Project Report
On

"ANDROID APPLICATION TO ASSIST BLIND PEOPLE IN READING TEXT IN NATIVE LANGUAGE"

Submitted in partial fulfillment for the award of degree

Of

BACHELOR OF TECHNOLOGY

In

INFORMATION TECHNOLOGY

Submitted by

Suraj Gurav (16141238)

Madhuri Ghadge (16141139)

Aishwarya Swami (16141168)

Under the Guidance of

Prof. Y.D. Chavhan

Government College of Engineering, Karad

(An Autonomous Institute of Government of Maharashtra)

Academic Year 2019-2020

Government College of Engineering, Karad

(An Autonomous Institute of Government of Maharashtra)

Department of Information Technology

CERTIFICATE

This is to certify that the project entitled **"Android Application to assist blind people in reading text in native language**" has been carried out by team:

1.Suraj Gurav (16141238)

2. Madhuri Ghadge (16141139)

3.Aishwarya Swami (16141168)

of B. Tech IT class under the guidance of Prof. Y. D. Chavhan during the academic year 2019 -20 (Sem-VIII).

Prof. Y.D.Chavhan

Project Guide

Dr. S. J. Wagh
Head

Information Technology Department

External Examiner

ACKNOWLEDGEMENT

Apart from individual efforts, the success of any project depends largely on the encouragement and guidelines of many others. We take this opportunity to express our gratitude to the people who have been instrumental throughout the project work.

It is our privilege to express our gratitude towards our project guide, Prof. Y.D. Chavhan, for their valuable guidance, encouragement, inspiration and whole-hearted cooperation throughout the project work. We thank him for being a motivation through all our highs and importantly, our lows.

We deeply express our sincere thanks to our Head of Department **Dr. S. J. Wagh** for encouraging and allowing us to present the project on the topic " **ANDROID APPLICATION TO ASSIST BLIND PEOPLE IN READING TEXT IN NATIVE LANGUAGE** " and providing us with the necessary facilities to enable us to fulfill our project requirements as best as possible. We take this opportunity to thank all faculty members and staff of Department of Information Technology, who have directly or indirectly helped our project.

We pay our respects to honorable Principal **Dr. A. T. Pise** for their encouragement. Our thanks and appreciations also go to our family and friends, who have been a source of encouragement and inspiration throughout the duration of the project.

TABLE OF CONTENTS

ABSTRACT

Blind people are unable to perform visual tasks. For instance, text reading requires the use of Braille reading system or a digital speech synthesizer (if the text is available in digital format). The majority of published printed works does not include Braille or audio versions, and digital versions are still a minority. On the other hand, blind people are not able to read the simple warnings on walls or signals that surround us. Thus, the development of a mobile application that can perform the image to speech conversion, whether it's a text written of a wall, a sheet of writing paper or in another support, has a great potential and utility.

The technology of optical character recognition (OCR) enables the recognition of texts from image data. This technology has been widely used in scanned or photographed documents, converting them into electronic copies, which one can edit, search, play its content and easily carry. The technology of speech synthesis (TTS) enables a text in digital format to be synthesized into human voice and played through an audio system. The objective of the TTS is the automatic conversion of sentences, without restrictions, into spoken discourse in a natural language, resembling the spoken form of the same text, by a native speaker of the language. This technology has had significant progress over the last decade, with many systems being able to generate a synthetic speech very close to the natural voice. Research in the area of speech synthesis has grown as a result of its increasing importance in many new applications.

LIST OF FIGURES

ABBREVATIONS

Acronym	Definition
OCR	Optical Character Recognition
XML	Extensible Markup Language
API	Application Programming Interface
GUI	Graphical User Interface
TTS	Text to Speech
CLI	Command Line Interface

Chapter 1
INTRODUCTION

Background:

The visually impaired people face many problems in their day to day life like reading texts on walls, streets, messages on the boards, signals for the vehicles, etc. Many Braille systems for any language and digital synthesizer for digital text are available for those people to read the text. But the published work is mostly in the form of regional languages or in the English. Those formats are not understandable by blind people which may restrict their capabilities to gain the knowledge from all the fields. To support them there is need of providing the applications which may give the result understandable by those people. Such applications scan and read the text documents, text images and translate it and convert them in the electronic form. And will also help in Translating to there native language.

Importance of the project:

Congenital position in the eye, eye injuries, eye issues, brain trauma and many other diseases causes visual impairments of the people. Almost 50% blind population of the world is only from the India. As those people are the part of our society, they have a right to learn and develop themselves in any field, so that the blind students are provided with Braille language books and plates, Audio books or the personal assistant for education. But the availability of the study material is too less to gain knowledge of each and every field which student has an interest and which he wants to gain. Thus, availability of material is not much effective as it limits their capabilities.

The objective of the project is to assist the blind people and provide them the technical solution which overcomes the above problem. The application provides access to any text resource maybe text documents, text images, street boards, traffic signals, text plates, etc. and provides the output in the audio format effectively and translates the text. The android application is supporting all the android mobile devices which are easy to carry anywhere with the user. The earlier developing applications need to capture and load the images to further process to recognize

characters. This application overcomes this issue by capturing and automatically processing all the activities to load, to extract, to clean, to recognize, to translate and converting into audio format.

MOTIVATION:

Human communication in the society enhances via watching, reading, hearing, writing and interacting. Blind people are the integral part of human society but they can only listen the things and are unable to do other activities which needs normal vision. They are dependent on others for the basis activities like travelling, reading, shopping, etc. Blind people are unable to read simple text on boards, walls, etc. The most printed documents are in regional, national language or in English and doesn't support the Braille or digital systems. Thus, the need for an android application is increasing.

SCOPE:

The scope of our project is to provide an efficient and enhanced software tool for the users to perform document image analysis, document processing, by reading and recognizing the characters that are having large pool of documented, scanned images. Irrespective of the size of documents and the type of characters in documents, the product is recognizing them, searching them and processing them faster according to the needs of the environment.

EXPECTED OUTCOME:

- The project provides a clear concept for the text reading in English as an input in regional language (Hindi or Marathi) for blind people and also it translates the text in any other language.
- The main advantages of this project are it requires less consumption of time in recognizing and reading text with lower operational costs and also text of different fonts can be recognized.

