Spring2018
CS5551: Advanced Software Engineering
Department of Computer Science Electrical Engineering,
University of Missouri-Kansas City

Smart Newspaper

Github link:

https://github.com/Prathyushanomula/ASE_project/wiki

YouTube link:

https://www.youtube.com/watch?v=kMk0Y2uMOEg&feature=youtu.be

Zenhub link:

https://app.zenhub.com/workspace/o/prathyushanomula/ase_project/boards?repos=120062185

Team 4:

Sravya para , Class id :25

Naga Venkata Sai Indra Kumar Karamala, Class id :10

Sree Prathyusha Nomula, Class id :22

Sasleen Reza Shaik, Class id :35

Acknowledgement Statement

The work has been completed under the guidance of Dr.Yugi Lee and TAs (Rohith Nagulapati, Sidrah Junaid, Nageswara Nandigam) in CS5551 Advanced Software Engineering, University of Missouri-Kansas City), Spring 2018.

Introduction

Our project involves building User Interface for mobile devices in order to provide a captivating feature in newspapers. This project creates a bridge between physical and digital worlds.

This project takes readers beyond the printed page that enables people to see a video which is apparently located on a page of a newspaper. All this works through image recognition and text recognition.

When this project is used with the newspaper, a photo in that particular article would be scanned with the camera of a mobile device, then that software identifies the photo and displays the related youtube videos.

This project is an attempt to bring alive our daily news which saves our time. And also it attracts the young people to increase the withering number of readers.

Project Management:

Implementation:

Our project made use of the following API's in Android Studio:

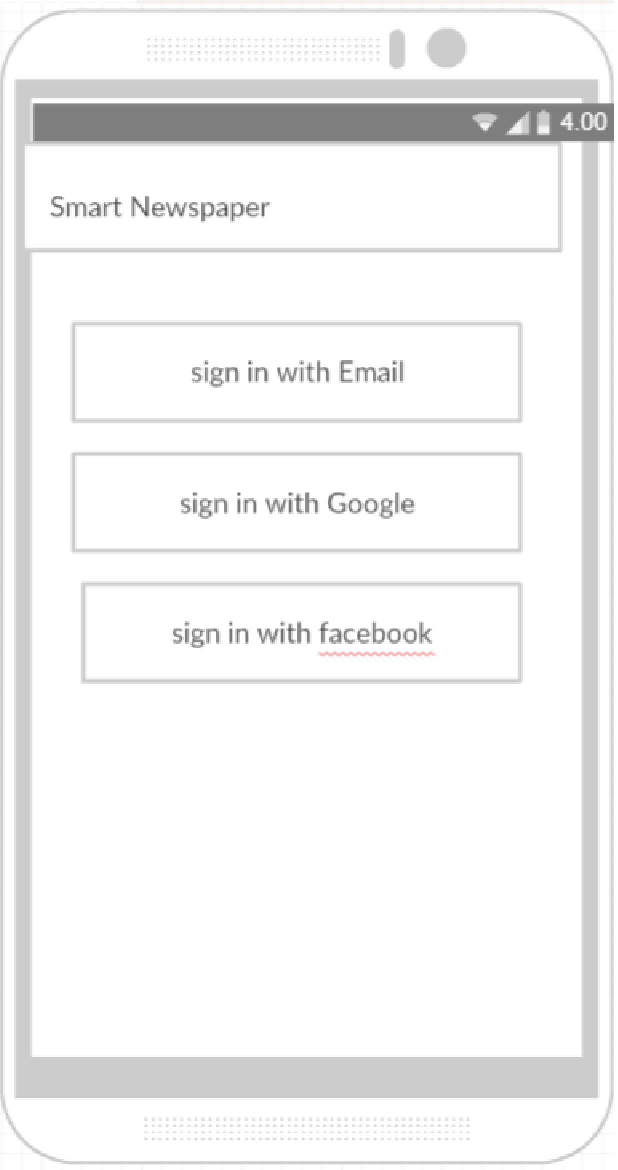
1.Tensor flow API- for detecting the objects.

2.Optical character recognition API- for detecting the texts

3.YouTube API: for displaying the videos.

Detail Design Features:

Mockup screens:



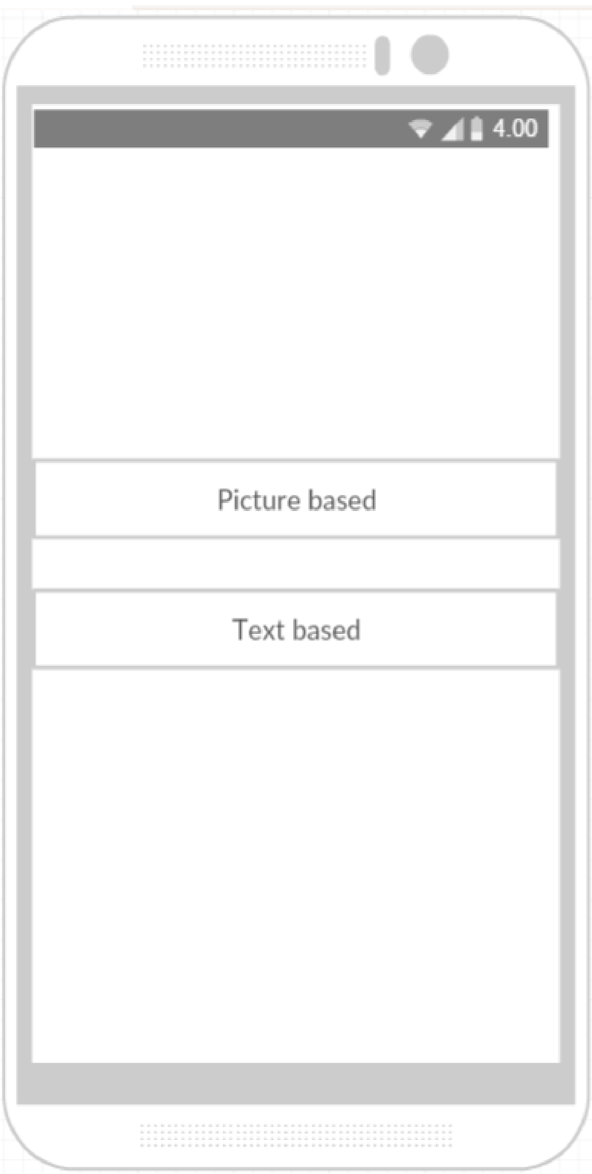
For the Log in page:

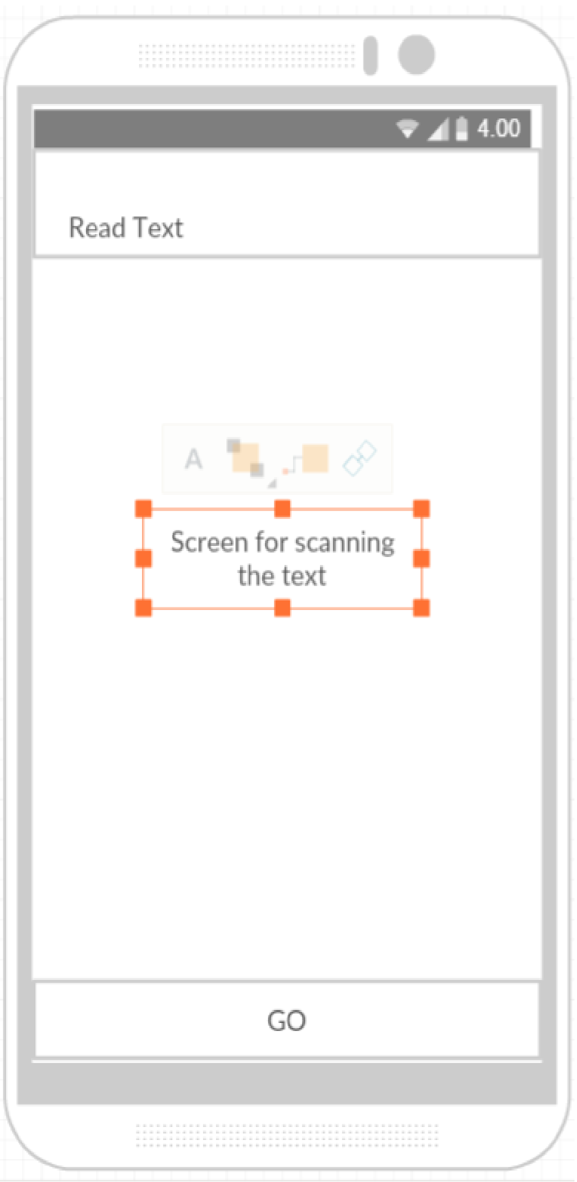
The user can log in through any one among the 3 options.

