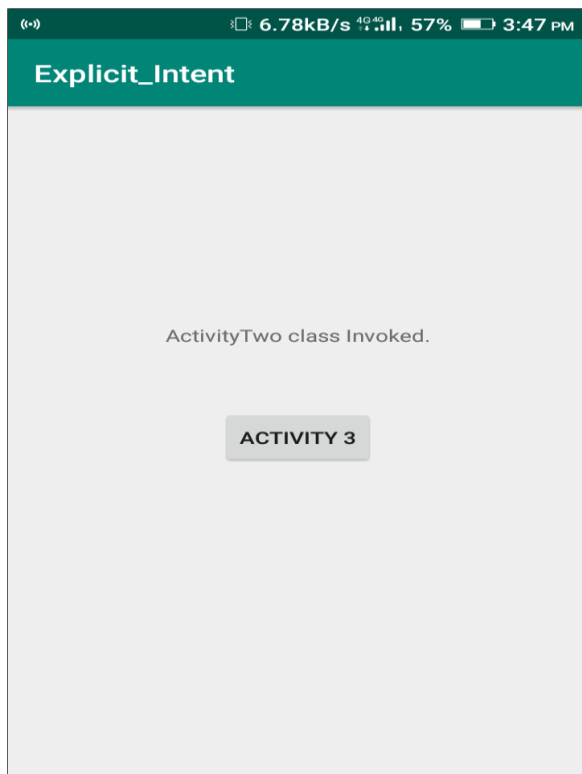
- Below are the few snapshots of it:

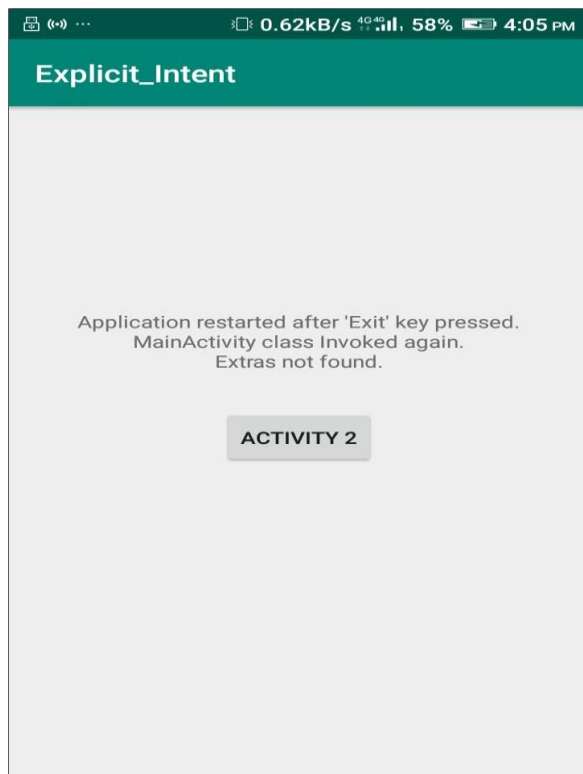


□ Intents:

Intents can be implicit and explicit. Intents can be used for data passing among activities, launching any activity, launching web page from URL, performing many various activities maybe like Calling, Sms etc.

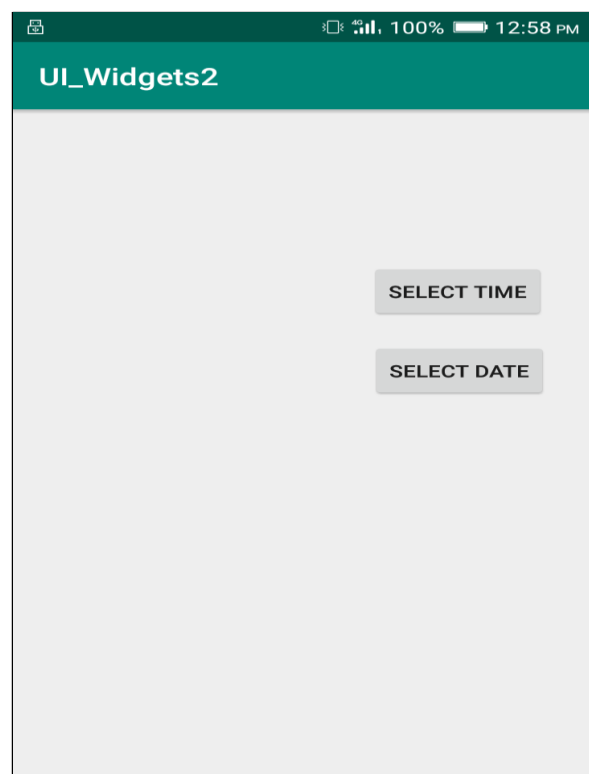
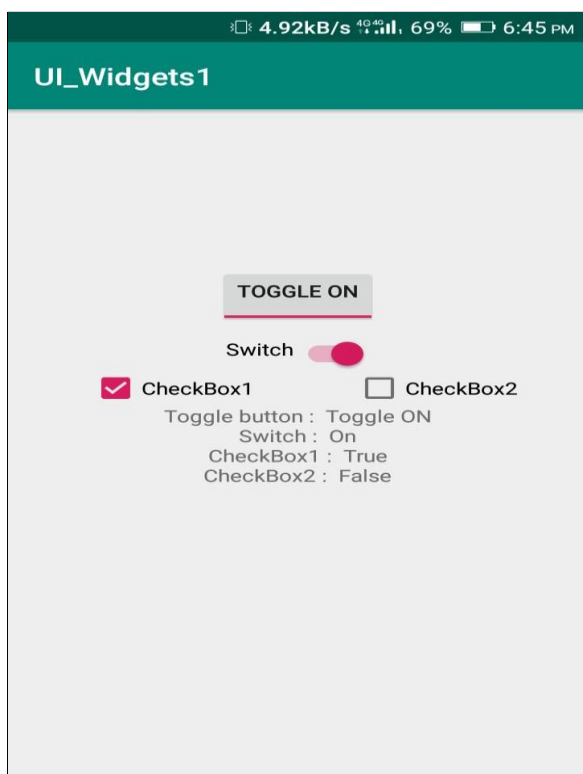