Chapter 2

LITERATURE SURVEY

1. A Detailed Study and Analysis of OCR Research in South Indian Scripts:[1]
   Author: M. Abdul Rahiman and M. S. Rajasree
   Abstract: This paper provides an overview of the OCR research in south Indian languages. OCR reading technology is benefited by the evolution of high-powered desktop computing allowing for the development of more powerful recognition software that can read a variety of common printed fonts and handwritten texts.

2. Implementation of an Optical Character Reader (OCR) for Bengali Language:[2]
   Author: Muhammed Tawfiq Chowdhury, Md. Saiful Islam, Baijed Hossain Bipul and Md. Khalipur Rhaman
   Abstract: Optical Character Recognition (OCR) is the process of extracting text from an image. The main purpose of an OCR is to make editable documents or image files. Significant number of algorithms is required to develop an OCR and basically it works in two phases such as character and word detection.

3. Review of the Character Recognition System Process and Optical Character Recognition Approach:[3]
   Author: Jaswinder Kaur and Mrs. Rupinder Kaur
   Abstract: Character recognition in pictures could be an analysis space that makes an attempt to develop a computing system with the power to mechanically scan the text from pictures. Currently there's a large demand in storing data the knowledge the data out there in paper document format into a hardware disk and so later reusing this information by looking method.

Chapter 3

RELATED THEORY AND PROBLEM DEFINITION

Problem Definition:

Among 37 billion blinds across world 15 billion are from India. There are various solutions available for the blind people using different technologies like OCR technology. In early days OCR technology was only used with computers but now a days we can use this technology with android mobile devices also. There are several applications in market to read books, text images etc., in audio format but that are less effective as they need to capture image by users and to load it in application. [4] We are providing the OCR for android application which once started continuously capture and loads images and recognize text which gives speech as an output until user stops the application. Application is available in real time and in regional language to effectively convert text in any language and then speak for visually impaired persons. Simple OCR algorithm and libraries extract text from images and android application provides front end interface to the users supporting to all android mobile devices,

Related Theory:

- **OCR Technology:**

OCR is a widely used technology to recognize the printed, hidden, handwritten, typed text or the text on nameplates, boards of buses, trains, cabins, shops, advertises, text superimposed on the images etc. and to convert that text to machine readable language. After the document or text scanning it is stored as a bitmap file in the form of TIF file format. For the computers the text Images are just like dots. OCR [5] technology is developing towards giving the best solutions for text recognition from the 1990s till now.

Firstly, the OCR is made to help the sight-impaired people and till date it is developed large scale to search the text or digits in large dataset, to sort the mails,

magazines, letters etc. Zonal OCR is automating the complex text documents. There are variety of OCR techniques available in the market for the various application purpose. Few of them are as follows:

- **Pre-processing:**

OCR pre-processes the input images to make further implementation of algorithm effectively towards the success.[6]

- De-skew: The non-aligned document has to rotate few degrees in clockwise direction or in anti-clockwise direction in order to make it perfectly vertical or horizontal.
- Despeckle: Removal of positive and negative dots, smoothening of an edge of image.
- Binarisation: Image conversion from colored and greyscale image to black-white type in age. The task is to separate the text from the background.
- Removal of Lines: Cleaning of boxes and lines in the image that are not required.
- Layout analysis: Identification of the columns, rows/lines, paragraphs etc. as identifiable blocks. It is mainly important in case of multiple column layout with tables.
- Word or Line detection: Develops the baseline for word or character size and shapes and makes division in word if it is necessary.
- Recognition of Script: In the documents containing multiple languages, the format of the script file can be changed with respect to words so identifying the script file is necessary for that the expected OCR may be used to control the particular script file.
- Segmentation or Isolation of Characters: Separation of multiple characters connected with the image artifacts is required. Single characters broken into multiple pieces due to artifacts must be connected. The broken single character in many parts because of artifacts should be connected for identification.
- Normalizing the scale and aspect ratio

- **Character recognition:**

Two types of OCR algorithms are available to make candidate characters' ordered list:

- The input image is compared with the image stored for each pixel is called as

matrix/pattern matching, pattern recognition or image correlation[1]. Correct isolation of image characters depends on the input images containing the curved or curly characters rather than other chars and also it is taken in consideration that in which font and scale the glyph is stored. This method[7] works better with typewritten words/text and doesn't work well with new fonts added in the file.

- The features like lines, its closed loops, directions and intersections are extracted from the input images[2]. Due to this the representation dimensionality is reduced for better efficiency of recognition activity. The extracted features are tried to match with the vector of character representation. To compare input image features with stored image features, classifiers like k-nearest neighbors' algorithm are needed and the nearest path that is available is chosen.
- Data records on the printed papers is gone through the information entry in a large scale for such entry forms like documents of passport, cheques, statement of bank, electronic receipts, mail, prints or other documents are required the pre-processing before recognition process. Printed text is converted in digital form to enable the editing, searching, storing, displaying online, used in cognitive computing, machine language translation, TTS.

➢ **Post-processing:**

- By listing the words allowed to occur in the output document, the accuracy of an OCR is increased. In all the words in the English language. In case when the words out of the listed lexicon occurs in the document then accuracy of the recognition reduces very deliberately. The dictionary of Tesseract is used to enhance the segmentation of character in order to improve accuracy of OCR.
- In many cases the output is in the form of text or char files but in more advance OCR systems, the output matches the layout of an input format. E.g. Pdf containing root image and its textual representation which is searchable.
- The frequencies of the characters occurring together are used for the analysis of nearer neighbor for correcting the occurred errors by analyzing that certain words are often seen together. E.g. "ing", " ed" etc.
- Information about the grammar of language used in input document to be scanned helps in guessing nouns and verbs for increased performance. For optimizing the outputs of OCR API, the algorithm of Levenshtein Distance is used in OCR post processing.