Home page: The user can select any one

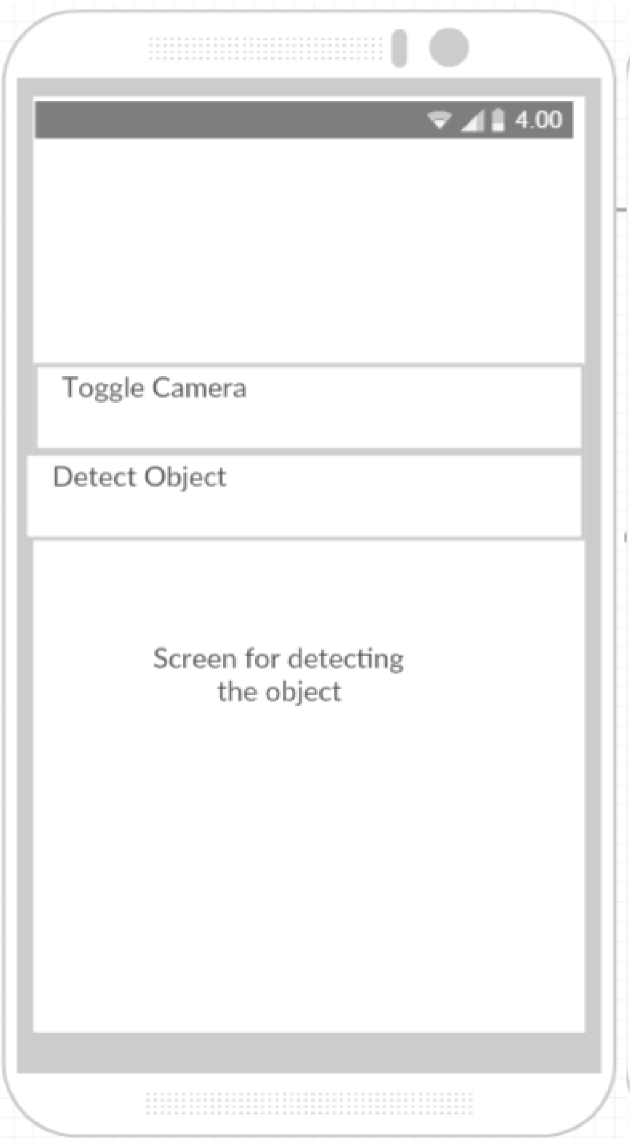
among the 2 options

Text based: Screen for scanning the text

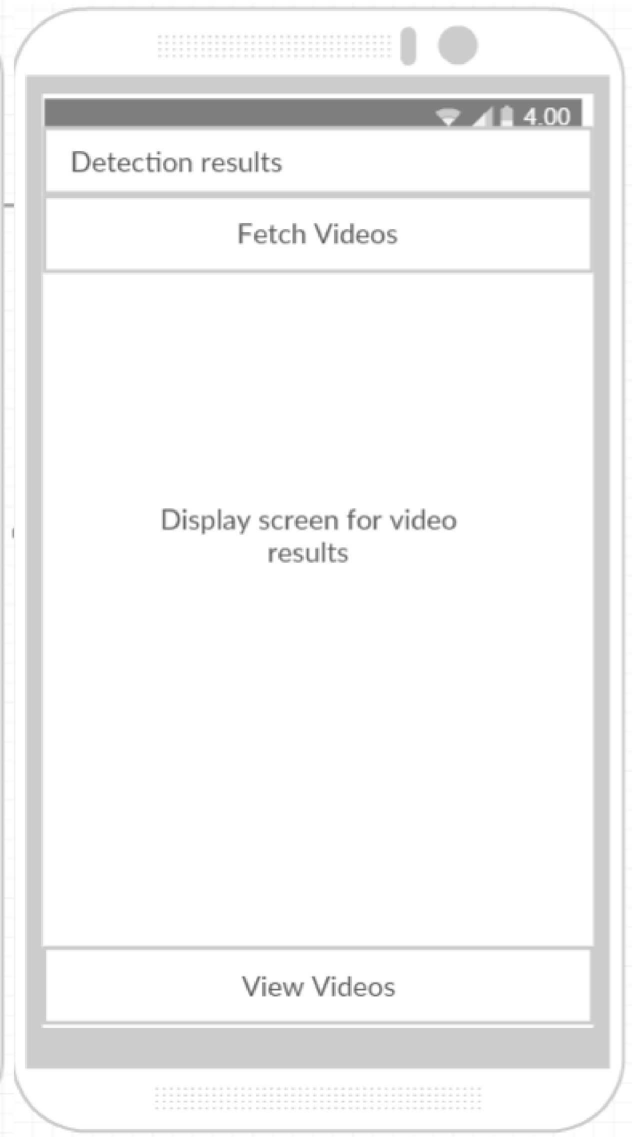




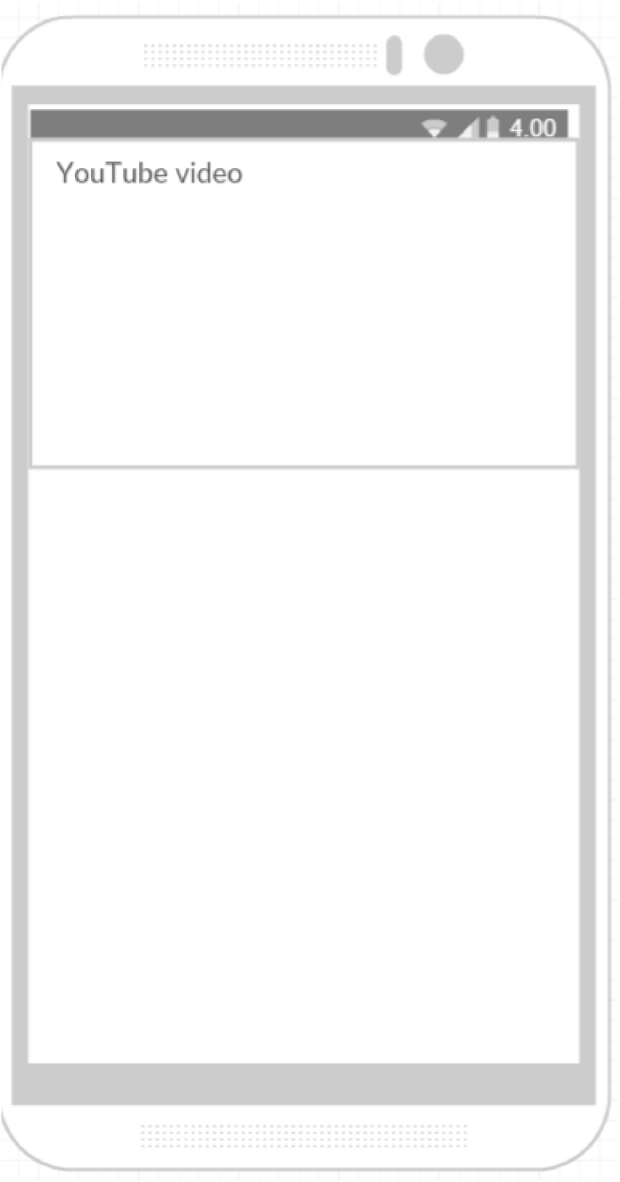
Picture based:



Results:



Video screen:



Presentation slides

The presentation slides can be found in the below link:

Microsoft PowerPoint Presentation

Increment 1

For increment 1 we have developed the android log in page .

Logging in with the existing username and password else registering or one can log in with Facebook and Google.

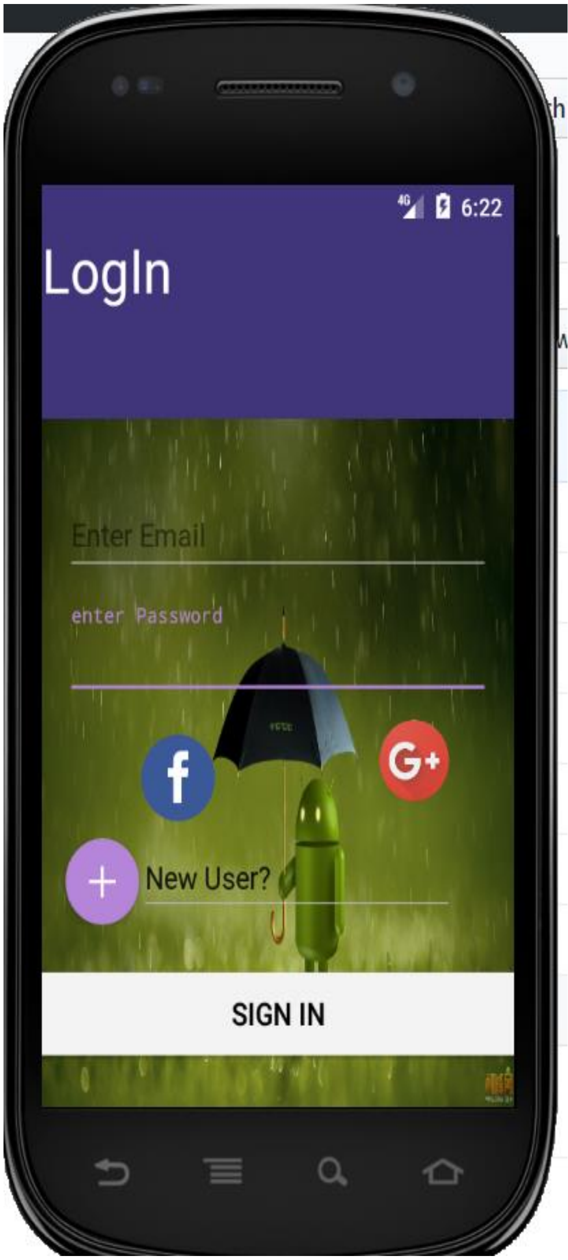
Contribution:

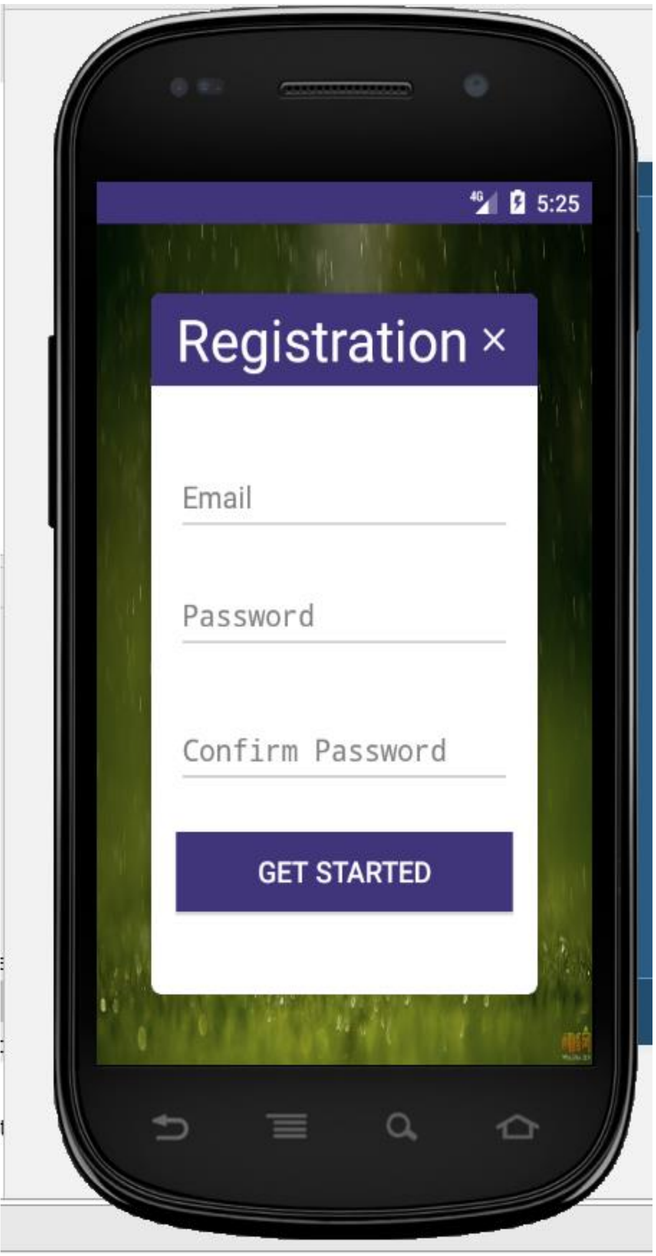
Sravya Para: logging in through email & password through fire base , UI(25%)

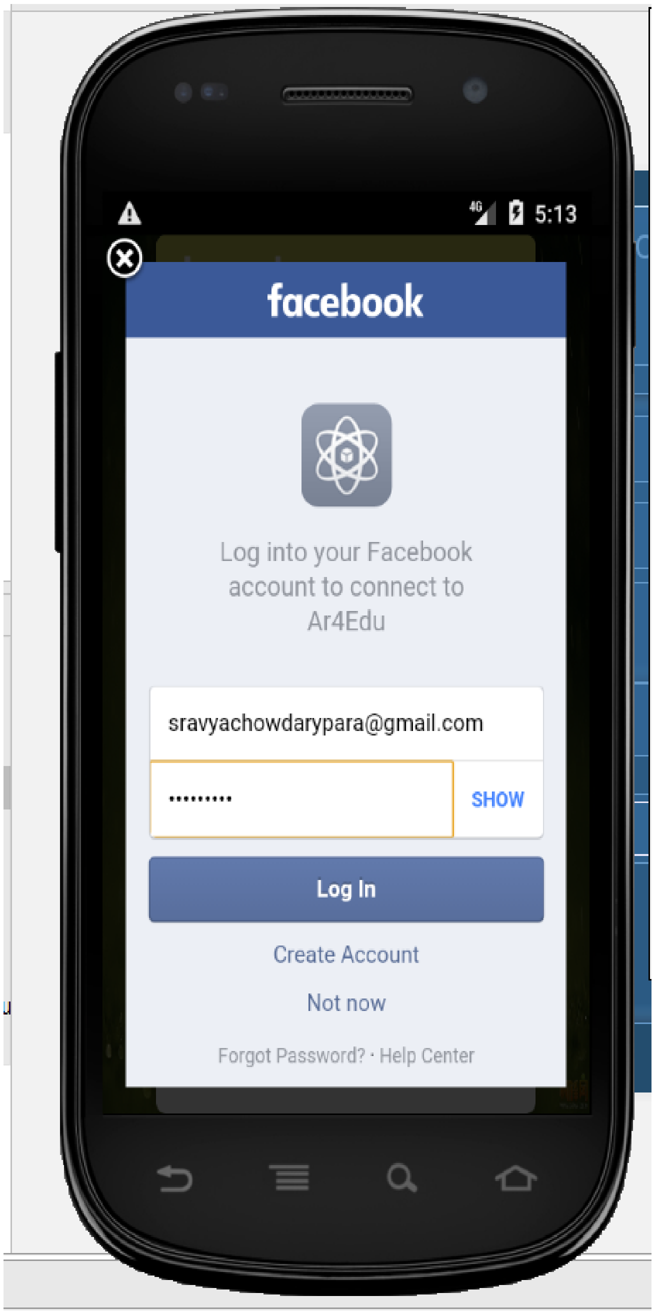
Sai Kumar: logging in through email & password through fire base, UI (25%)

Sree Prathyusha: logging in through Facebook (25%)

Sasleen : Logging in through Google (25%)