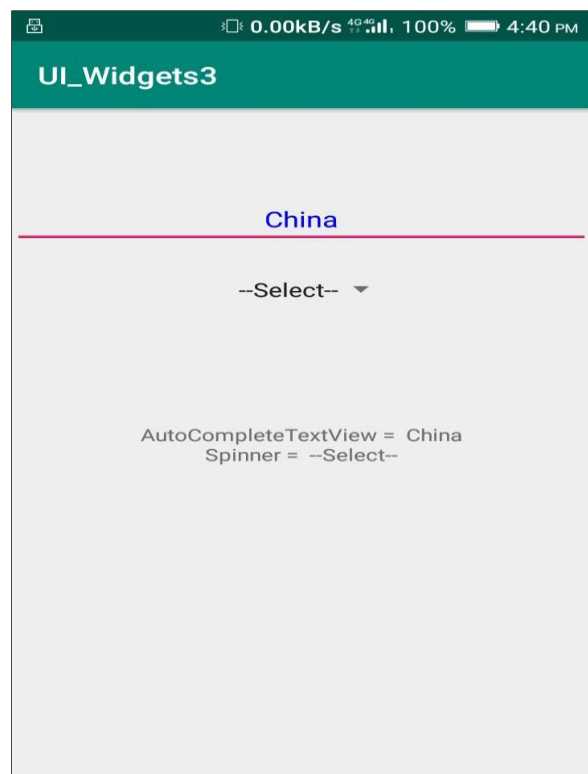
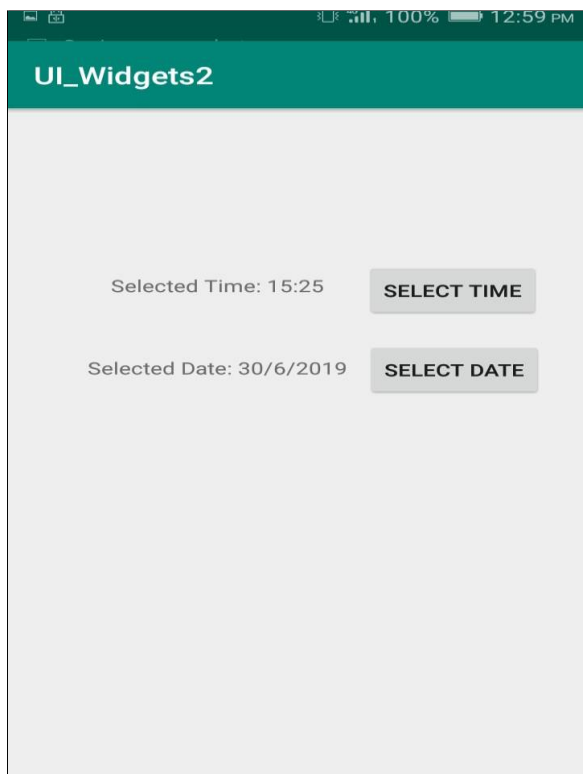
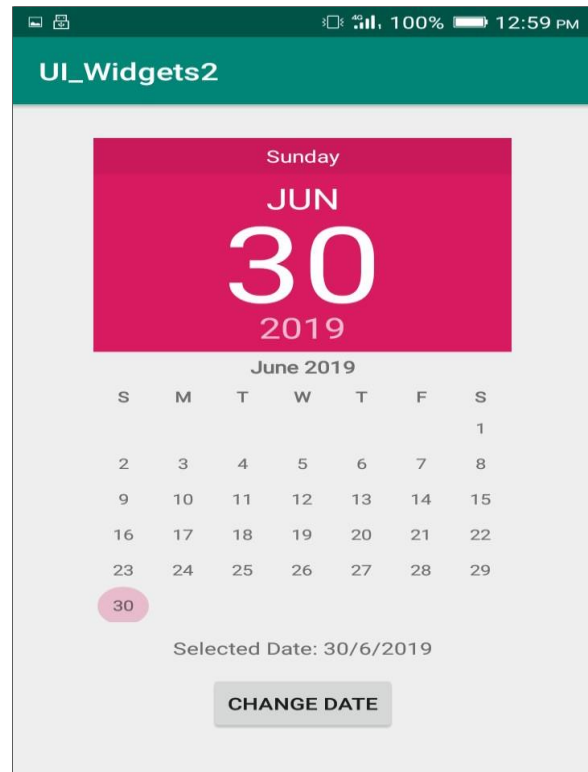
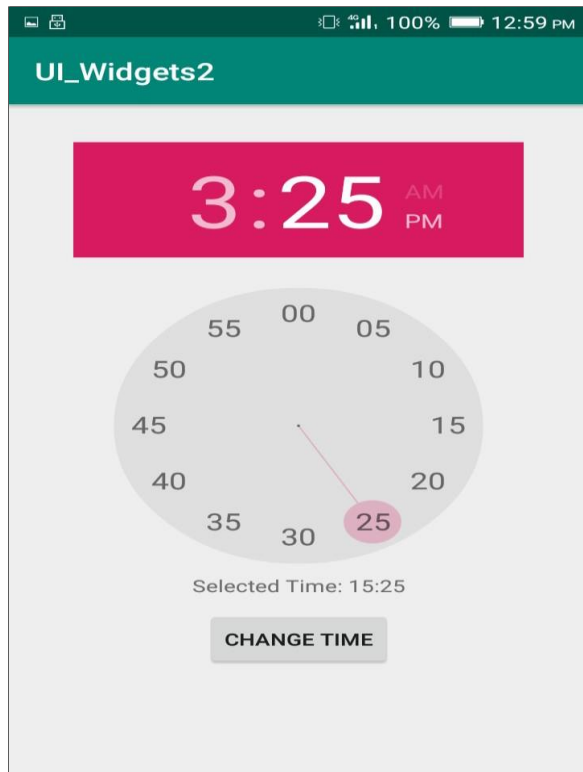


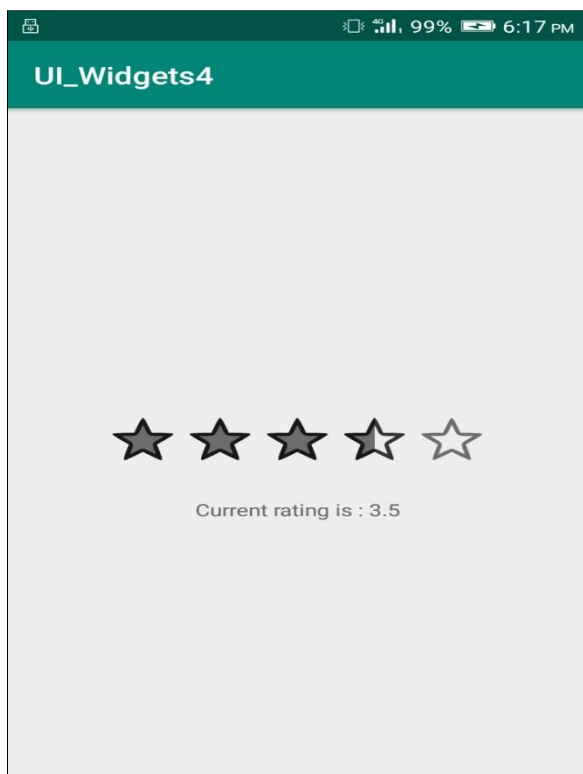
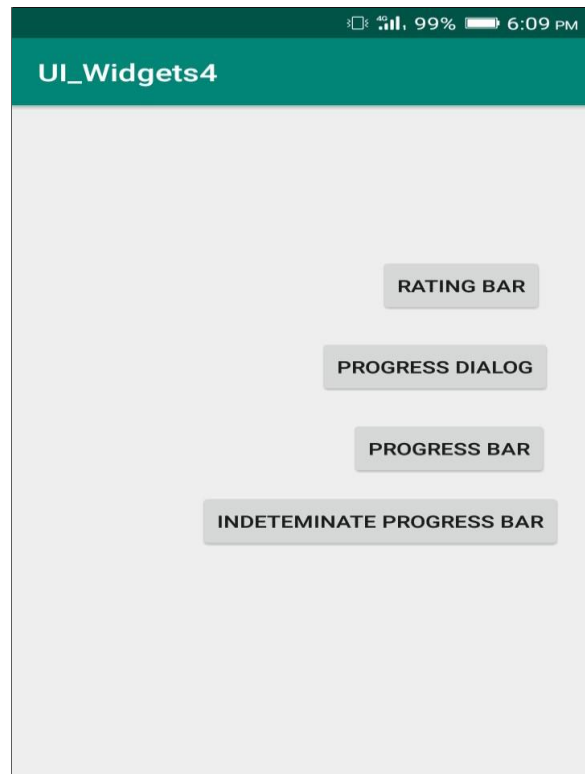
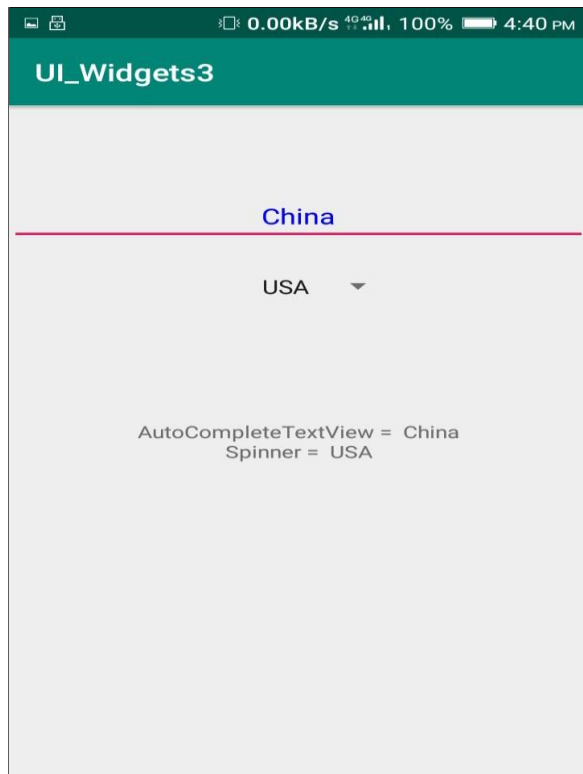