- **Tesseract Application:**

- Tesseract is an open source OCR engine having greater accuracy and is a free software with Apache License, Version 2.0 that can be run on different platforms. In 2006, Tesseract was one of the engines from top three with respect to character accuracy.
- Tesseract 3.9 supports formatting of an output text, information position and analysis of page-layout. To support the formats of new images the library called Leptonica is added Tesseract can identify the monospaced or proportionally spaced text Tesseract is trained to work in many languages like English, Malayalam, and Afrikaans etc. [8] Tesseract processes right-to-left text like Arabic or Hebrew language.
- In case of the unprocessed input images the tesseract gives very poor-quality output, Images must be scaled up to 20 pixels, rotating an image or an orientation should be corrected otherwise text detection will become hard. Binarization of Tesseract stage will delete much more of the page, and the dark borders should be removed to avoid misinterpretation of characters.
- Tesseract is run from the CLI (command-line interface) as it is not having GUI, but various projects supplies GUI for it.

- **Text to Speech:**

Google Cloud TTS enables programmers to analyze the natural voice with 30 different spices in multiple languages. It uses the research of DeepMind for WaveNet and the neural networks of Google for delivering the audio of high fidelity. Using those APIs, you can make inter actions with users all over the world across many applications and the devices.

- **jTessBox Editor:**

In the Tesseract OCR the training is done via Box Editor with full automation. It is used for both the versions of Tesseract 2.0 and 3.0 too. It can read basic formats of images with the TIFF many pages, Program requires JAVA Runtime Environment-7 or later. It is rewritten in Java gauge to render the issue of the complex JavaScript.

The box or TIFF files are provided as an input to the box editor. The type of input images should be of 300 DPI and 1 ppb black-white or 8bpp grey scale uncompressed images. The Box files are generated in UTF-8 format by Tesseract[8] executables or by the box generator

- **Gradle NDK:**

To make the library project as the Gradle build dependency, the Gradle is provided by allocating the path of CMake or ndk-build script file. As an application is executed the gradle run the CMake or ndk-build script file to share the libraries with the APK and the files to include in the android project are guessed by gradle with build script files. For any project, it is necessary to create build-script file initially if not available before further procedures

Every module in the project is linked with the only one ndk-build script file. For the number of modules in project there is need to create number of build script files. The CMakeLists.Txt is then used as a top-level build script for the project and other script files as the dependencies of that top script file. For ndk-build the Android-mk script file can be used to include other Makefiles in project.

- **Tess-two with Gradle:**

To integrate tesst-two with gradle android project there are following steps:

1. Create a libraries folder in the main directory of the project. For example, if project is First Project, create a First Project/libraries folder in main directory.
2. Copy tess-two directory in the libraries folder just created.
3. Delete the libs folder in the tess-two directory, project.properties, build.xml, .classpath and .project files as.
4. Create a build.gradle file in the tess-two directory:

Cuneiform and Tesseract software uses two pass method for recognizing characters. This pass is also called as adaptive type recognition and it uses the shapes of letters that are recognized. To recognize the letters in second pass the letters recognized in first pass

are taken in account for better recognition efficiency. This is advantageous in case of unusual fonts or low-quality scanned docs or images where the font is blurred.

Use:

- For using tess two in the application, modify the build gradle build file of app module in order to insert tess two dependency externally in the project application. Dependency is:
  Dependencies
  {
  implementation 'com.rmtheis:tess-two:9,0.0
  }

- Open build.gradle and add Mobile Vision dependencies in it as follows:
  Dependencies
  {
  implementation file Tree(dir:'libs', include:['*jar'])
  implementation 'com.android.support:support-v4:26.1.0'
  implementation 'com.android.support:design:26.1.0'
  implementation ' com.google.android.gms:play-service-vision:15.0.0'
  }

Chapter 4

DESIGN METHODOLOGY

Proposed system Architecture:

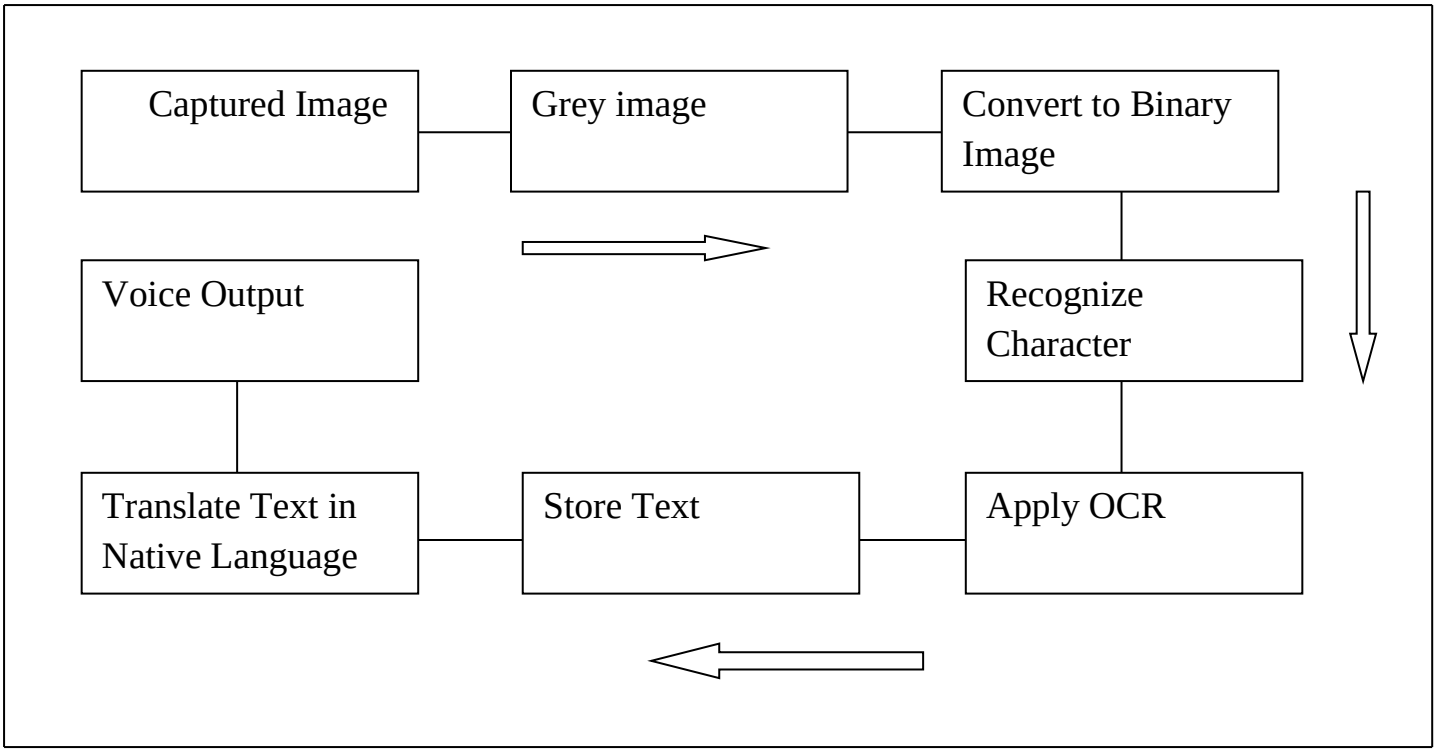

Fig.4.1: System architecture

Internal Logic of system:

The project consists of OCR technology, JBox Text Editor, VIET OCR, Android Studio, NDK, ANT Java Package Manager, text to speech and Tesseract Command Line Interface. The OCR technology consists preprocessing, character recognition and post-processing. The output text is converted into voice by text to speech conversion method.

OCR Technique: The optical character recognition is used to recognize the characters from the input images provided. The OCR uses character recognition algorithm. The logic of algorithm is as follows:

- Loading the image of any type in any format from the source as given.
- Converting input text image into the gray-scale image and then do binarization of it using Otsu algorithm with the threshold value
- Detecting features of image as resolution or inversion to convert it in a simple image to next processing.
- Detect the lines and remove it to improve the analysis of page layout to gain better quality of recognition for the character or text.
- Analysis of Page Layout: identifying the text set available in image to use that portion for recognition.
- Detecting text lines or words using variety of fonts and the spaces in words.
- Recognition of text: Each character image should be changed into right code of character. At times the algorithm generates number of character codes for one image. E.g. Recognition of 'I' may generate 'I', '|', 'l' and 'l' codes. The resultant character code is chosen afterwards.
- Results are saved in chosen output format as pdf, doc, rtf and txt. Previous layout of page is saved.

Image Processing: The image is captured the camera of an Android Mobile device and then is used by an application. Image pre-processing is done to avoid the blurriness, extra brightness and the noise in image to clean it for the best performance.

Character Recognition: The pre-processed image is further uses algorithm for character recognition. The recognized characters are compared with patterns for semantic analysis. The matched words are then treated as recognized words.

Text to Speech Conversion: The extracted words from the text image or document are then conned into voice output for the user of an application