6:22
LogIn
Enter Email
enter Password
New User?
SIGN IN


5:25
Registration ×
Email
Password
Confirm Password
GET STARTED



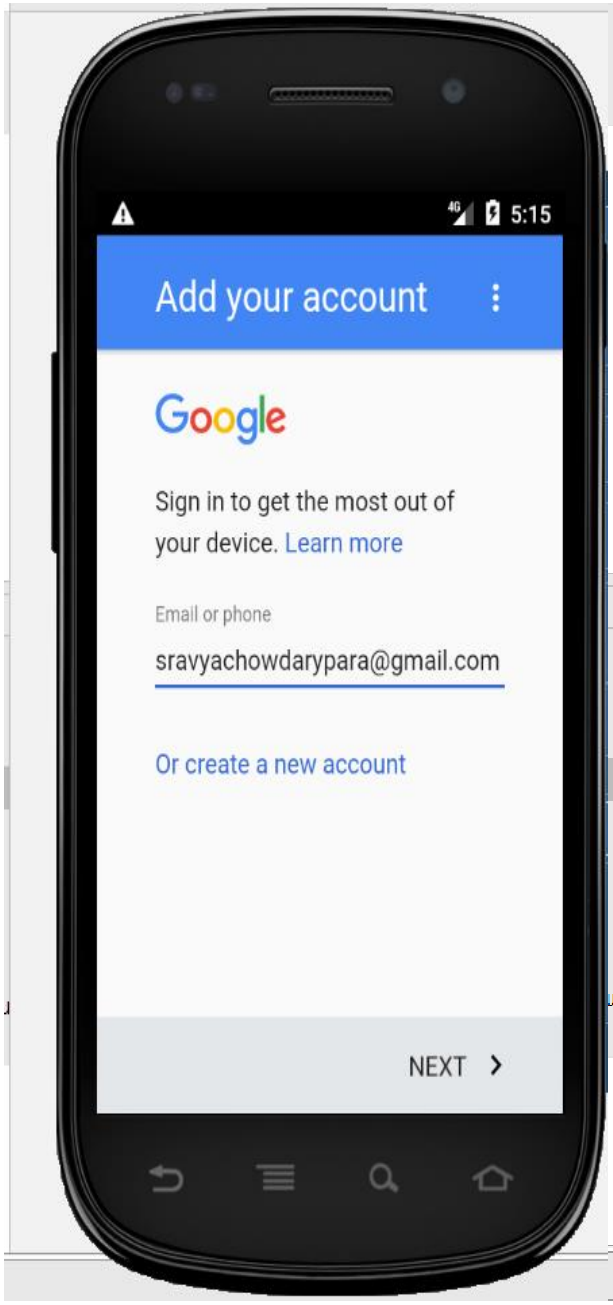
5:13

facebook

Log into your Facebook account to connect to Ar4Edu

sravyachowdarypara@gmail.com

•••••••••



Add your account

Google

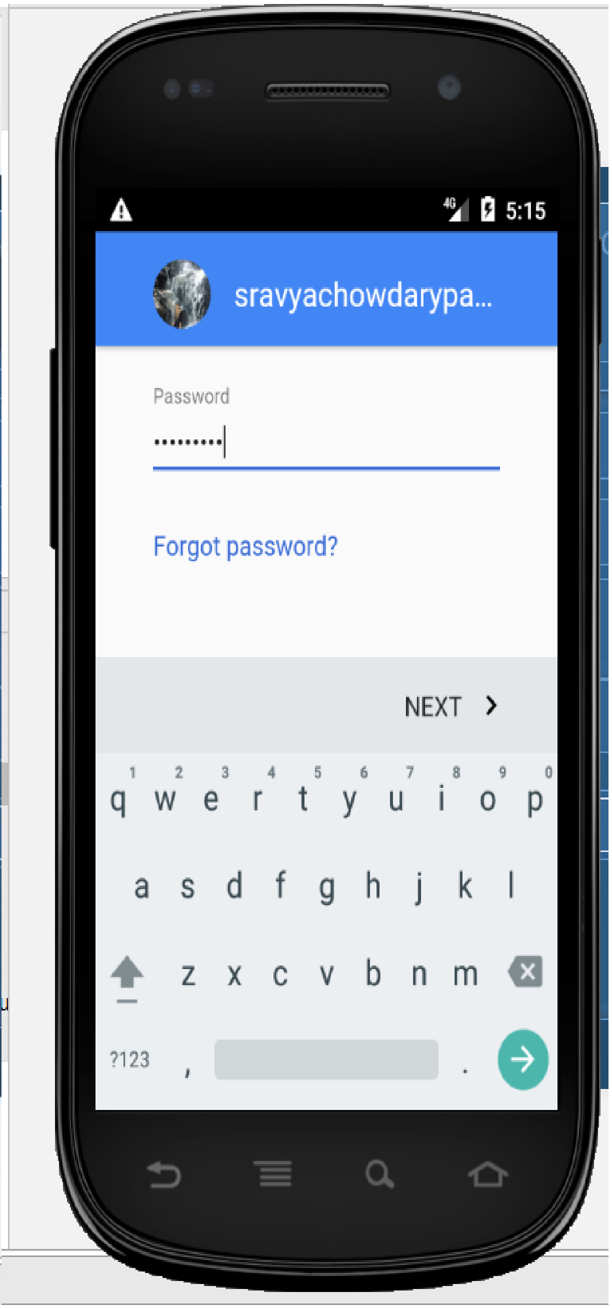
Sign in to get the most out of your device. Learn more

Email or phone

sravyachowdarypara@gmail.com

Or create a new account

NEXT >



sravyachowdarypa...

Password

••••••••••

Forgot password?

NEXT >

Increment 2

For this increment we created an android app that recognizes the images and displays the details about the image.

We have implemented this as a part of phase II because image recognition and text recognition is a part of the project. We have used Tensor Flow object detection API and optical character recognition API.

We have also tried implementing AR in unity integrated with vuforia.

We created a marker-based image so that whenever the image stored in database is displayed a 3-D image is popped up.

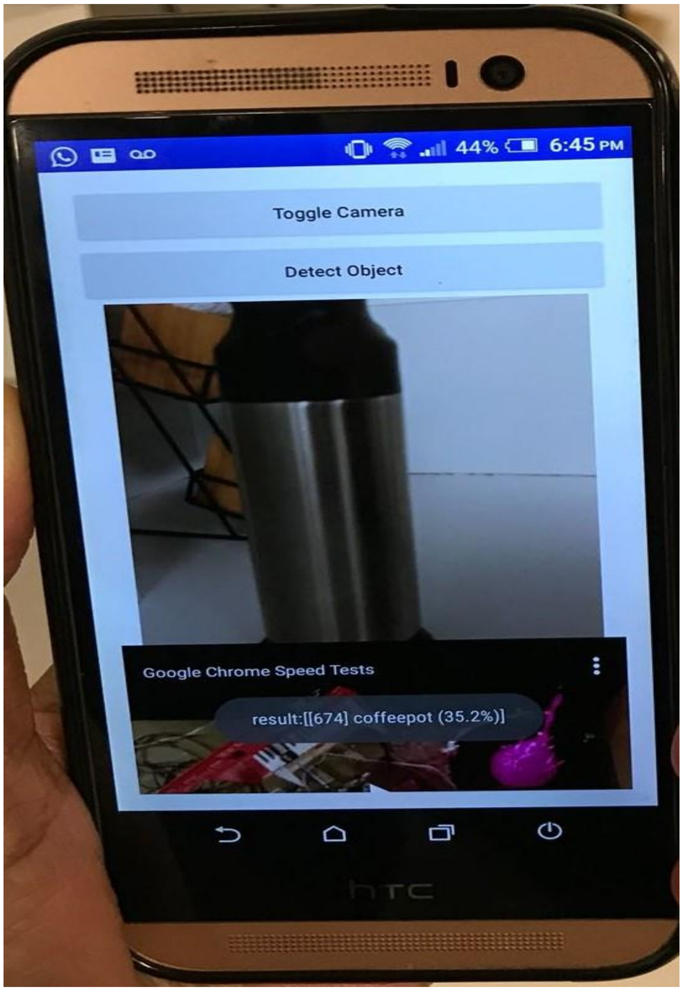
Contribution:

Sravya: Implementing Tensor flow activity, unity with Vuforia , documentation

Sai Kumar: Implementing Tensor flow activity , zenhub boards, deploying the code to smartphone.

Sree Prathyusha : Implementing Tensor flow activity , Implementing unity, documentation.

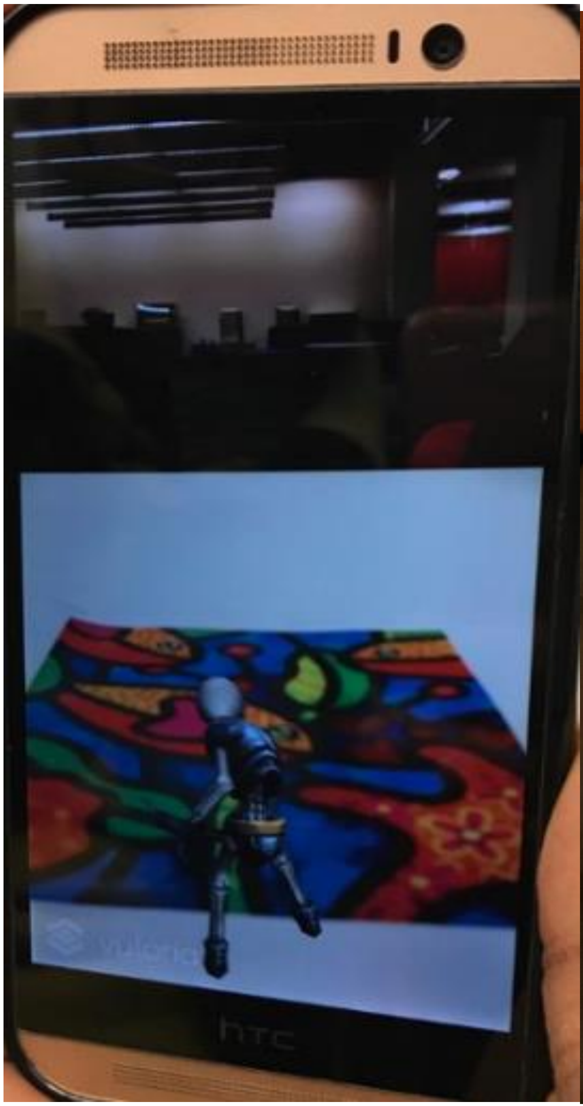
Sasleen : Implementing Tensor flow activity, User stories, use case diagram, documentation.