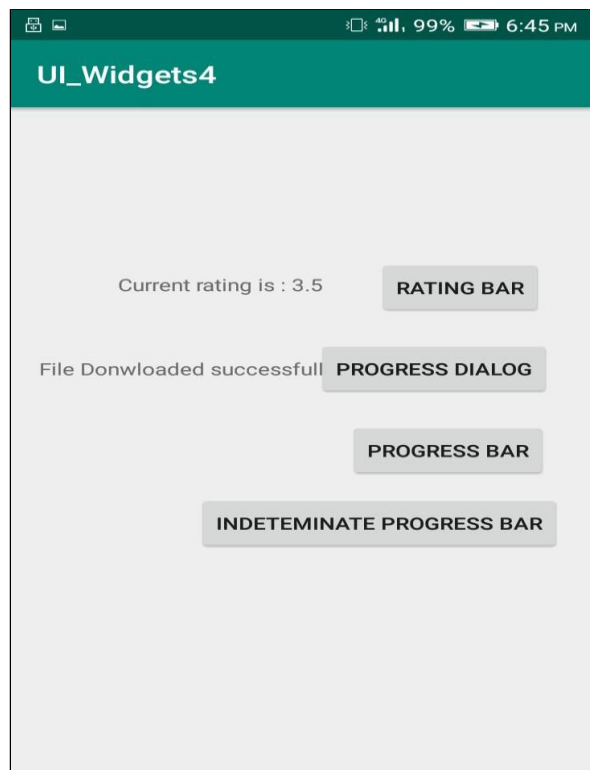
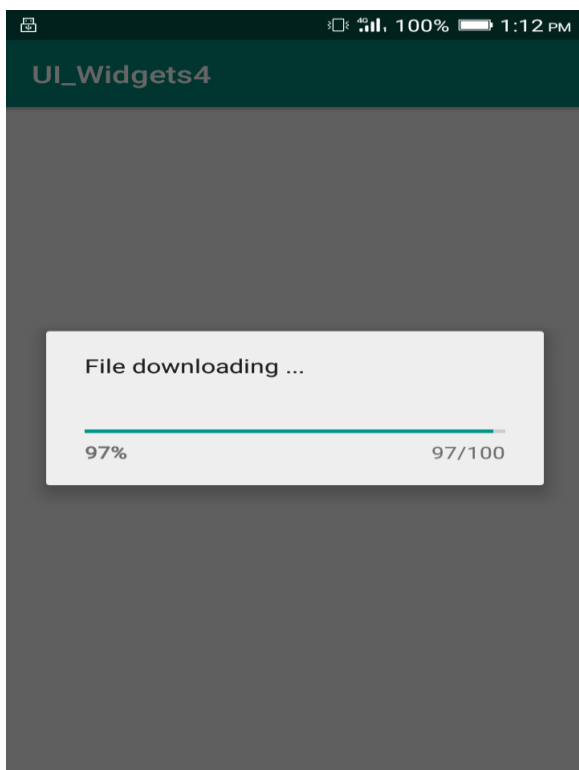
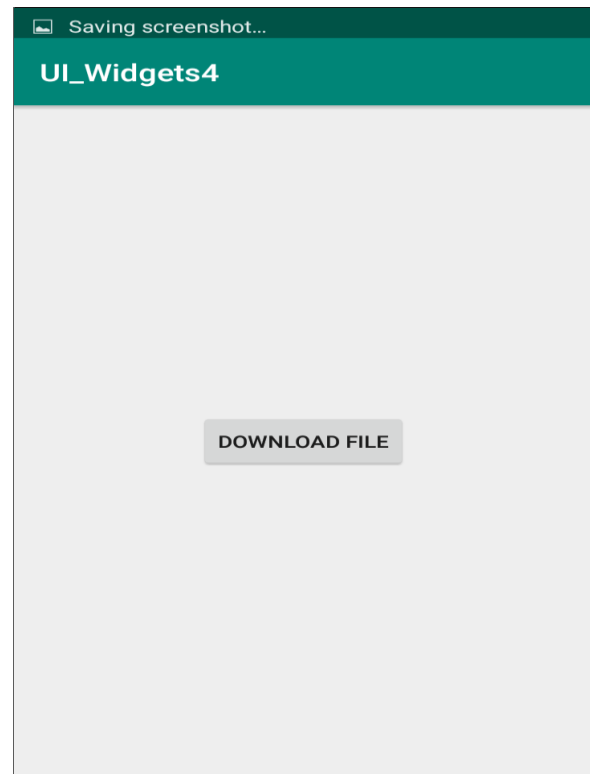
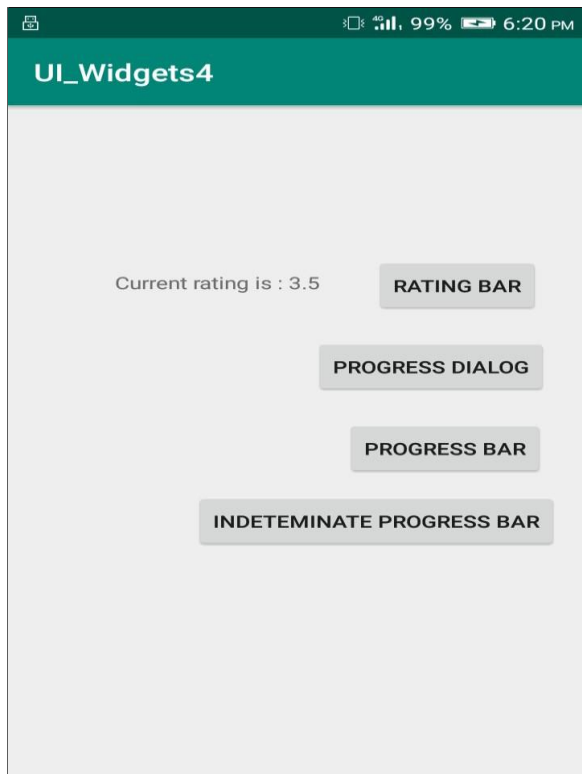
□ UI Widgets:

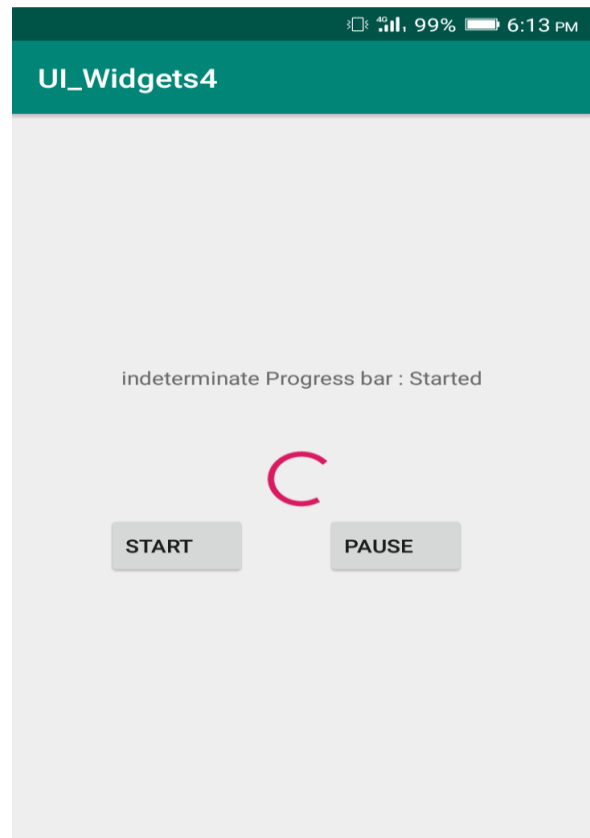
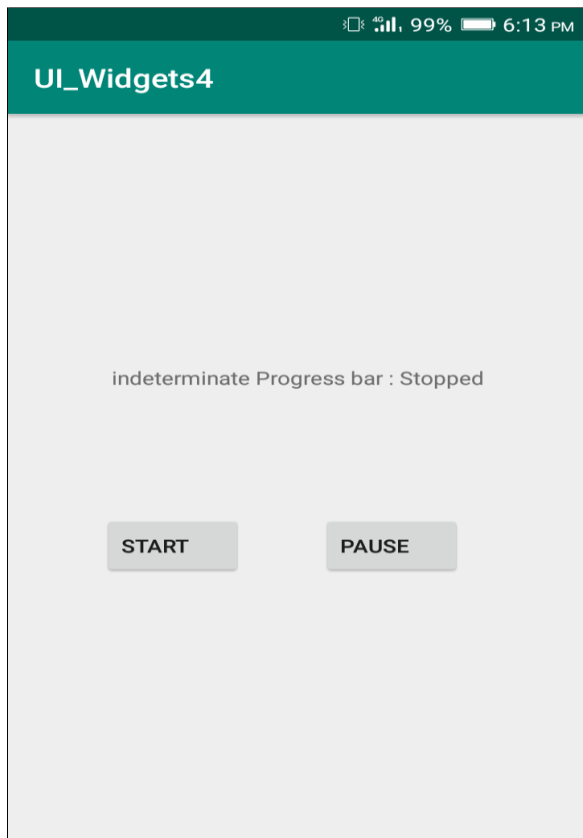
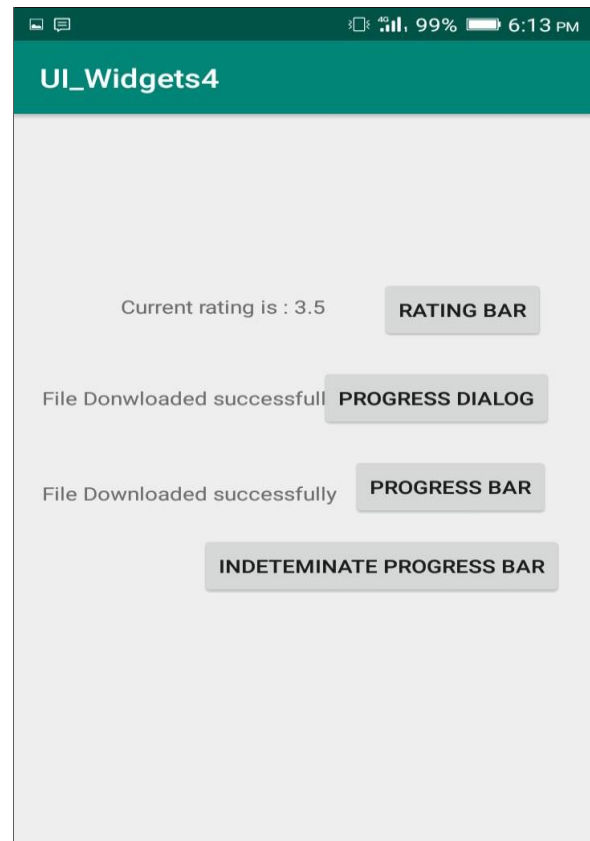
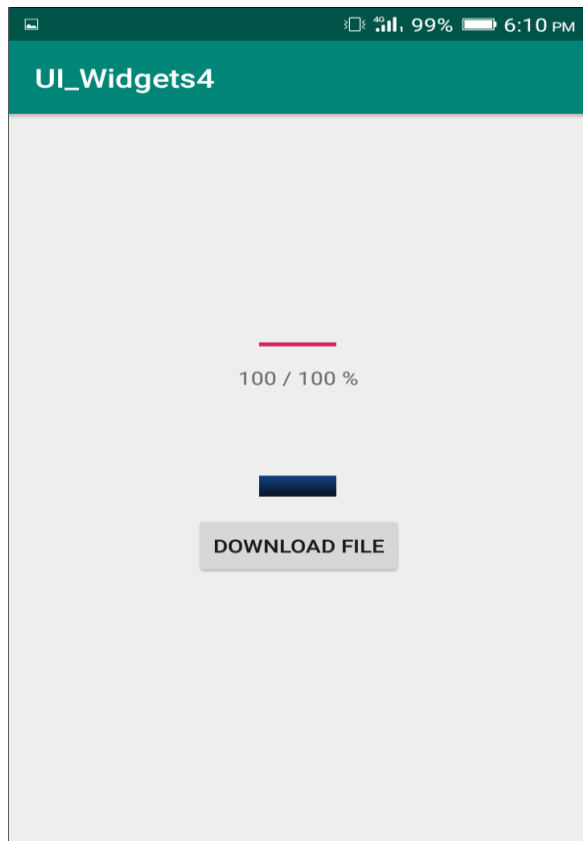
All the UI widgets have their independent usage and importance.



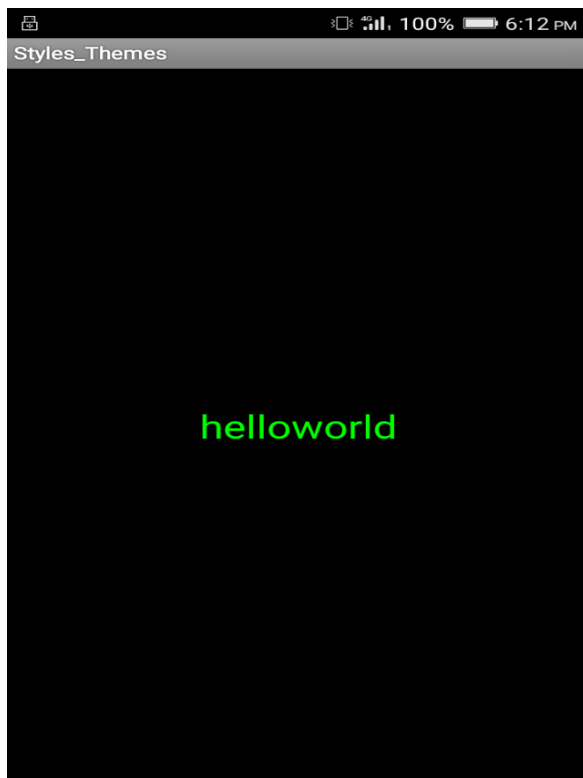




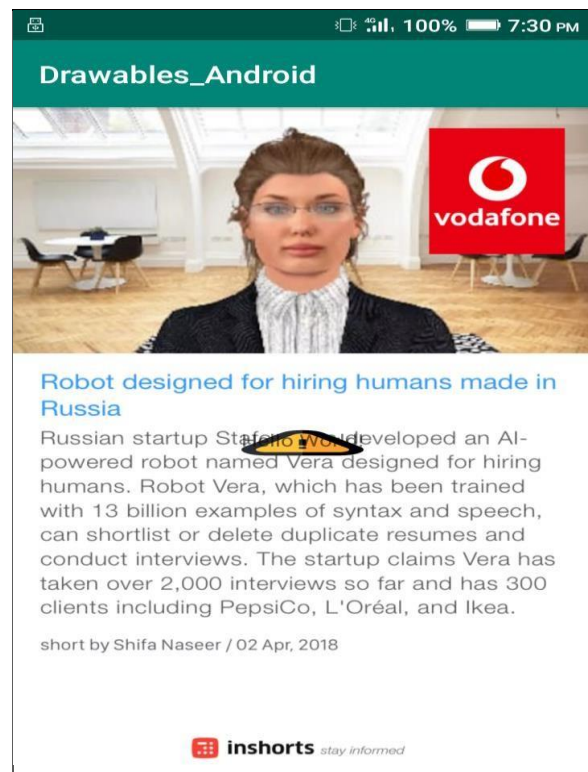
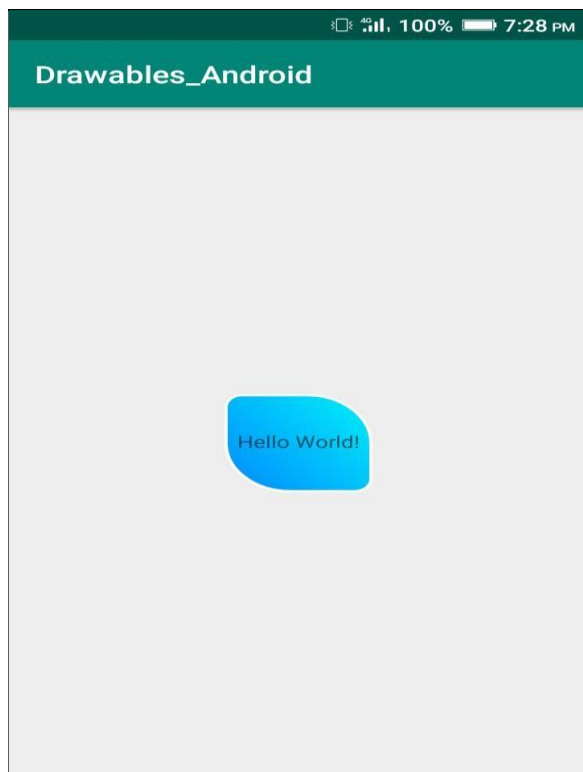