Data Flow and UML Diagram

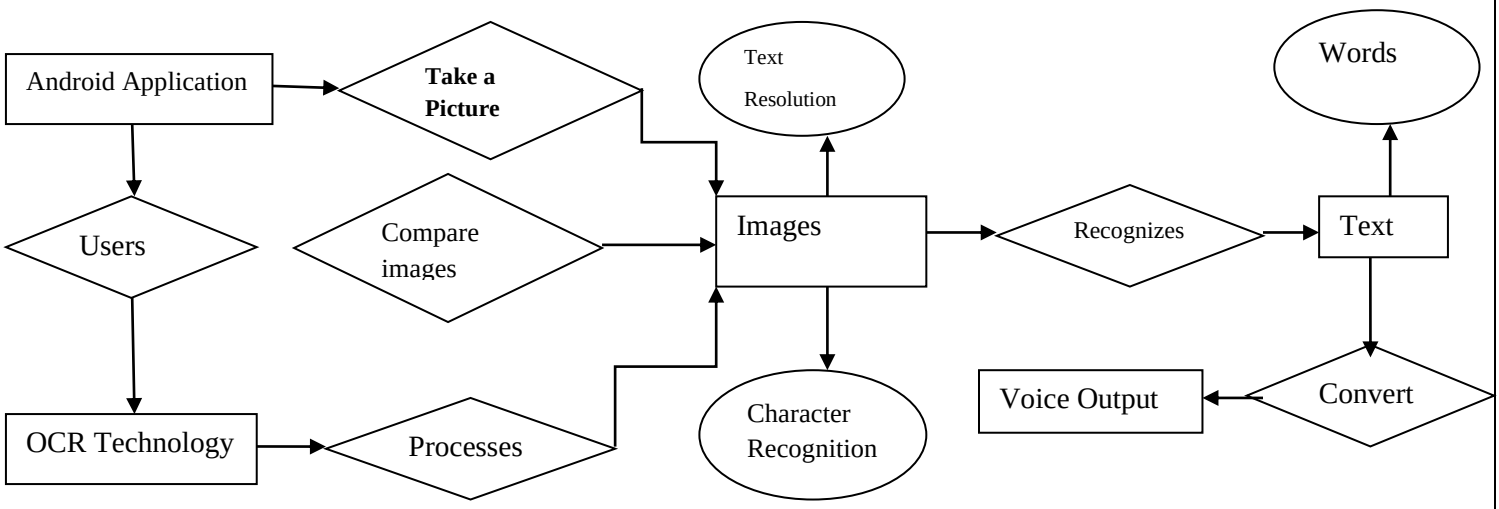

Fig.4.2: Overall Flow of System

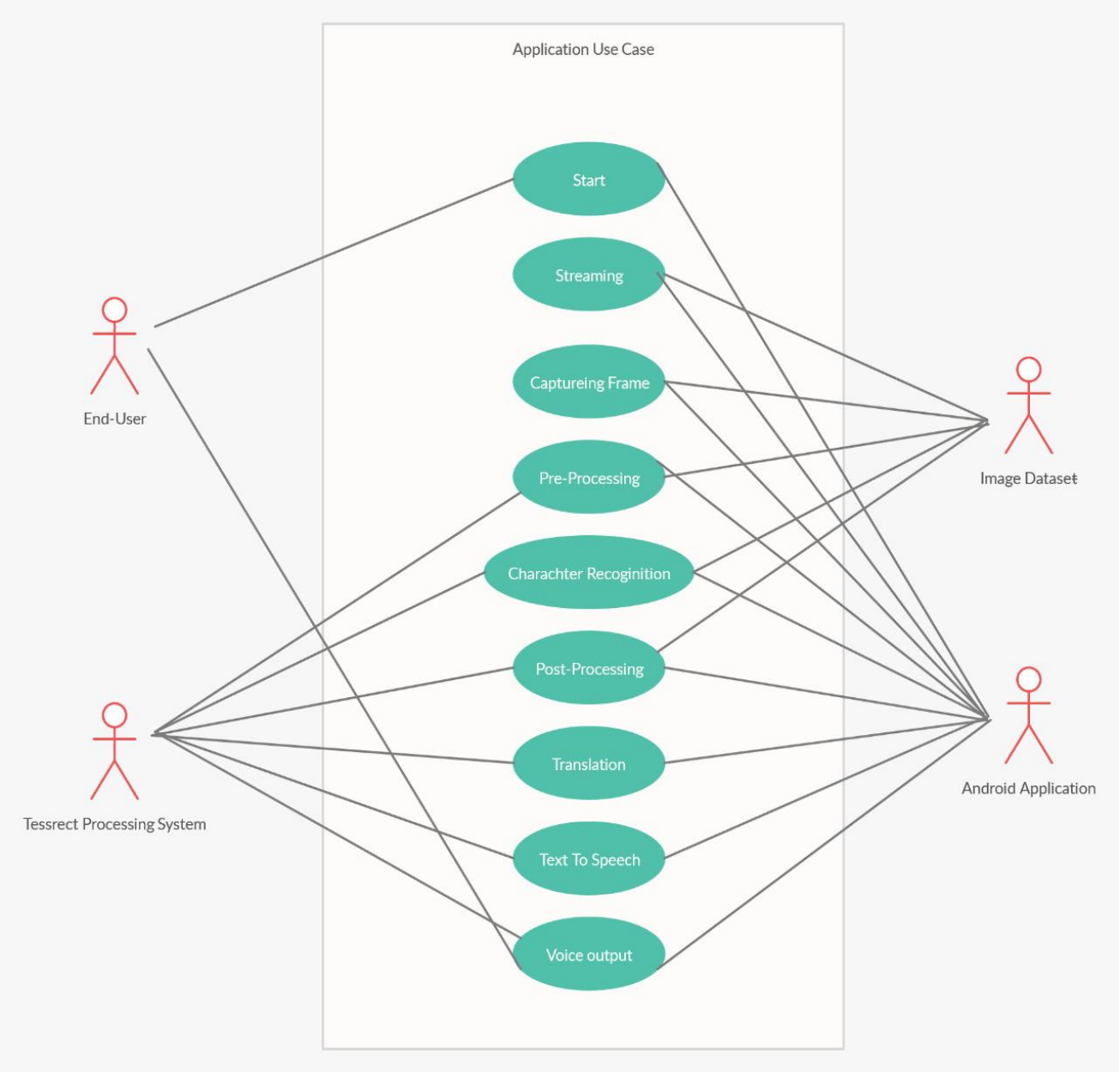

Fig.4.3: Use Case Diagram

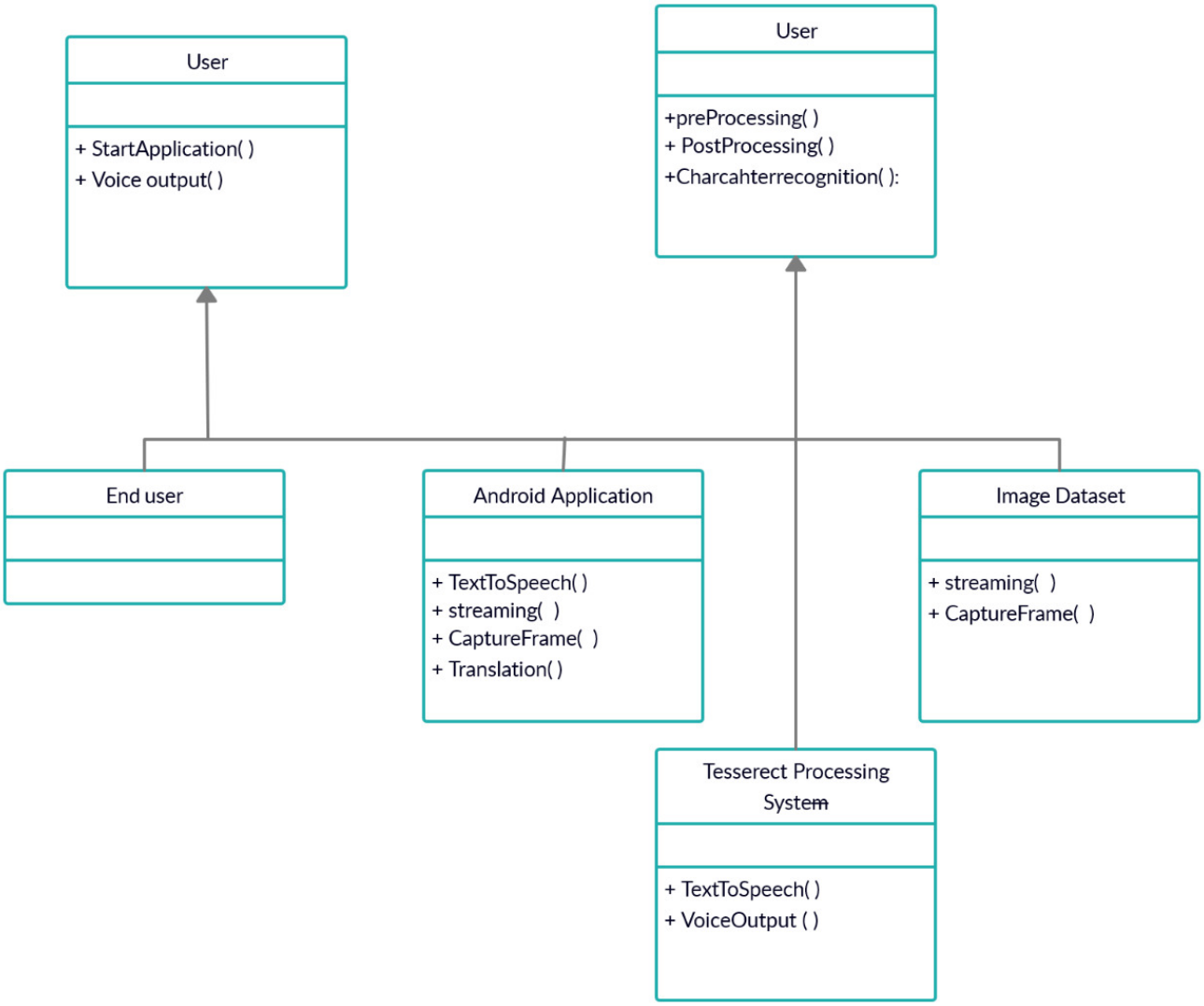

Fig.4.4: Class Diagram

Technical Specifications:

Software Specification:

- Tesseract Engine(version 3.4)
- jBox Tess Editor
- VIET OCR
- NDK Build
- Android Studio(version 3.1)
- ANT (Java Package Manager)

Hardware Specification:

- Android Mobile Device with High Resolution Camera
- Connector Cable
- High Speech and Audibility Ear-phones

Chapter 5

IMPLEMENTATION

Implementation of Proposed System:

Code for Tesseract to implement OCR:

```
Public TessOCR()
{
    //TODO Auto-generated constructor stub
    mTess = new TessBaseAPI();
    String datapath = Environment.getExternalStorageDirectory()+ "/tesseract/";
    String Language = "eng";
     File dir= new File(datapath + "tessdata/");
     If(!dir.exists())
          Dir.mkdirs();
          mTess.init (datapath,  Language);
}
Public String getOCRResult(Bitmap bitmap)
{
     mTess.setImage(bitmap);
     String result = mTess.getUTF8Text();
     return result;
}
```

Implementation:

Tesseract Activity to Implement OCR:

The installed Tesseract application is executing for an OCR and asking for the language specifications used for OCR conversion. It is necessary here to specify it while configuring it. The tesseract is available for variety of languages like English, Malayam, Afrikaans and many Albanian languages.

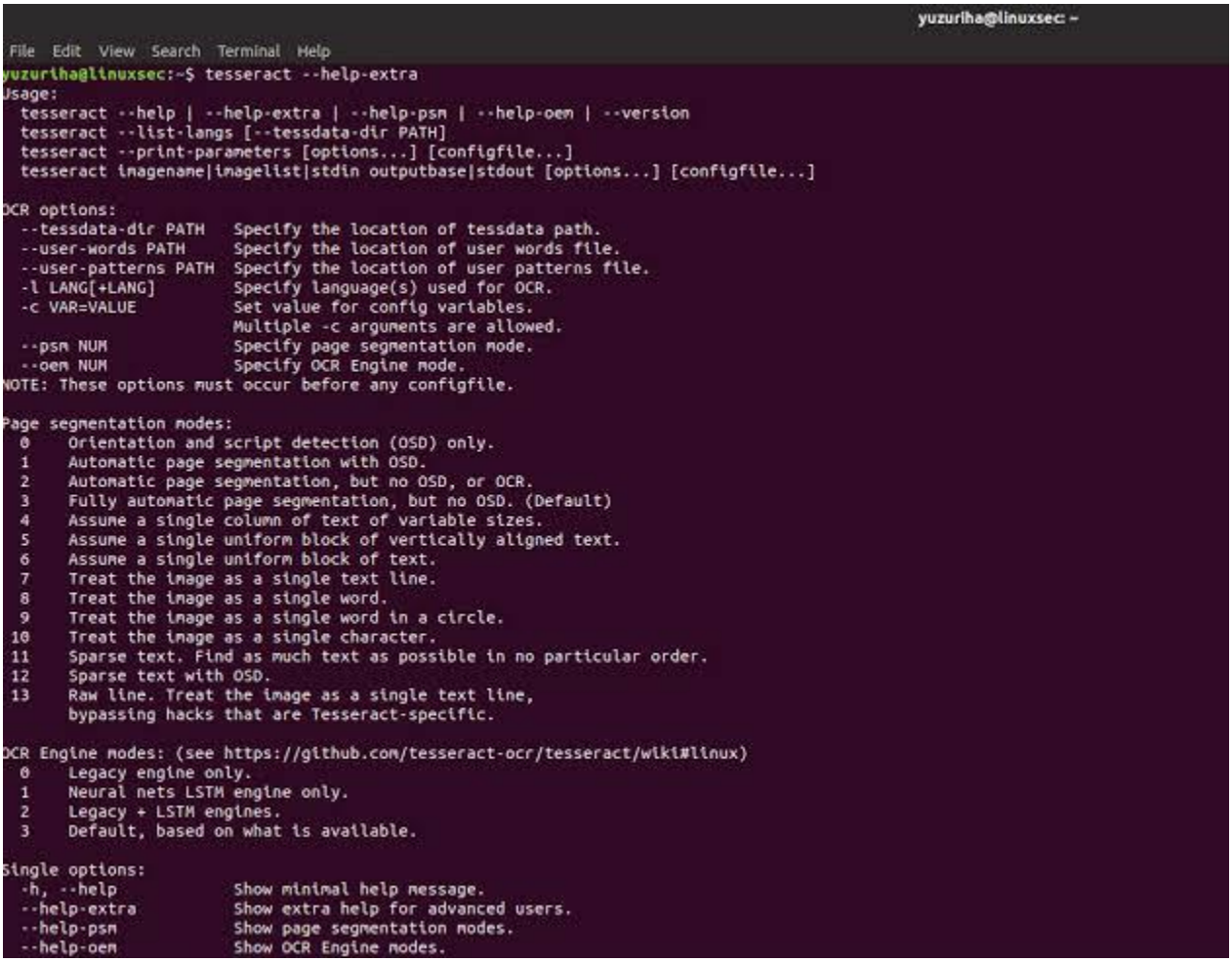

Fig.5.1:Teserract Implementation

Box Editor in OCR:

The below shown box editor executes the input files that are in box or TIFF format, 1bpp black-and-white or 8bpp grey scale images. The output is the code for each character.