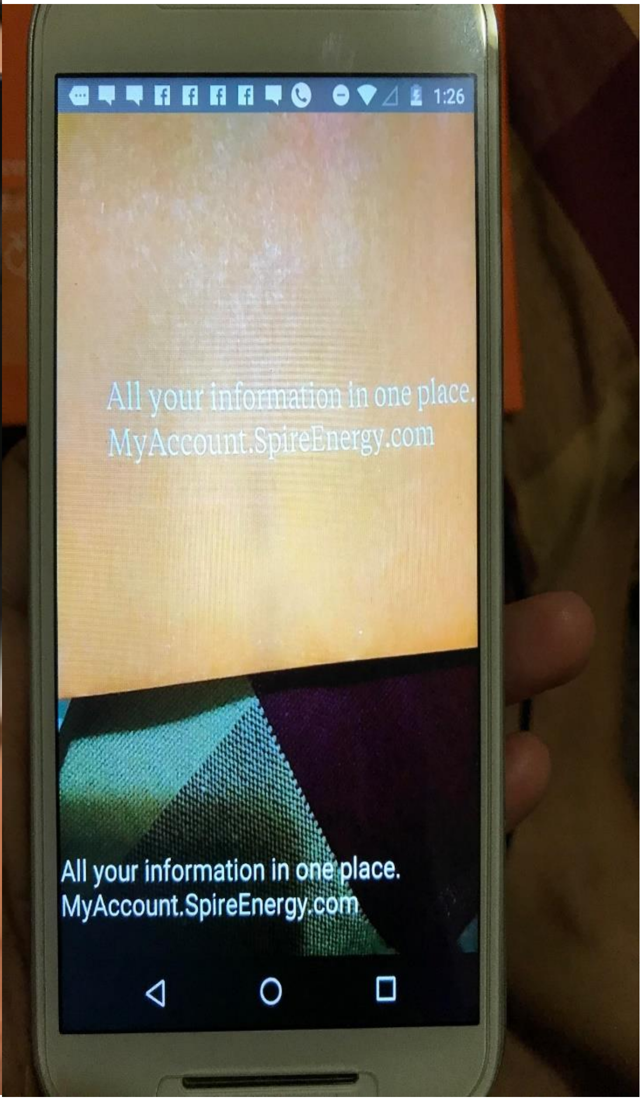
result:[[674] coffeepot (35.2%)]

Object detection

Marker based 3-D image



Text recognition



All your information in one place.
MyAccount.SpireEnergy.com

All your information in one place.
MyAccount.SpireEnergy.com

Increment 3

For increment 3, we tried implementing firebase log in and registration in unity also when the image gets detected the related youtube video results displays and the user can select any video to play

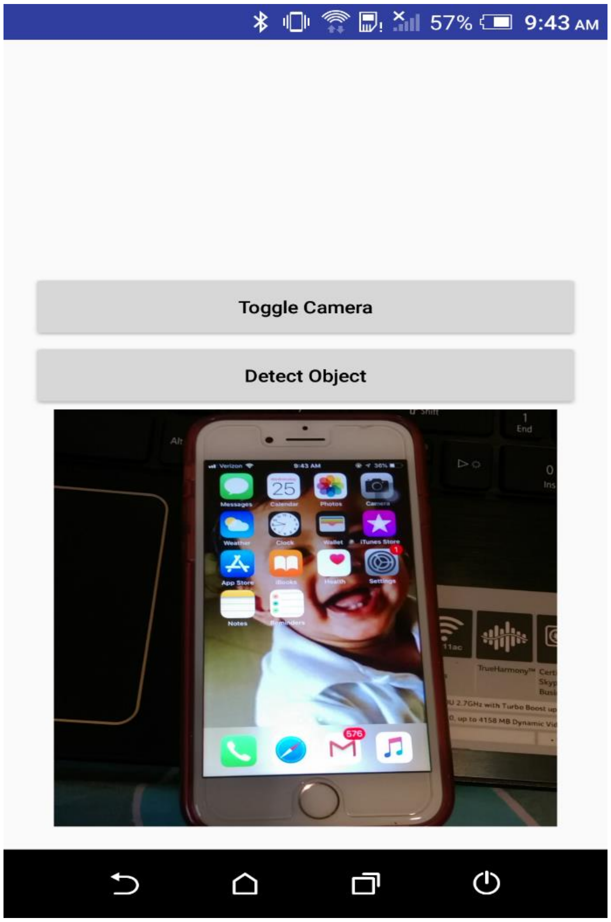
Contribution:

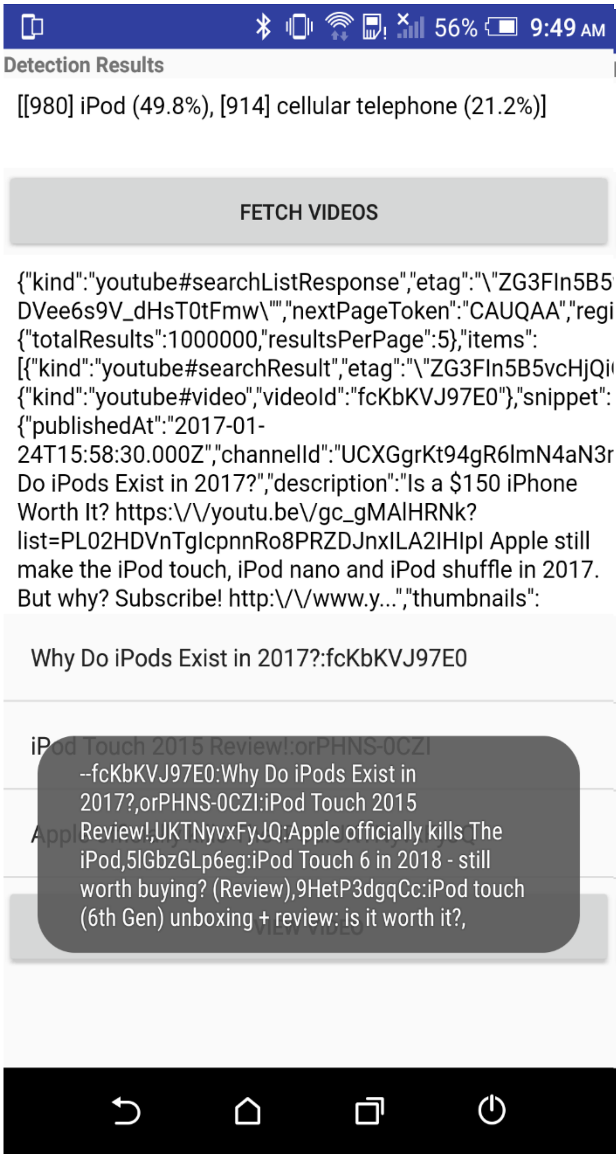
Sravya para: Implementing firebase login,tensorflow activty, unity, documentation.

Sai kumar Karamala:10 Contribution: Implementing firebase login in unity,tensorflow activty, documentation.

Sree Prathyusha Nomula: implementing firebase login in unity,tensorflow activty, documentation

Reza Sasleen : implementing firebase login in unity,tensorflow activty, documentation.





Detection Results

[[980] iPod (49.8%), [914] cellular telephone (21.2%)]

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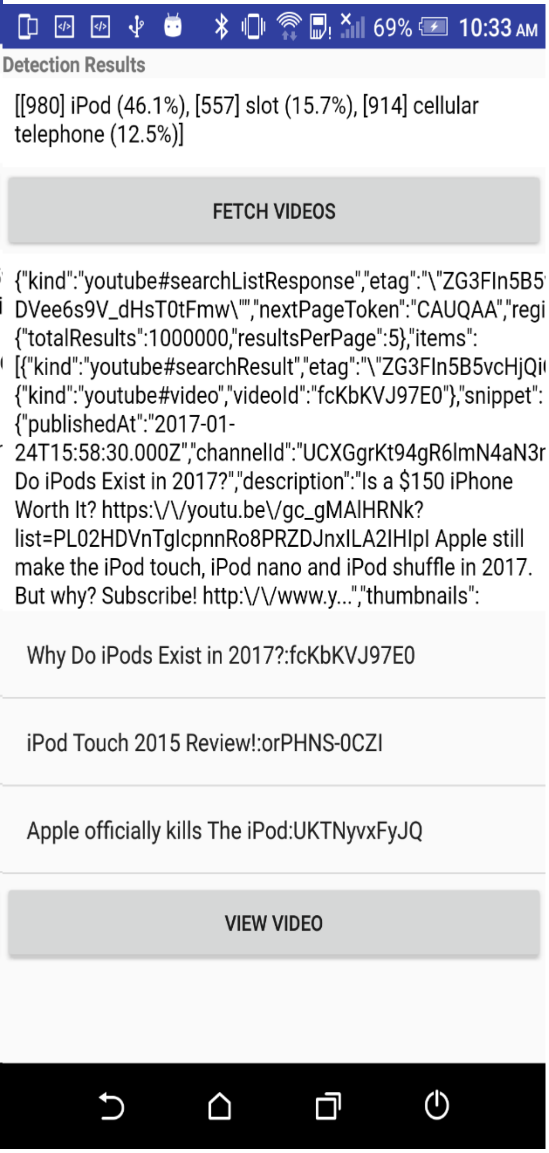
Do iPods Exist in 2017?","description":"Is a $150 iPhone
Worth It? https:\/\/youtu.be\/gc_gMAlHRNk?
list=PL02HDVnTglcpnnRo8PRZDJnxILA2IHlpl Apple still
make the iPod touch, iPod nano and iPod shuffle in 2017.
But why? Subscribe! http:\/\/www.y...","thumbnails":
```

Why Do iPods Exist in 2017?:fcKbKVJ97E0

iPod Touch 2015 Review!:orPHNS-0CZI

Appl

--fcKbKVJ97E0:Why Do iPods Exist in 2017?,orPHNS-0CZI:iPod Touch 2015 Review!,UKTNyvxFyJQ:Apple officially kills The iPod,5lGbzGLp6eg:iPod Touch 6 in 2018 - still worth buying? (Review),9HetP3dgqCc:iPod touch (6th Gen) unboxing + review: is it worth it?,



Detection Results

[[980] iPod (46.1%), [557] slot (15.7%), [914] cellular telephone (12.5%)]