□ Styles and Themes

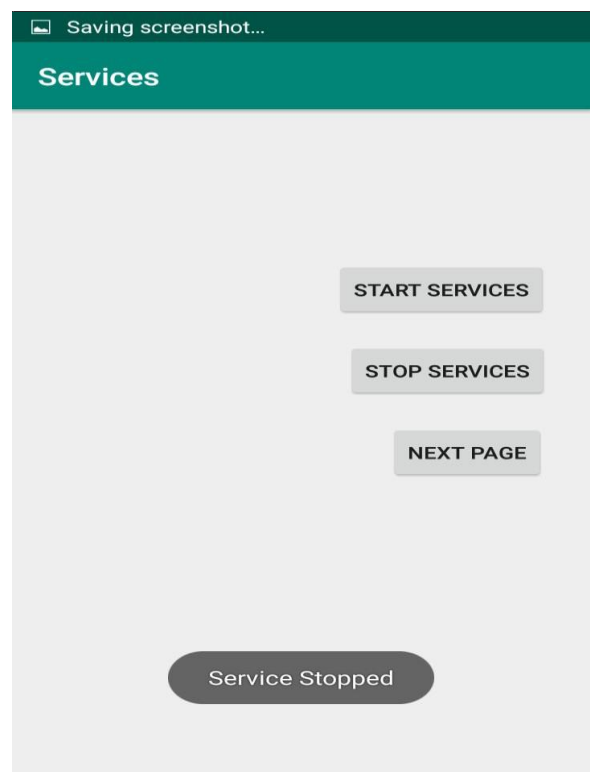
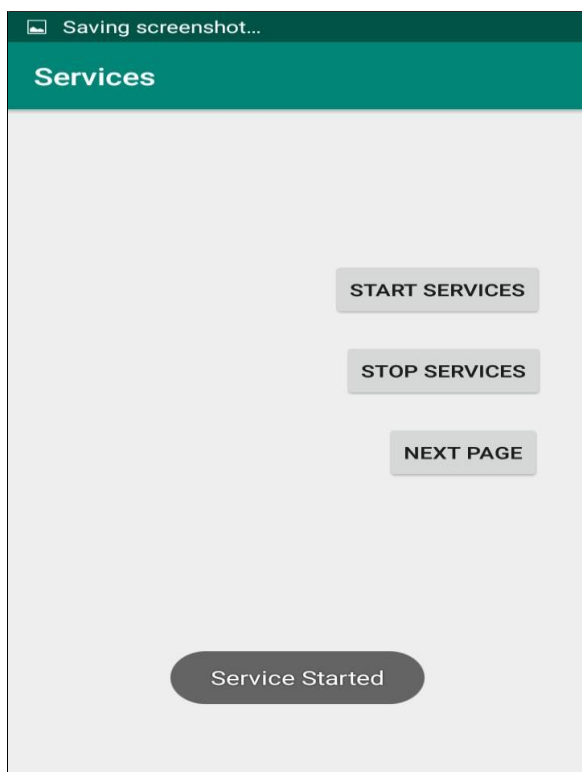
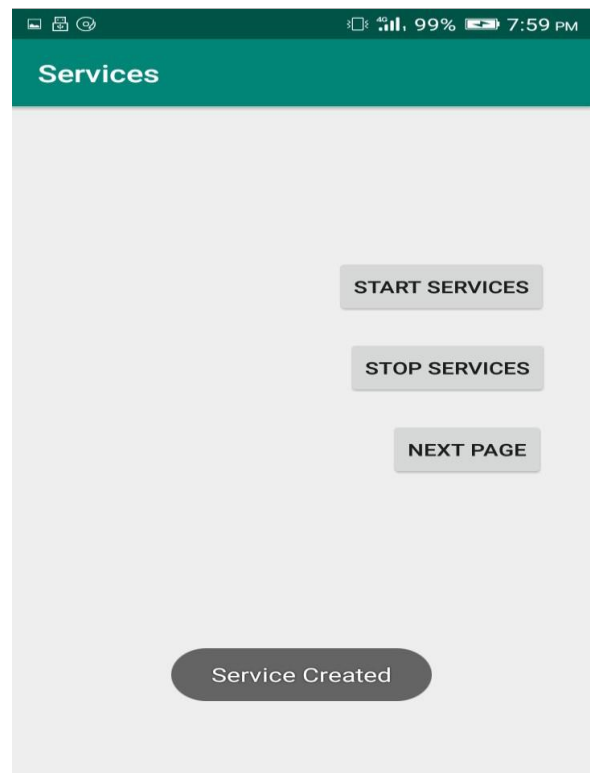
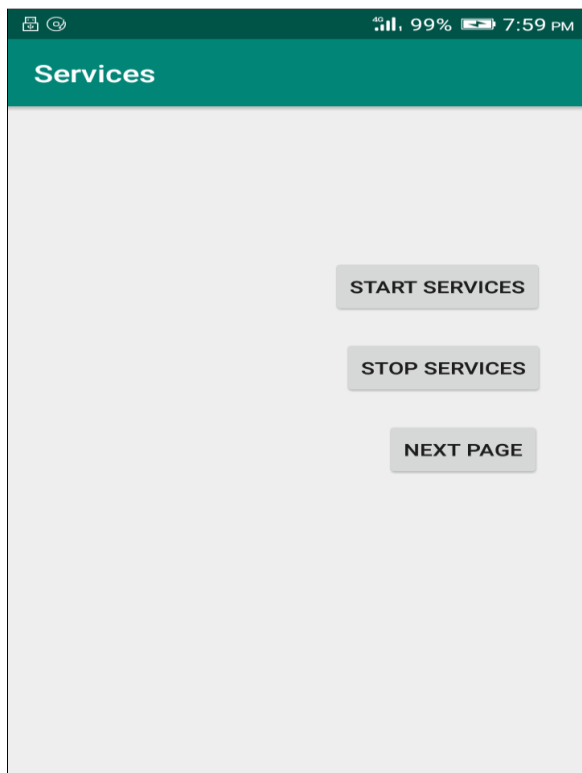


□ Drawables:



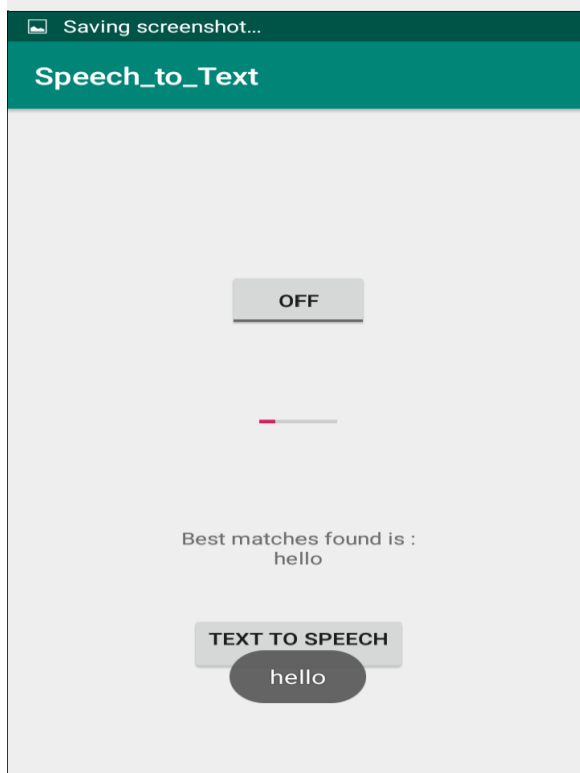
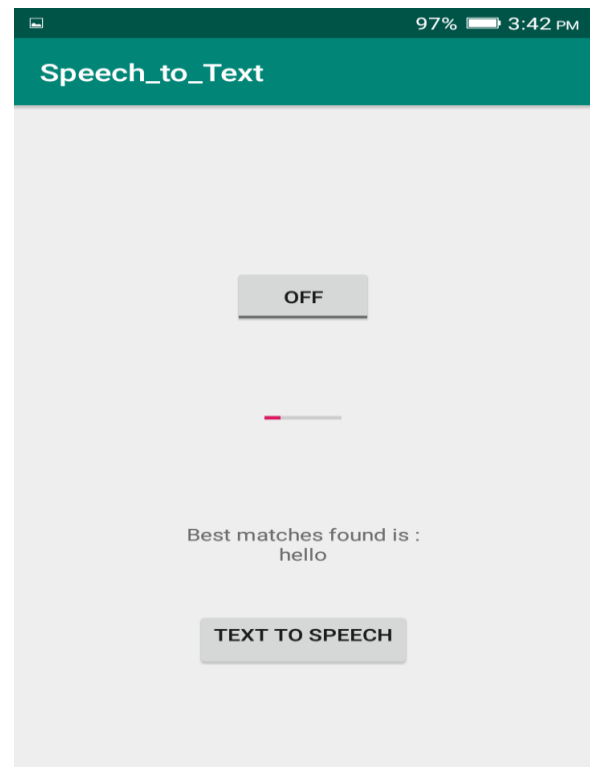
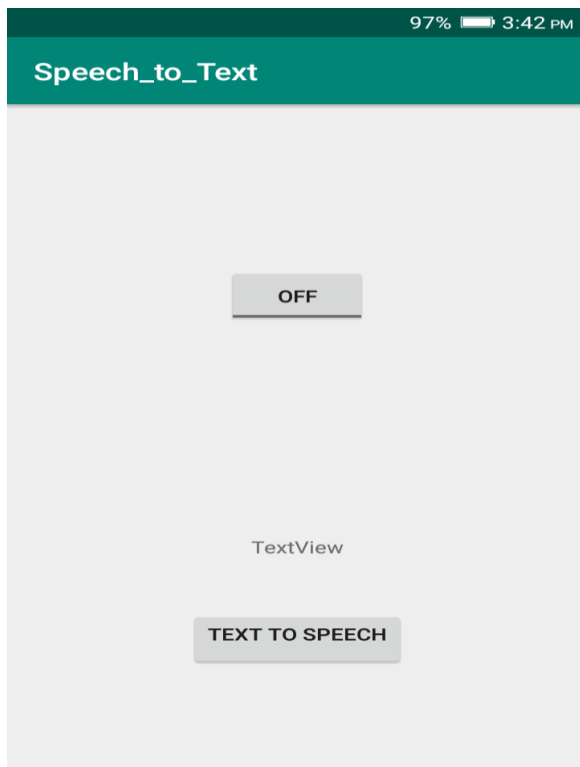
□ Services :

Running any activity in background can be done using Services. Here music has been played in background.



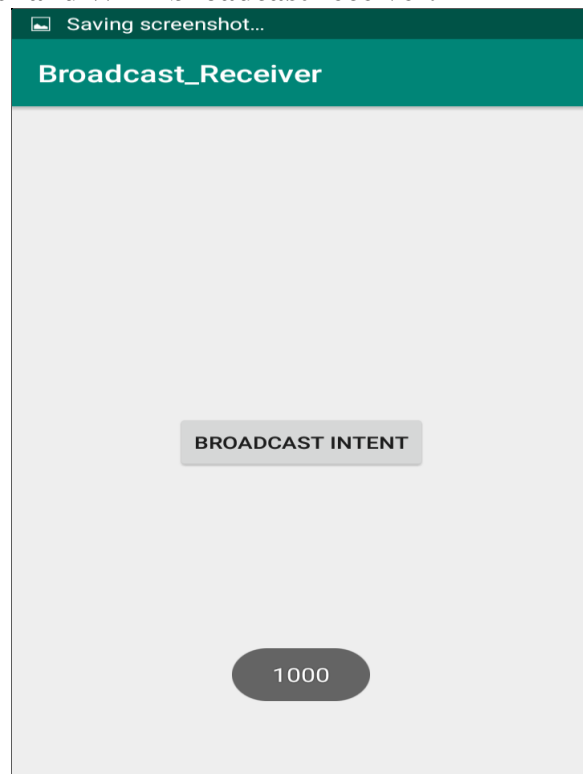
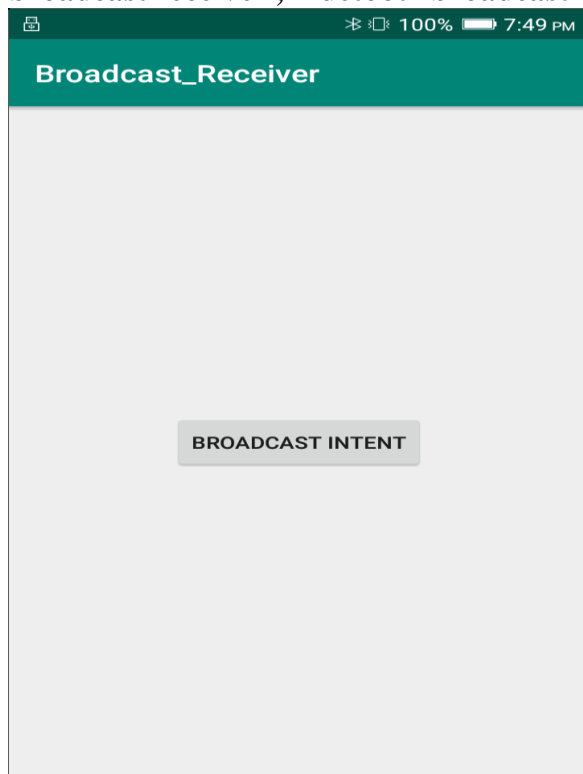
□ Speech to Text and Text to Speech:

These above features are very common these days. We can all see them in use around us in our day to day life. For eg. Google Voice Assistant, Siri, Alexa etc.