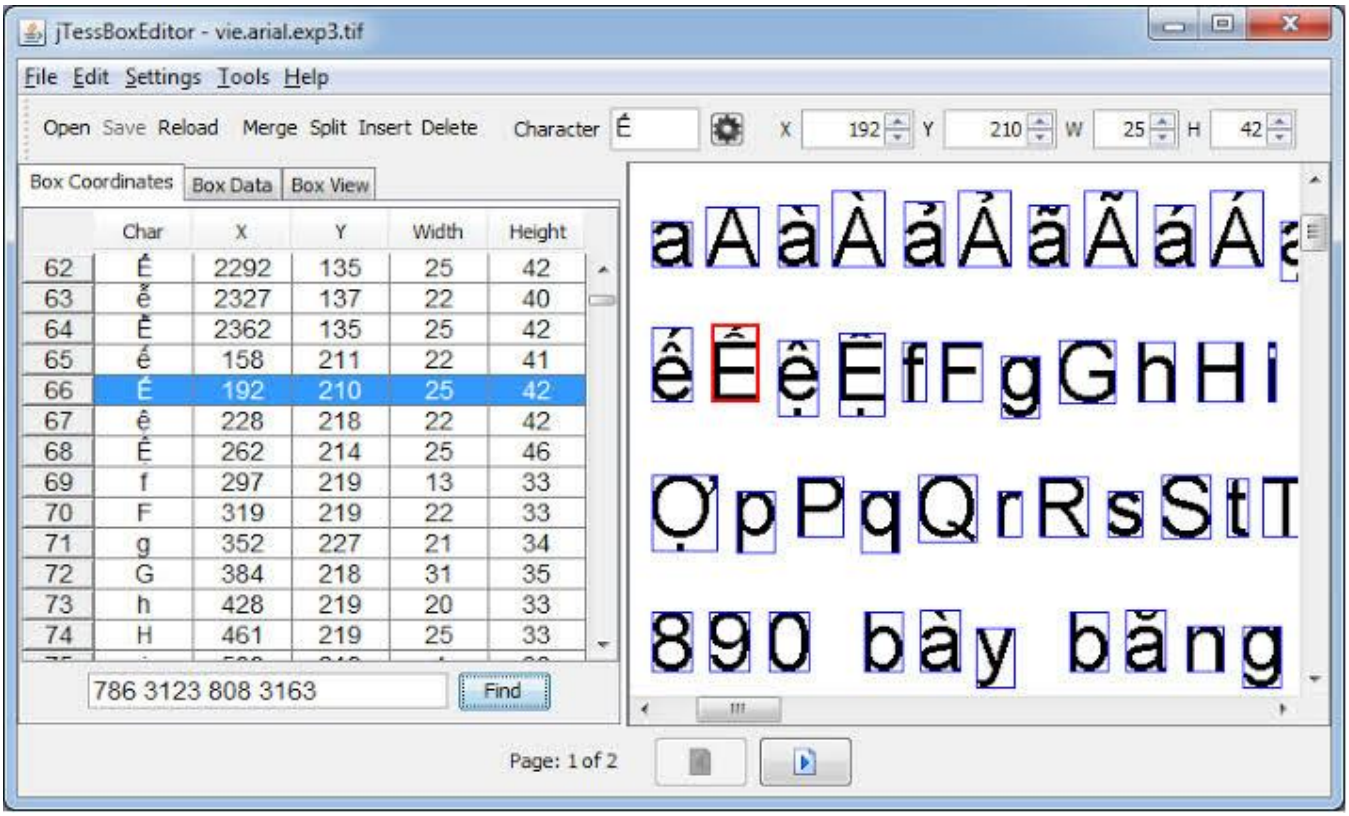

Fig.5.2:Box Editor in OCR

NDK-Build:

NDK-build script files are initially provided to any android project. The CMake or NDK-build script files are executed by the gradle for any application to share the files with the APK. Every module of project requires one separate NDK-build script file so that the number of modules is provided with the same number of NDK-build script files. One CMakeLists.txt file is made on the top of directory and other files are given dependencies with this file in order to work collaboratively.

Fig.5.3NDK-Build

NDK-Path:

The below figure is indicating the path of NDK-build script file or the CMake file which is then used by the Gradle to execute it to share the resources with the APK. Every project is initially provided the NDK-Path, if not then it is necessary to mention at first to avoid further errors in the APK process.