```
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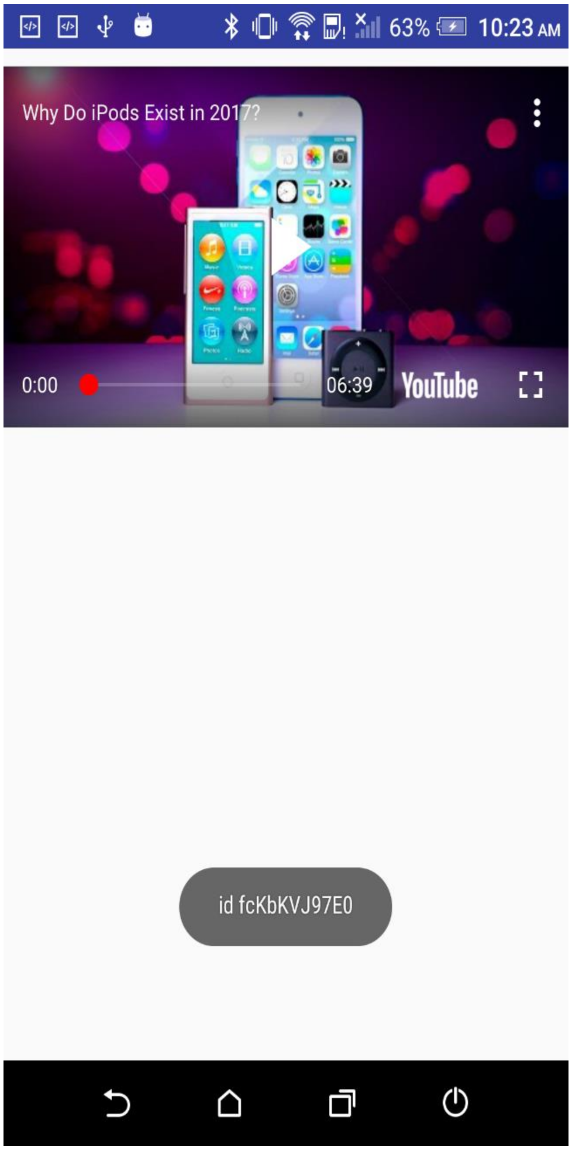
Do iPods Exist in 2017?","description":"Is a $150 iPhone
Worth It? https:\/\/youtu.be\/gc_gMAlHRNk?
list=PL02HDVnTglcpnnRo8PRZDJnxILA2IHlpl Apple still
make the iPod touch, iPod nano and iPod shuffle in 2017.
But why? Subscribe! http:\/\/www.y...","thumbnails":
```

Why Do iPods Exist in 2017?:fcKbKVJ97E0

iPod Touch 2015 Review!:orPHNS-0CZI

Apple officially kills The iPod:UKTNyvxFyJQ

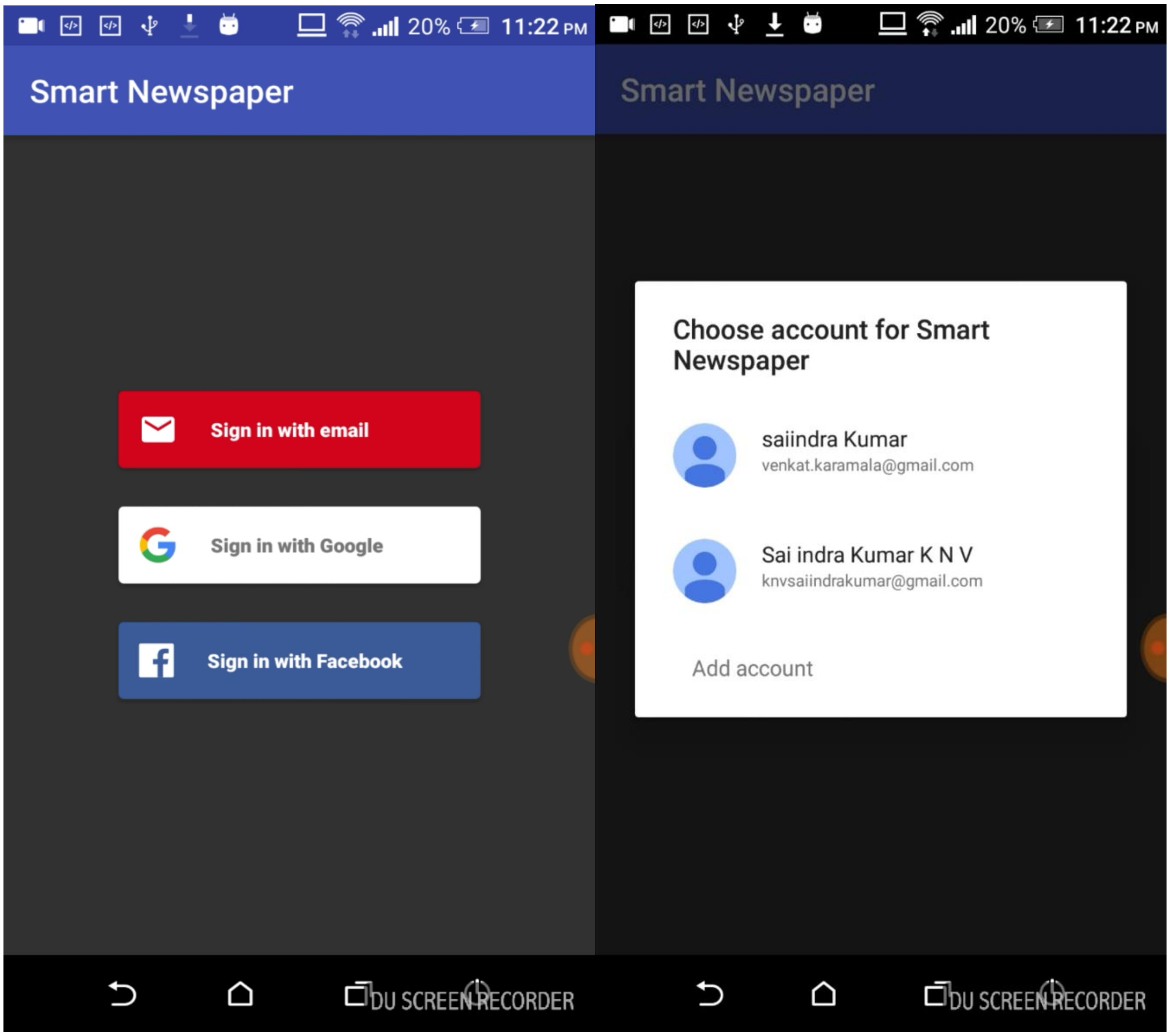


Final Submission:

In this phase we integrated all the separate modules in Android studio.

Firebase Email and Facebook, Google log in.

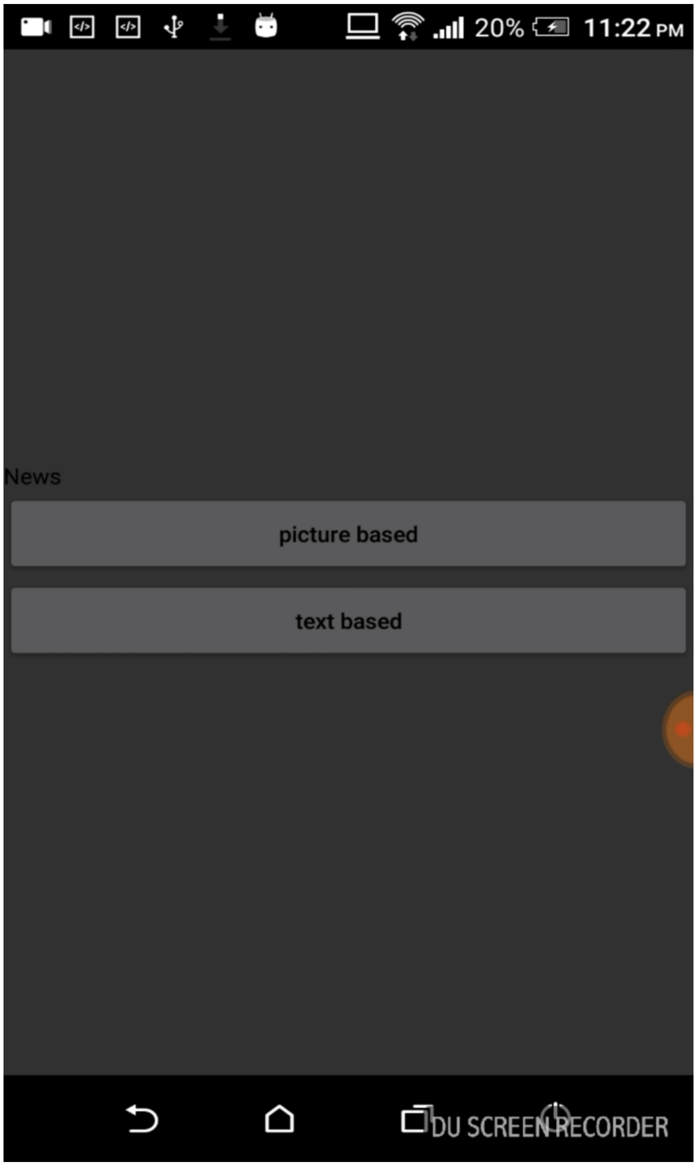
Tensor Flow API, Optical Character Recognition API, YouTube API.



Choose account for Smart Newspaper

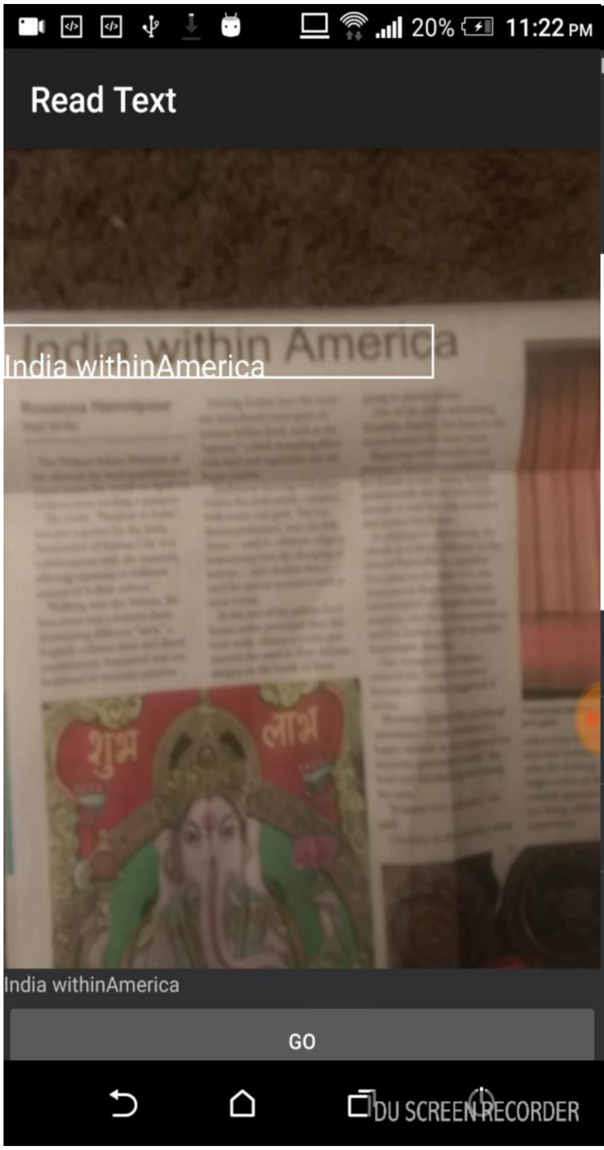
saiindra Kumar
venkat.karamala@gmail.com

Sai indra Kumar K N V
knvsaiindrakumar@gmail.com

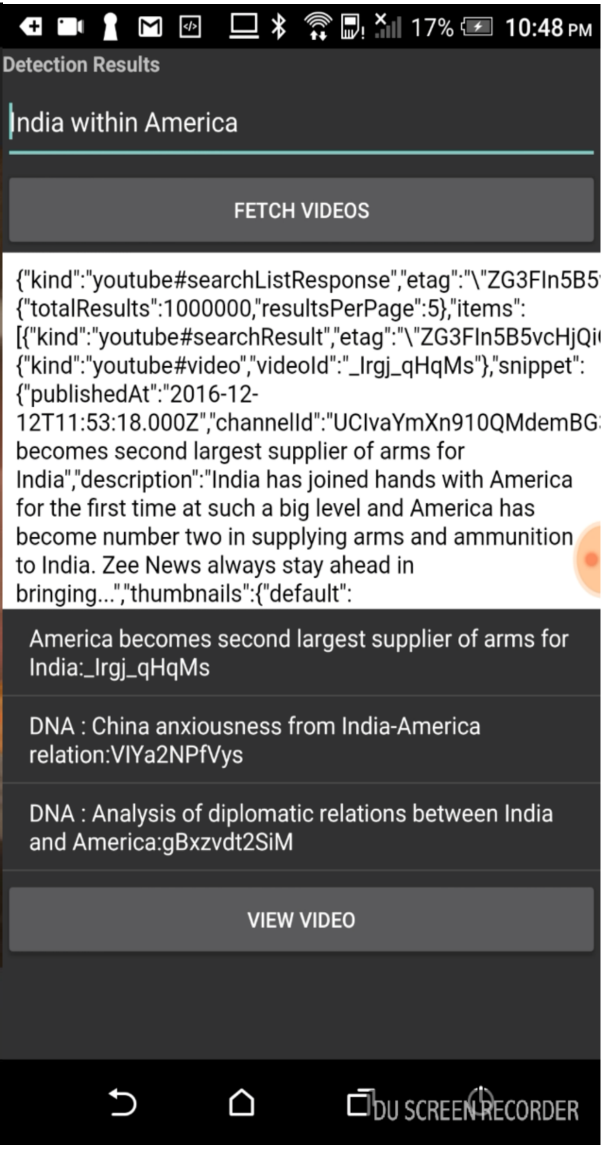


Home Page

Scanning through Text



After selecting fetch videos



India within America

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to India. Zee News always stay ahead in
bringing...","thumbnails":{"default":
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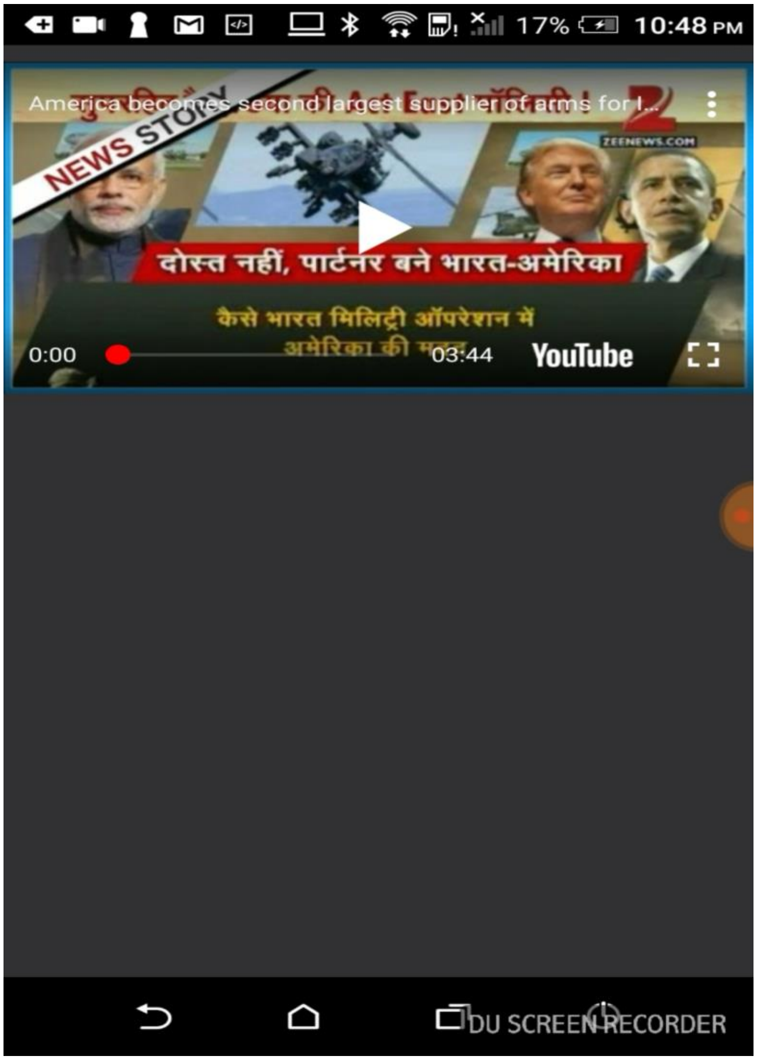
America becomes second largest supplier of arms for India:_Irgj_qHqMs

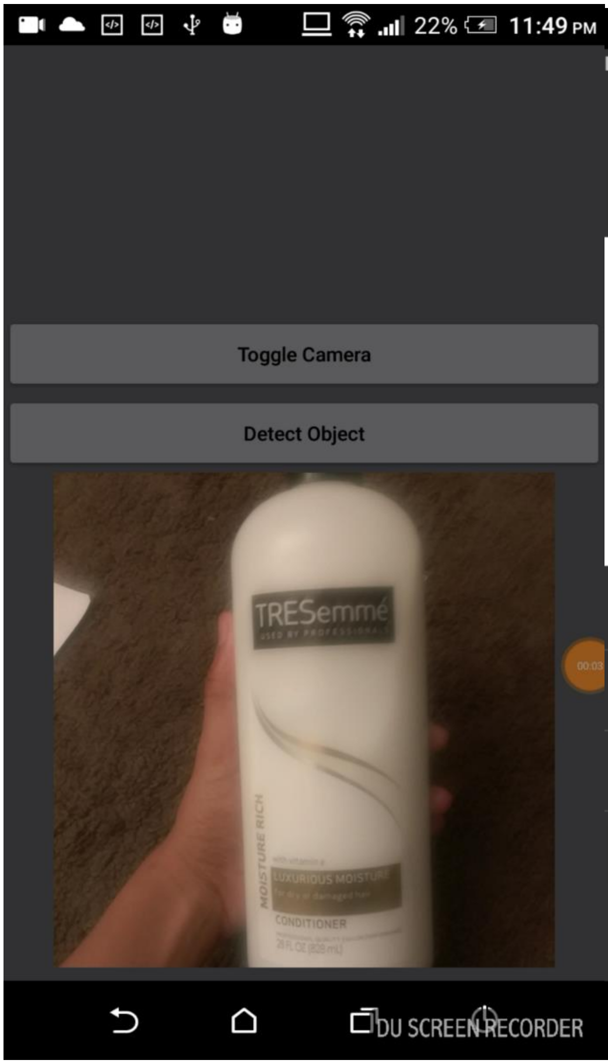
DNA : China anxiousness from India-America relation:VIYa2NPfVys

DNA : Analysis of diplomatic relations between India and America:gBxzvdt2SiM

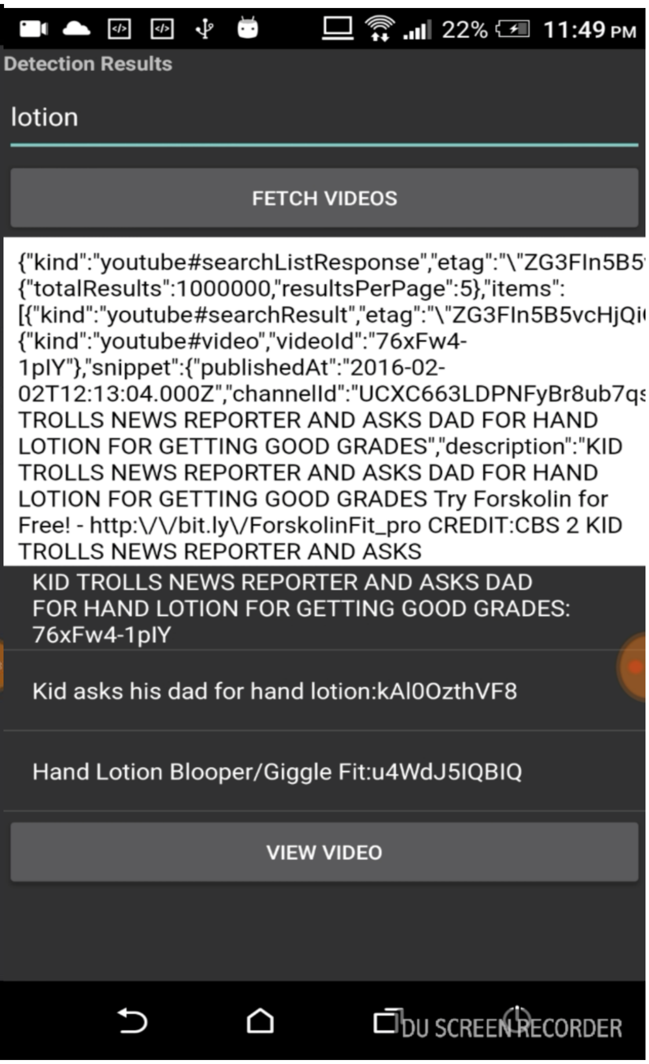

17%
10:48 PM
America becomes second largest supplier of arms for I...
NEWS STORY
ZEENEWS.COM
दोस्त नहीं, पार्टनर बने भारत-अमेरिका
कैसे भारत मिलिट्री ऑपरेशन में
अमेरिका की म
0:00
03:44
YouTube
DU SCREEN RECORDER

Playing the video

Scanning the object



After selecting The Fetch video



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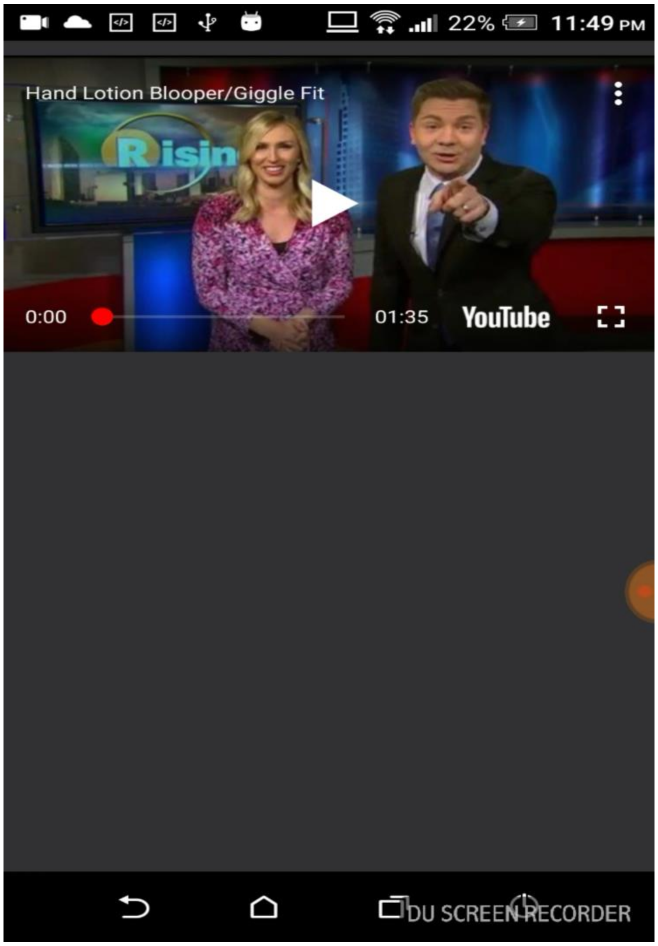
LOTION FOR GETTING GOOD GRADES","description":"KID
TROLLS NEWS REPORTER AND ASKS DAD FOR HAND
LOTION FOR GETTING GOOD GRADES Try Forskolin for
Free! - http:\/\/bit.ly\/ForskolinFit_pro CREDIT:CBS 2 KID
TROLLS NEWS REPORTER AND ASKS

KID TROLLS NEWS REPORTER AND ASKS DAD FOR HAND LOTION FOR GETTING GOOD GRADES: 76xFw4-1pIY