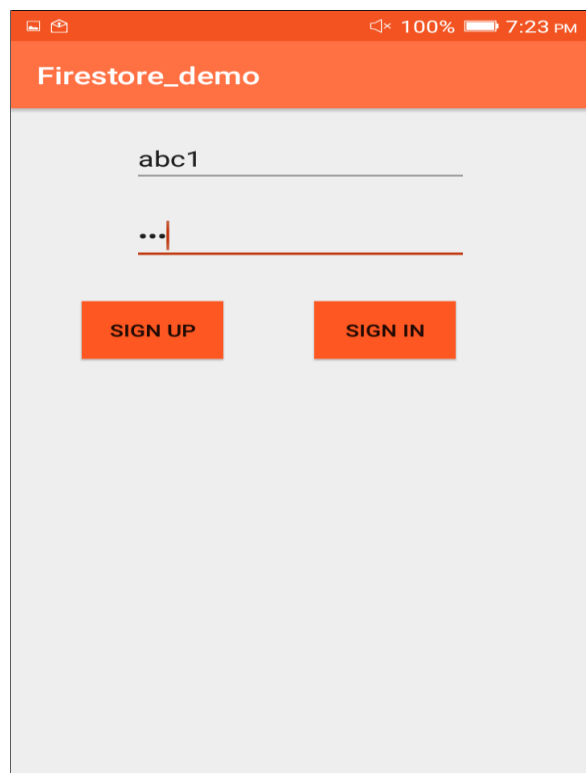
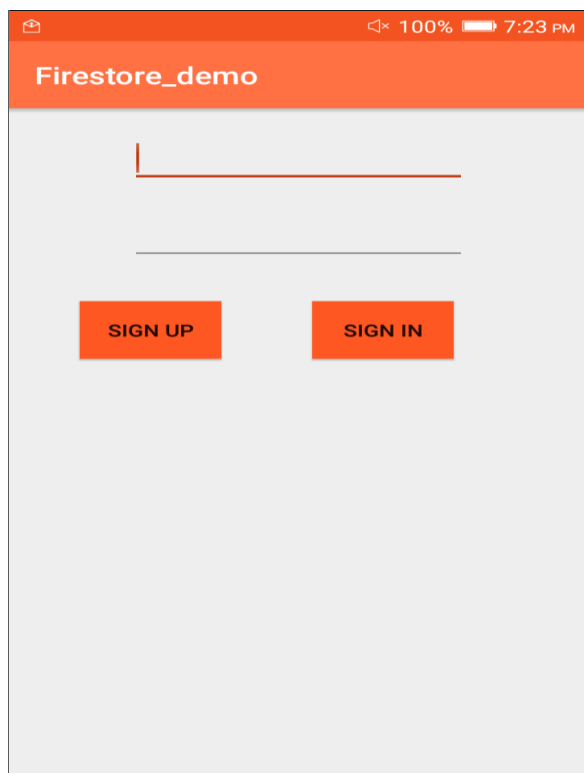


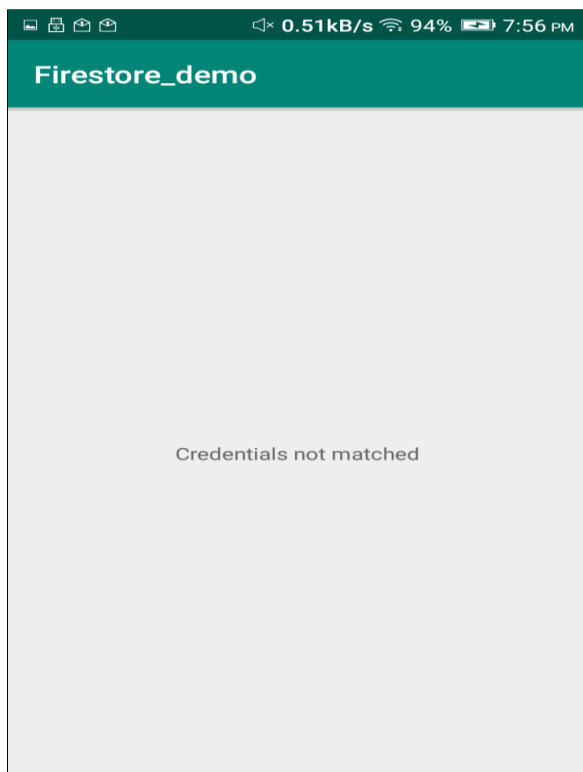
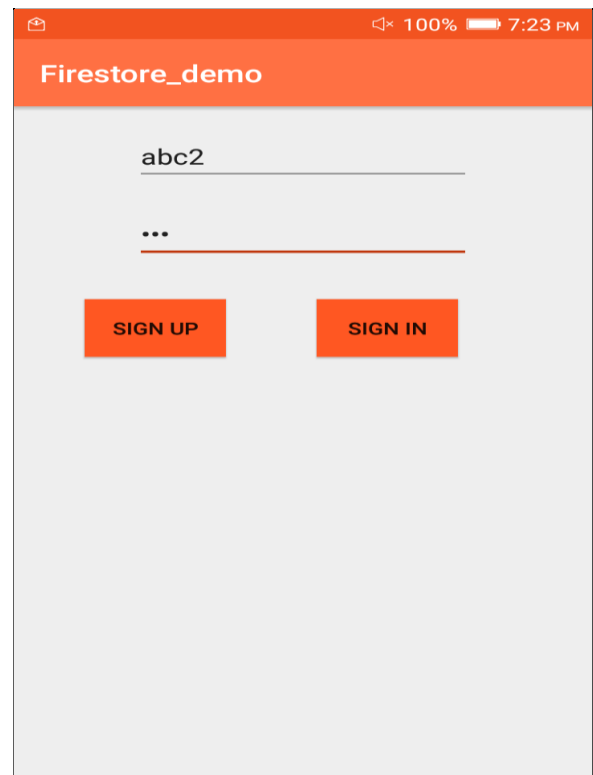
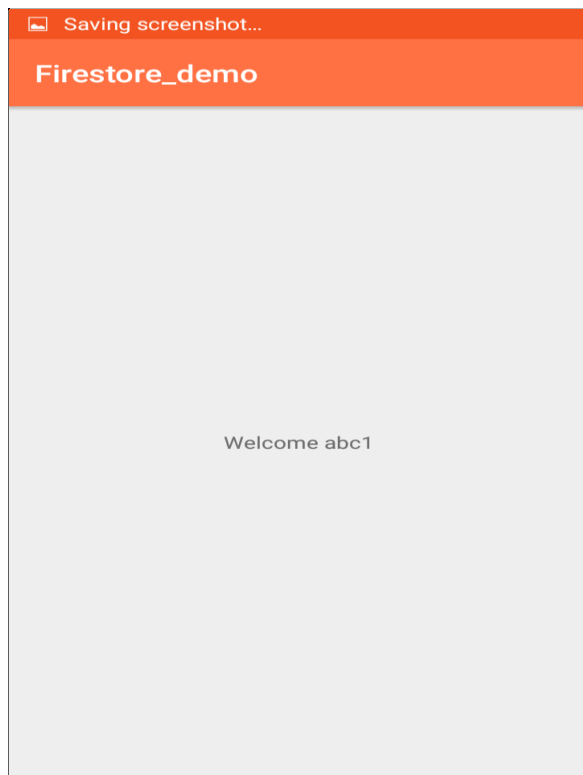
□ Broadcast Receiver :

The broadcast receivers that I have implemented here are as follows Custom broadcast receiver , Bluetooth broadcast receiver and WIFI broadcast receiver.



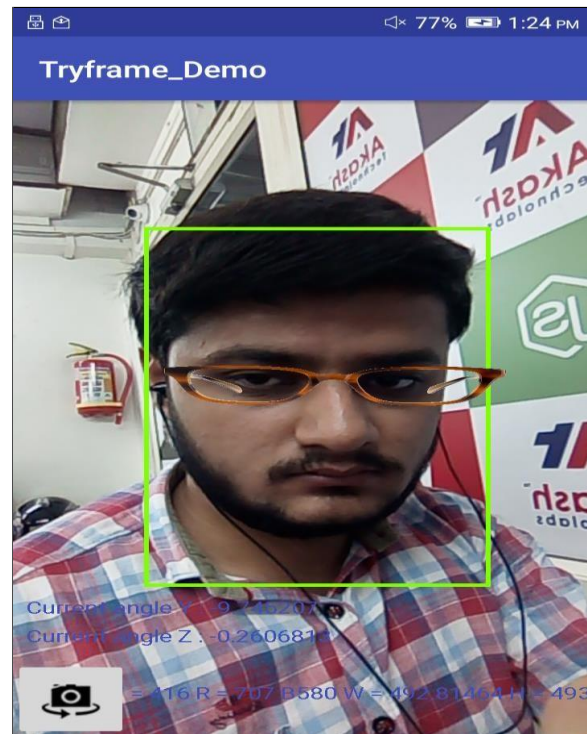
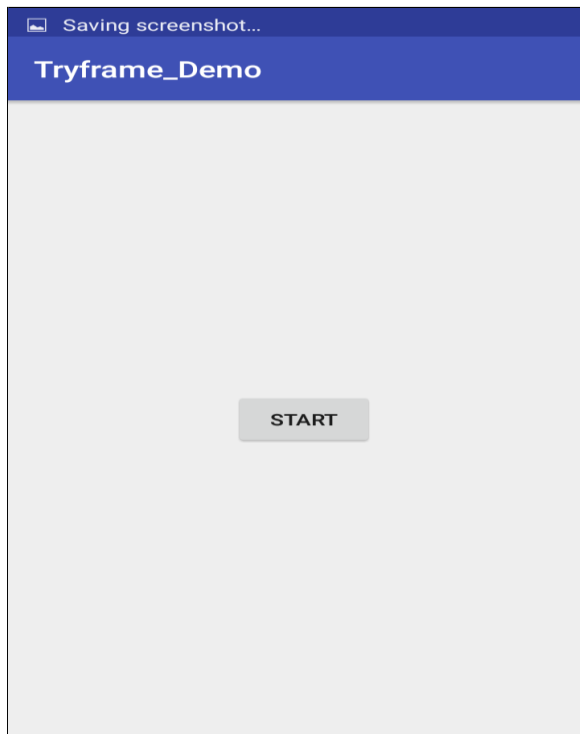
□ Google Cloud Firestore:





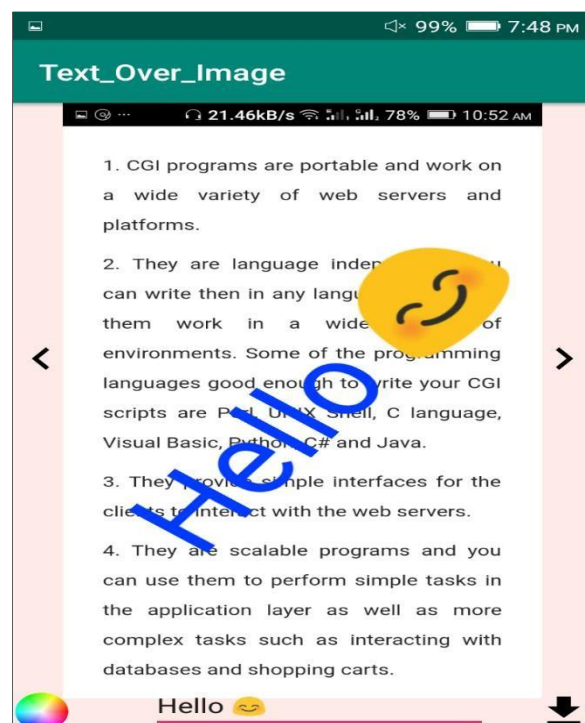
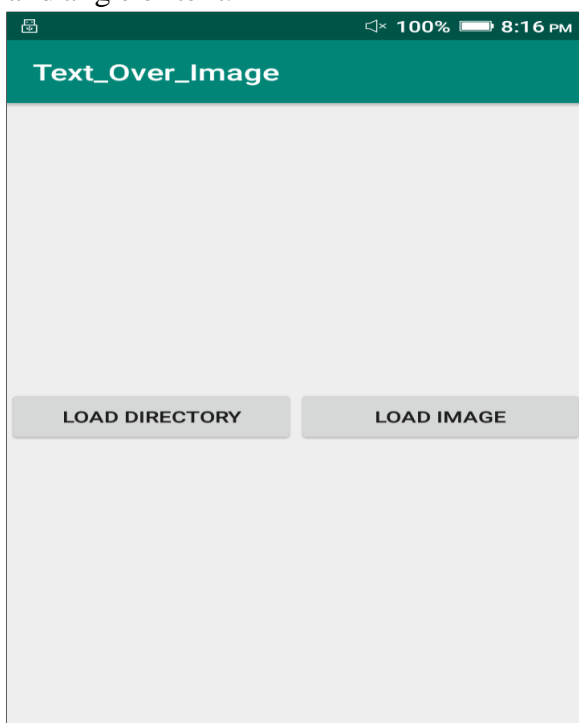
TryFrame:

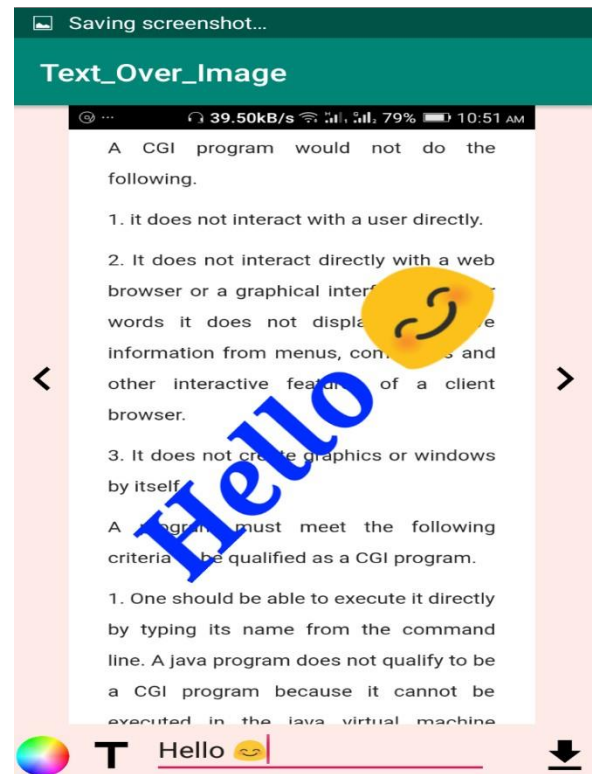
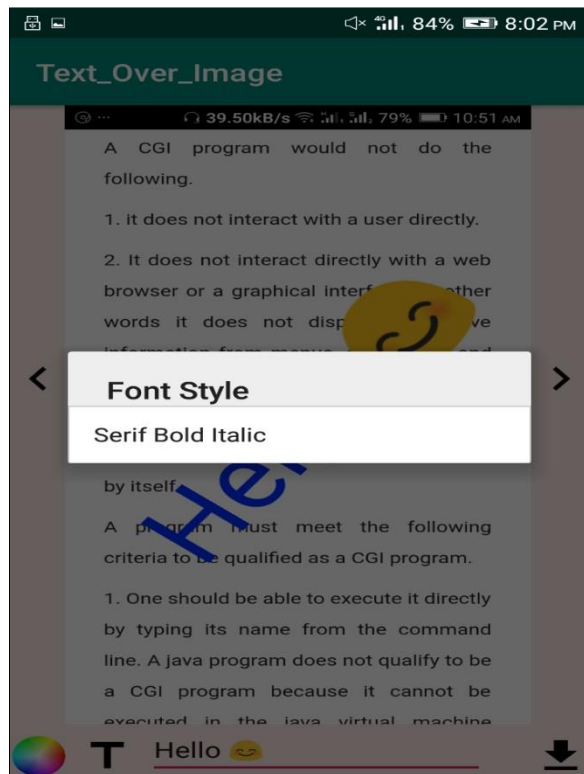
An app which uses Google Face API. Here facial landmarks are recognized. And an attempt has been made to implement something like Instagram filter. Here glasses are placed as filter on the face of the viewer if the phone is set to a specific angle.



Text over Image:

Placing text on the image and the editing the text. i.e. changing color, fonts, changing position and angle of text.





Chapter 3. CONCLUSION

- I got to learn how the components that we have heard till now theoretically actually works. How these components apply to some real life applications.
- I got to know what the company culture is. How things work out there in the market. How people deal with their customers' requirements non-technical requirements are understood and fulfilled by the technical persons i.e. the developers.
- I had many astonishments on seeing how things that we have seen differently theoretically can be implemented in another better ways practically.
- At the end of the project, I loved the whole process of Summer Internship and found one of the paths to implements the theoretical knowledge practically out there in the real world.

References

1. <https://www.journaldev.com/9942/android-expandablelistview-example-tutorial>
2. <https://www.androidhive.info/2013/06/android-working-with-xml-animations/>
3. <https://www.journaldev.com/13759/android-picasso-tutorial>
4. <https://www.youtube.com/watch?v=IfpRL2K1hJk>
5. <https://firebase.google.com/docs/firestore/query-data/get-data>
6. <https://www.raywenderlich.com/523-augmented-reality-in-android-with-google-s-face-api>