Kid asks his dad for hand lotion:kAl0OzthVF8

Hand Lotion Blooper/Giggle Fit:u4WdJ5IQBIQ



Playing the video

Using the system:

Log in through the app:

- The user can log in to the app by creating an account or through either Facebook or google accounts.
- Once logged in user is prompted select either ‘Picture based’ or ‘text based’.

Text based:

- When selected Text based the user can scan any of the newspaper headline and once it gets scanned, the user should select the ‘go’ option

Fetch videos:

- The user is taken to the next screen where he has to select the option ‘Fetch Videos’ and the related videos about the scanned text gets displayed from YouTube.

Play the video:

- The user can select the desired video by selecting that video and the selecting the option ’View video’.

Picture based:

- If the user selects the option ’Picture based’ from the home screen the he can scan the object through the camera.

Detecting the object:

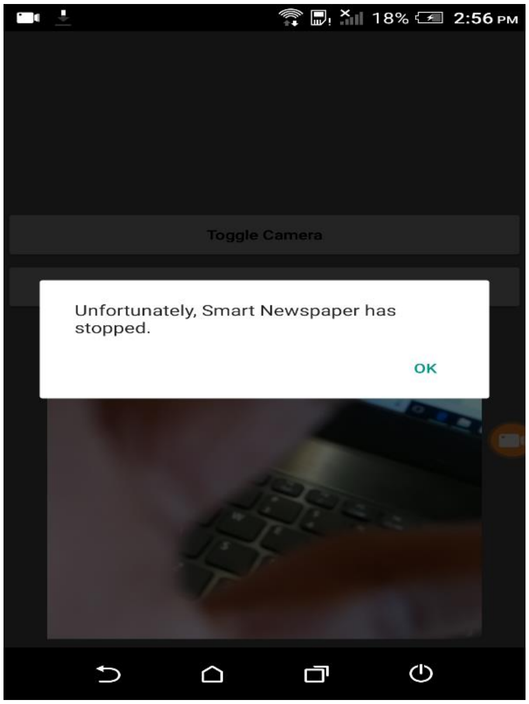
- When the object gets placed in front of the camera, and ‘detect object is selected this will take you to the next screen where the user can see the results of the scanned object and later when ‘fetched Videos’ is selected the videos related to the scanned object gets displayed.

Playing the video:

- The user can select the desired video by selecting that video and the selecting the option ’View video’.

Error recognition and handling:

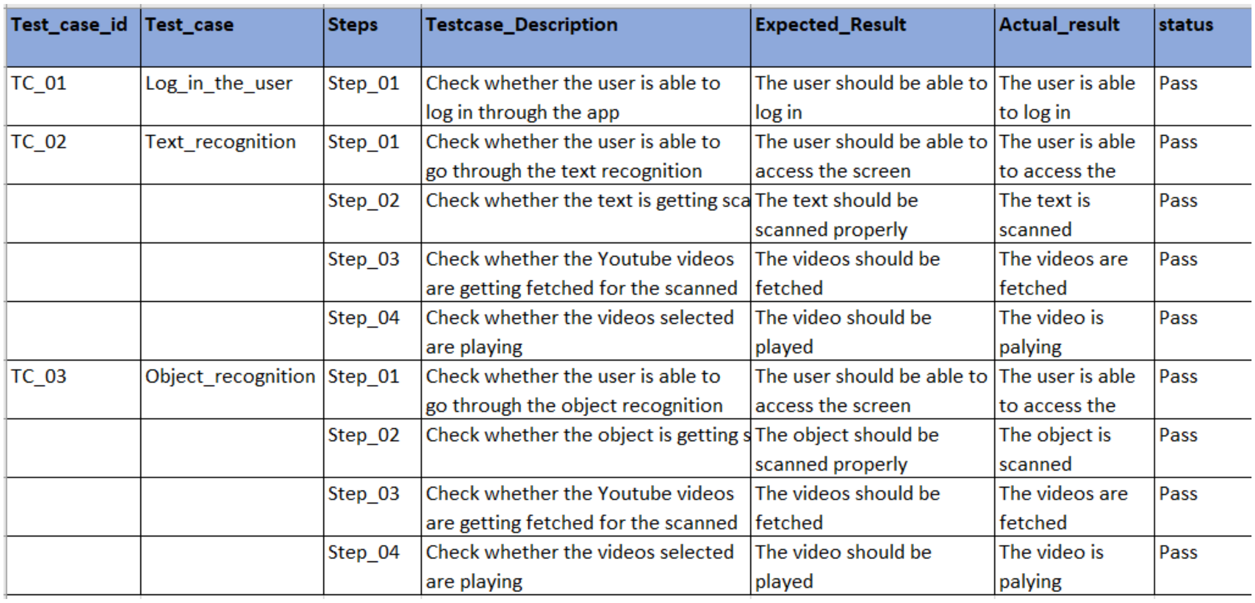
The App sometimes gets stopped when there is no proper Internet connection while using the ‘picture based’.



Unfortunately, Smart Newspaper has stopped.

When this situation comes, the user has to just go back and open the app again after establishing a proper network and the app works without any error.

Testing



Test_case_id	Test_case	Steps	Testcase_Description	Expected_Result	Actual_result	status
TC_01	Log_in_the_user	Step_01	Check whether the user is able to log in through the app	The user should be able to log in	The user is able to log in	Pass
TC_02	Text_recognition	Step_01	Check whether the user is able to go through the text recognition	The user should be able to access the screen	The user is able to access the	Pass
		Step_02	Check whether the text is getting sca	The text should be scanned properly	The text is scanned	Pass
		Step_03	Check whether the Youtube videos are getting fetched for the scanned	The videos should be fetched	The videos are fetched	Pass
		Step_04	Check whether the videos selected are playing	The video should be played	The video is palying	Pass
TC_03	Object_recognition	Step_01	Check whether the user is able to go through the object recognition	The user should be able to access the screen	The user is able to access the	Pass
		Step_02	Check whether the object is getting s	The object should be scanned properly	The object is scanned	Pass
		Step_03	Check whether the Youtube videos are getting fetched for the scanned	The videos should be fetched	The videos are fetched	Pass
		Step_04	Check whether the videos selected are playing	The video should be played	The video is palying	Pass

Project Management:

We have divided the work equally among the four and maintained coordination.

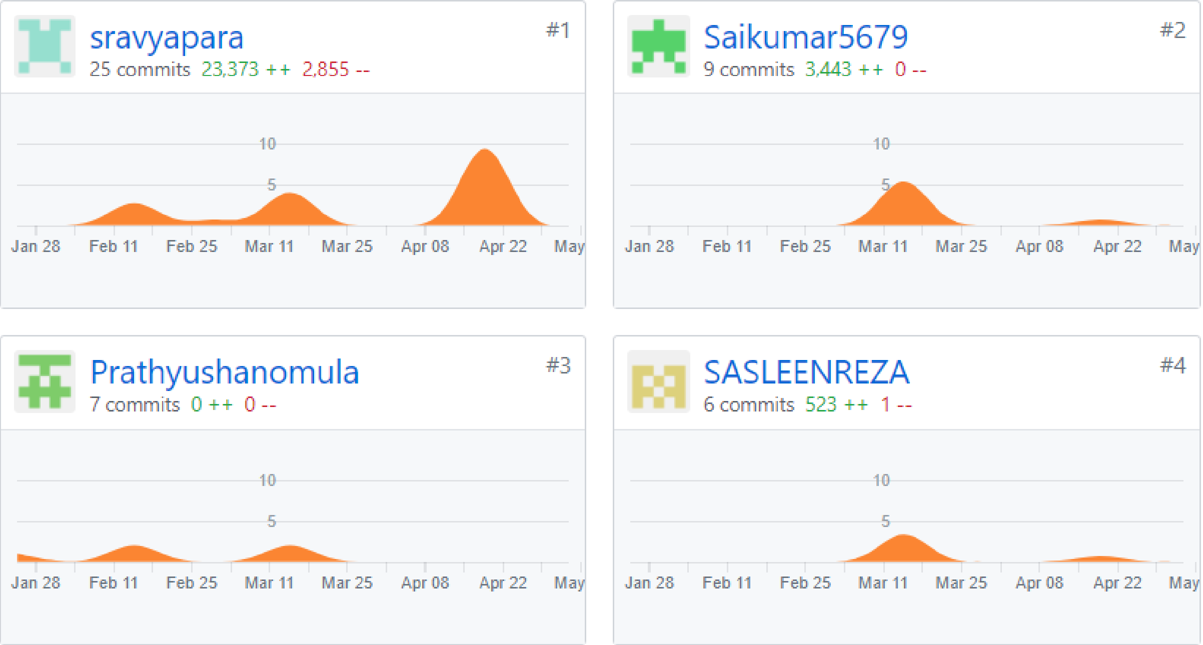
Over all contribution:

Sravya Para: Firebase log in, Tensor Flow Implementation, UI, Integration of all the modules. (25%)

Sai Kumar: Firebase Log in, YouTube implementation, UI (25%).

Sree Prathyusha: Facebook Log in, Text Recognition, UI, Integration of the modules (25%)

Sasleen : Google Log in , Text recognition , YouTube Implementation, UI(25%)



sravyapara #1
25 commits 23,373 ++ 2,855 --

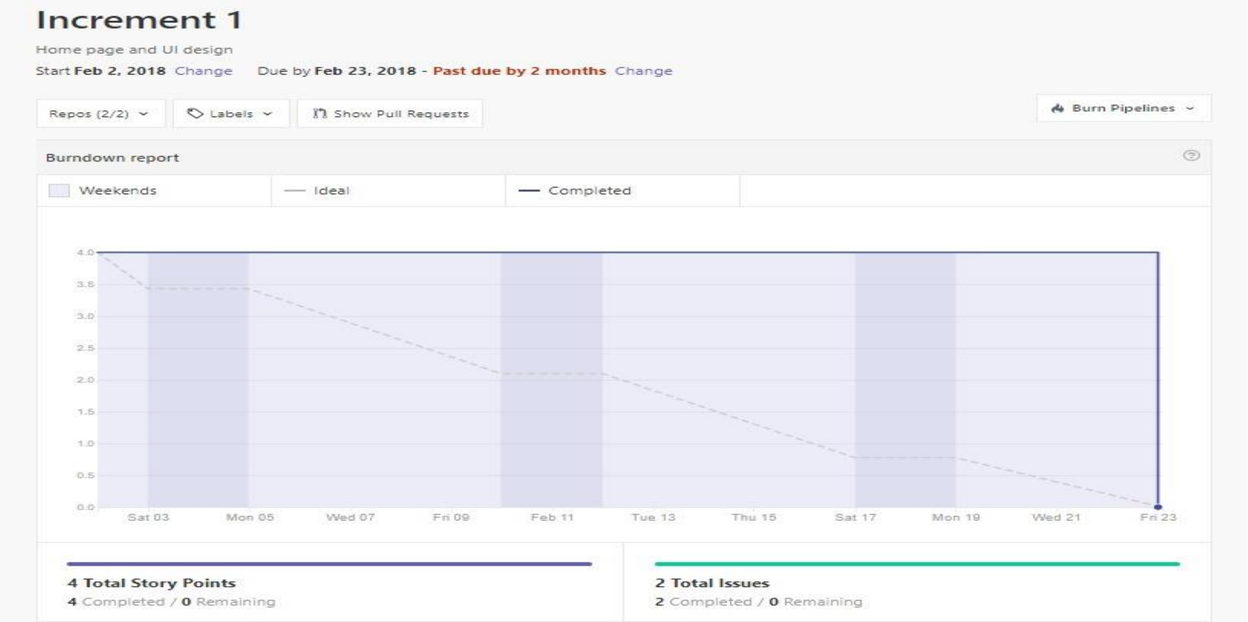
Saikumar5679 #2
9 commits 3,443 ++ 0 --

Prathyushanomula #3
7 commits 0 ++ 0 --

SASLEENREZA #4
6 commits 523 ++ 1 --

ZenHub Boards:

Increment 1:



Increment 1

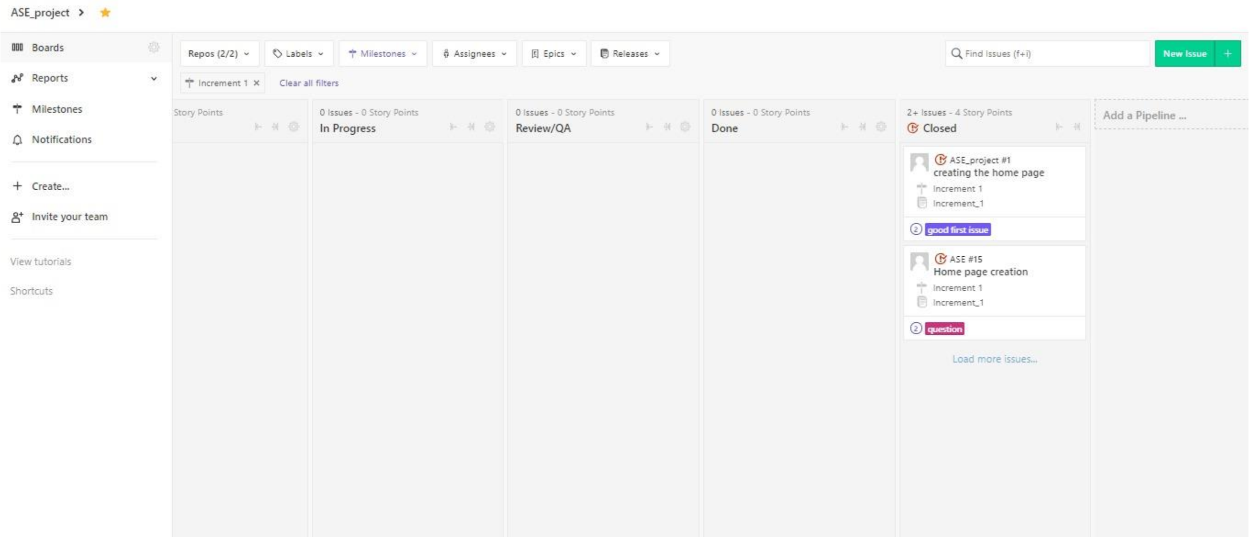
Home page and UI design

Start **Feb 2, 2018** Change Due by **Feb 23, 2018** - **Past due by 2 months** Change

Burndown report

4 **Total Story Points**
4 Completed / **0** Remaining

2 **Total Issues**
2 Completed / **0** Remaining



Story Points

0 Issues - 0 Story Points
In Progress

0 Issues - 0 Story Points
Review/QA

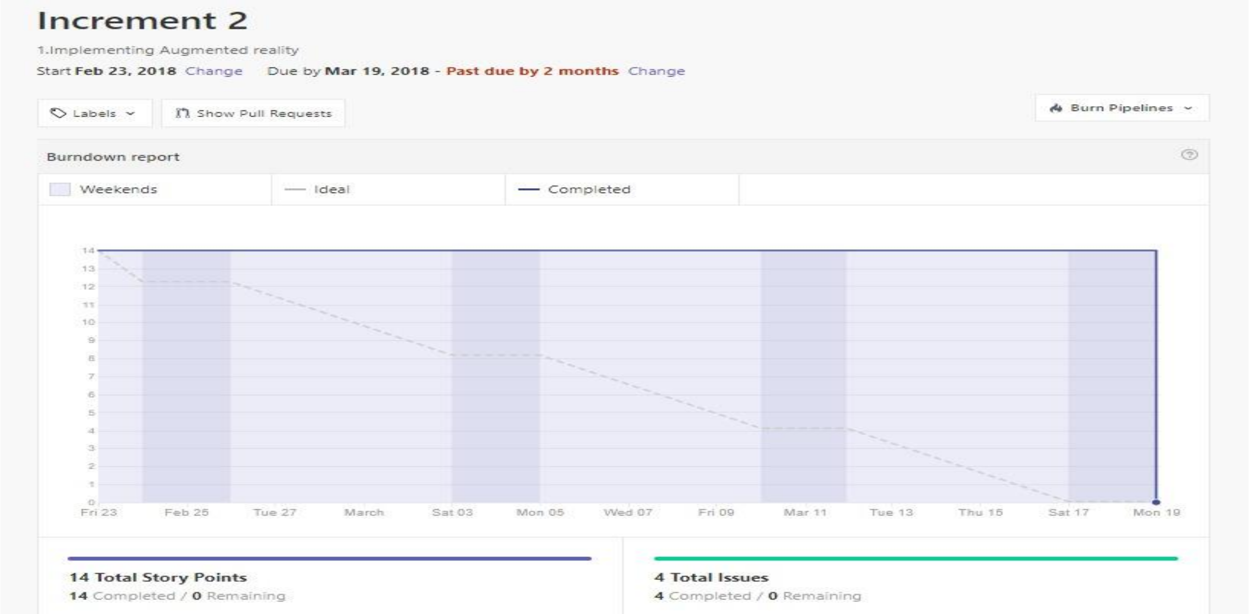
0 Issues - 0 Story Points
Done

2+ Issues - 4 Story Points
Closed

ASE_project #1
creating the home page
Increment 1
Increment_1
2 good first issue

ASE #15
Home page creation
Increment 1
Increment_1
2 question

Increment 2:



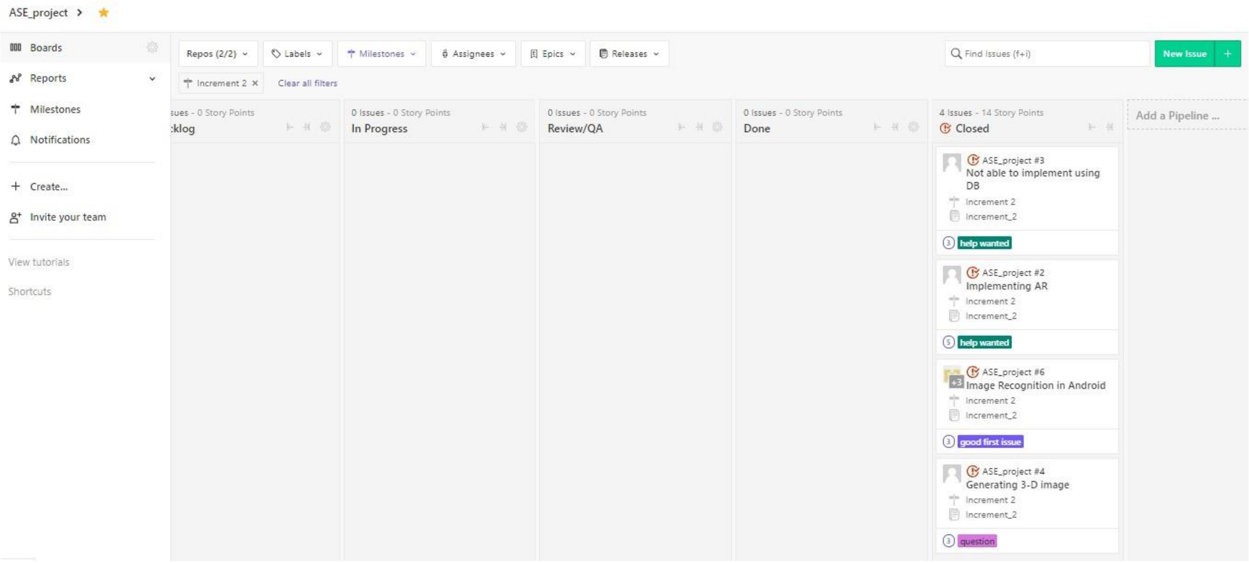
Increment 2

1.Implementing Augmented reality

Start **Feb 23, 2018** Change   Due by **Mar 19, 2018** - **Past due by 2 months** Change

14 Total Story Points
14 Completed / **0** Remaining

4 Total Issues
4 Completed / **0** Remaining



sues - 0 Story Points
cklog

0 Issues - 0 Story Points
In Progress

0 Issues - 0 Story Points
Review/QA

0 Issues - 0 Story Points
Done

4 Issues - 14 Story Points
Closed

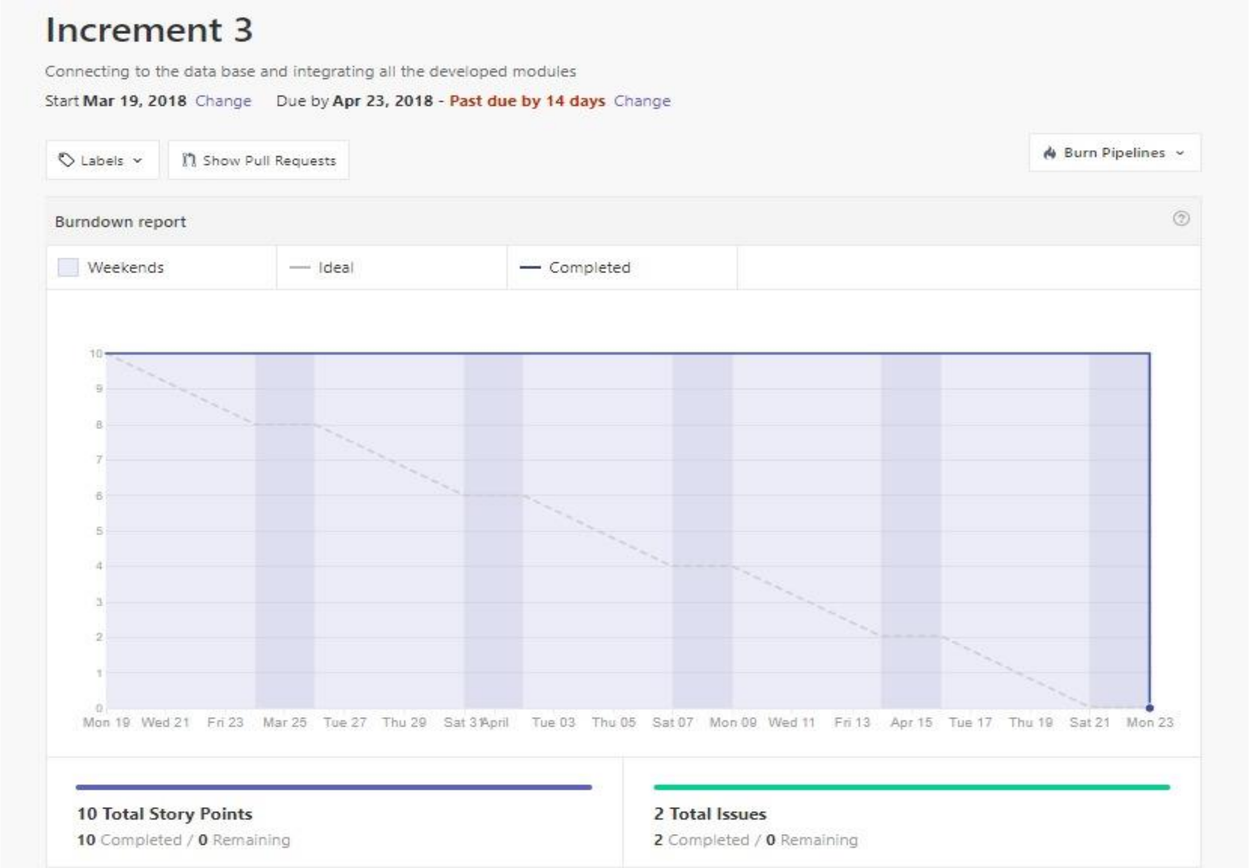
ASE_project #3
Not able to implement using DB
Increment 2
Increment_2
3 help wanted

ASE_project #2
Implementing AR
Increment 2
Increment_2
5 help wanted

+3 ASE_project #6
Image Recognition in Android
Increment 2
Increment_2
3 good first issue

ASE_project #4
Generating 3-D image
Increment 2
Increment_2
3 question

Increment 3 :



Increment 3

Connecting to the data base and integrating all the developed modules

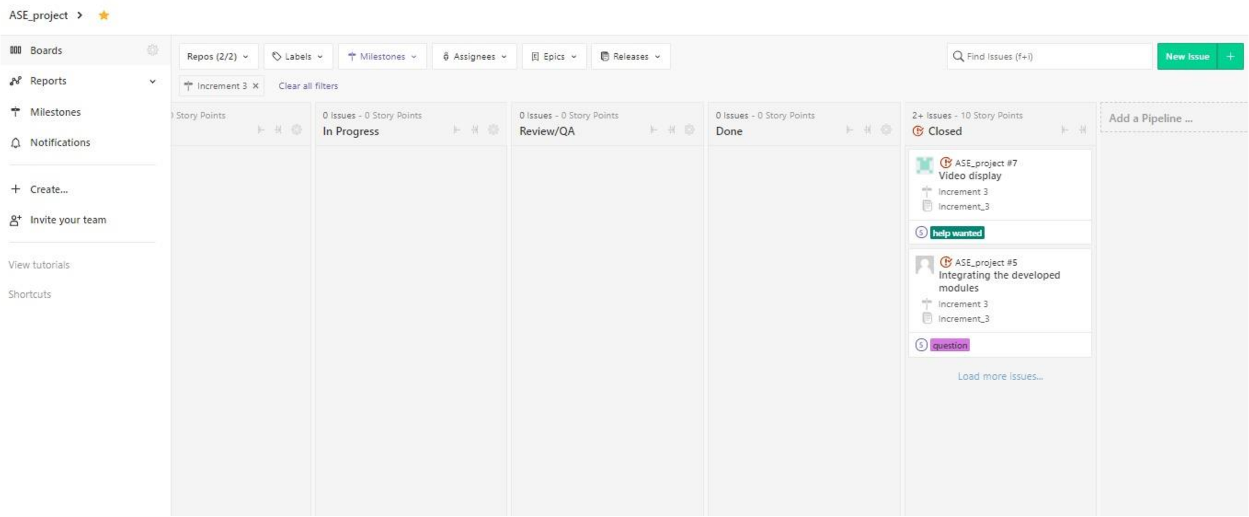
Start **Mar 19, 2018** Change Due by **Apr 23, 2018** - **Past due by 14 days** Change

10 Total Story Points

10 Completed / **0** Remaining

2 Total Issues

2 Completed / **0** Remaining



ASE_project >

) Story Points

0 Issues - 0 Story Points
In Progress

0 Issues - 0 Story Points
Review/QA

0 Issues - 0 Story Points
Done

2+ Issues - 10 Story Points
Closed

ASE_project #7
Video display
Increment 3
Increment_3
help wanted

ASE_project #5
Integrating the developed modules
Increment 3
Increment_3
question

Final project evaluation

Initially the plan for this project was to develop an Augmented reality application where if the user wants to watch a video regarding an article, the user has to place his phone over the headline or the image and automatically the video has to play.

During the increment 2, the plan was changed to displaying the related top YouTube videos based on the scanned image. We the used tensor flow API and OCR API to scan the objects and text and then passed the result to YouTube search.

During this phase of project development, we did stick to our plan schedule and managed all the activities equally.

One change in this project would be that instead of displaying the YouTube video's ID's we would have displayed the list as in how YouTube shows originally in the app