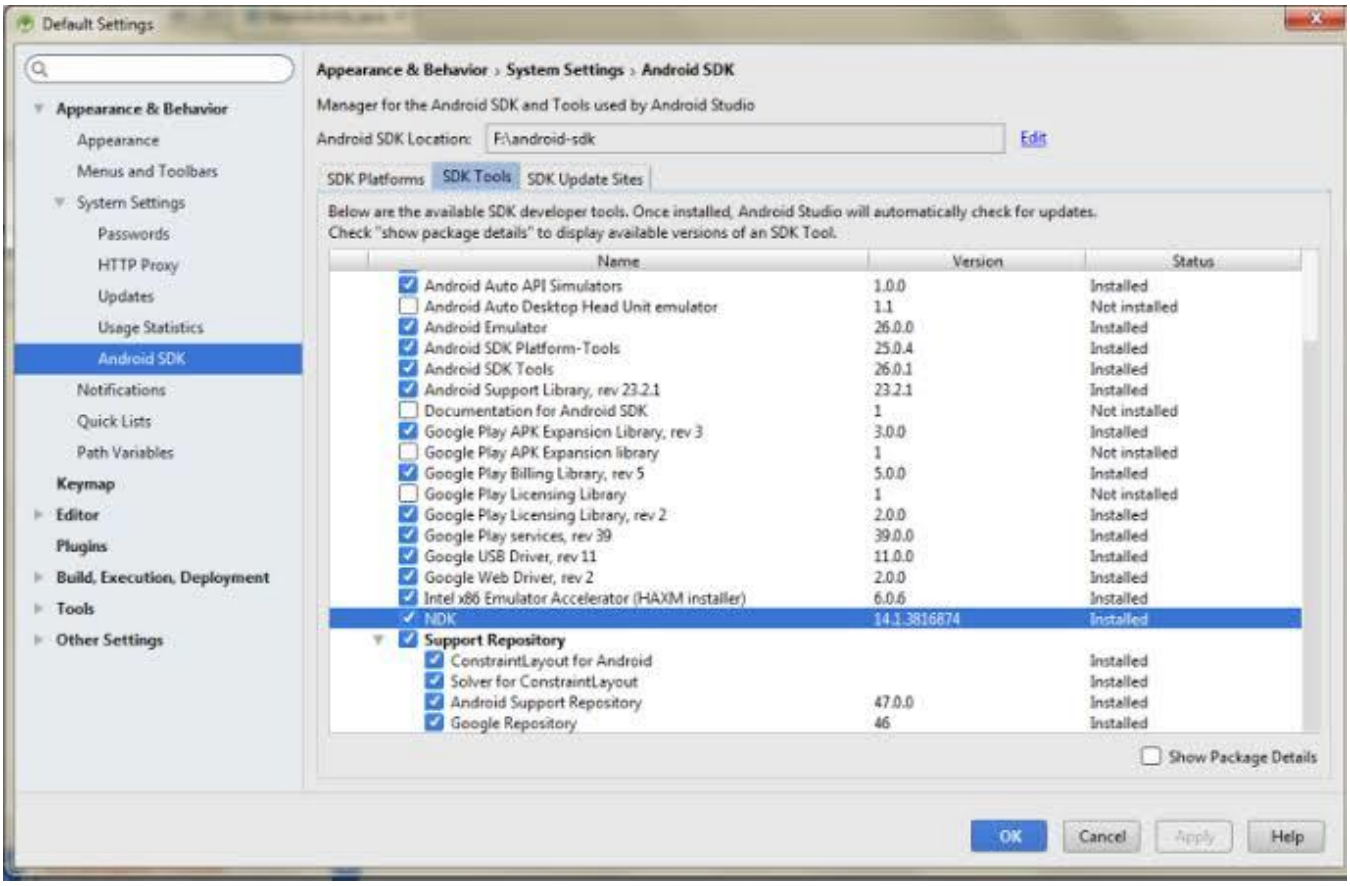

Fig.5.4: NDK Path

GradleNDK:

To make the library project as the Gradle build dependency, the Gradle is provided by the allocating the path of CMake or NDK-build script file. As an application is executed the gradle run the Cmake or the NDK-build script file to share the libraries with the APK and the files to include in the android project are guessed by gradle with build script files for any project, it is necessary to create build-script file initially if not available before further procedures.

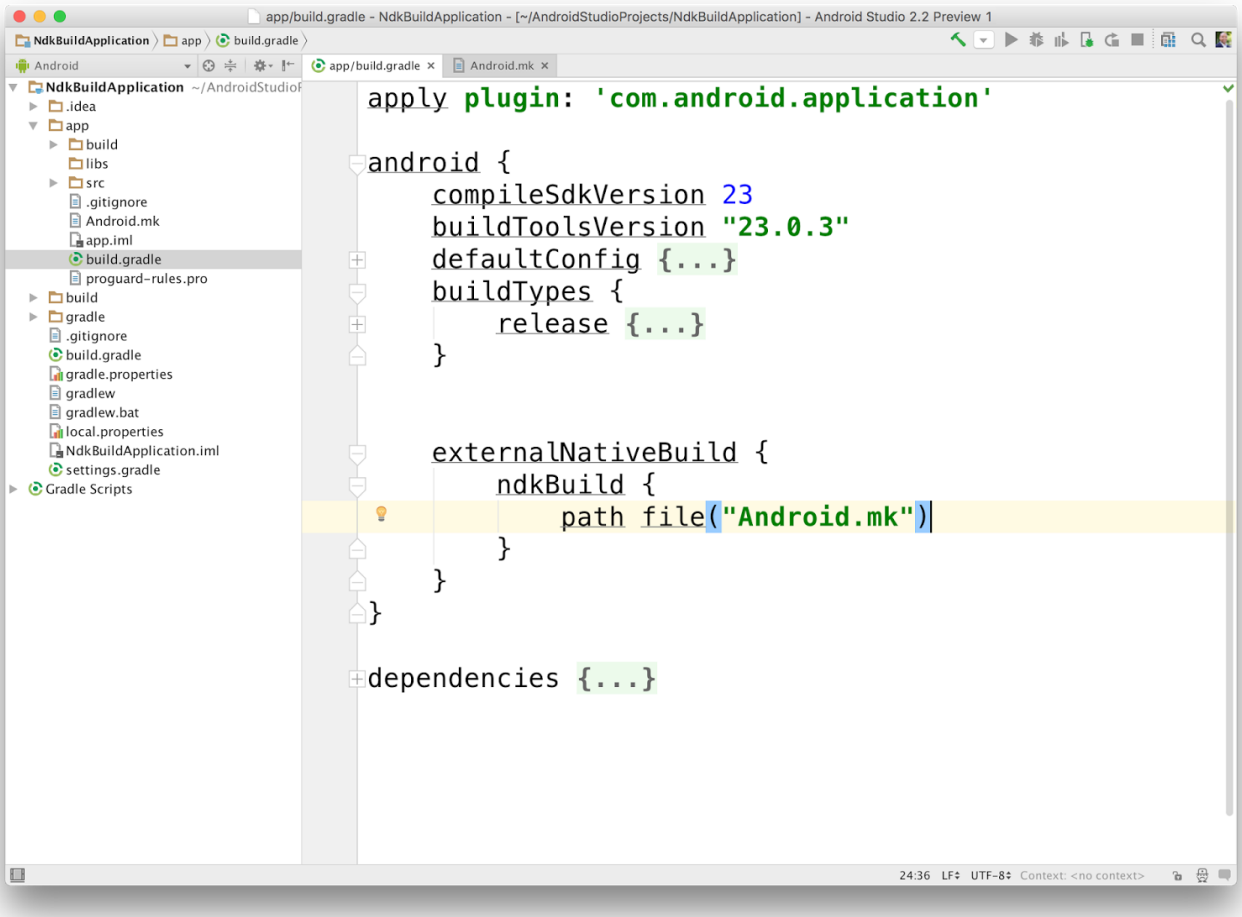

Fig.5.5: Gradle NDK

Tess Two with Gradle:

Tesseract uses two pass method to recognize text. This is also called as adaptive type of recognition which uses the shapes of recognized letters. To recognize letters in second pass, letters recognized in first pass are taken in account for better recognition efficiency. This is advantageous in case of unusual fonts or low-quality scanned docs or images where the font is distorted.

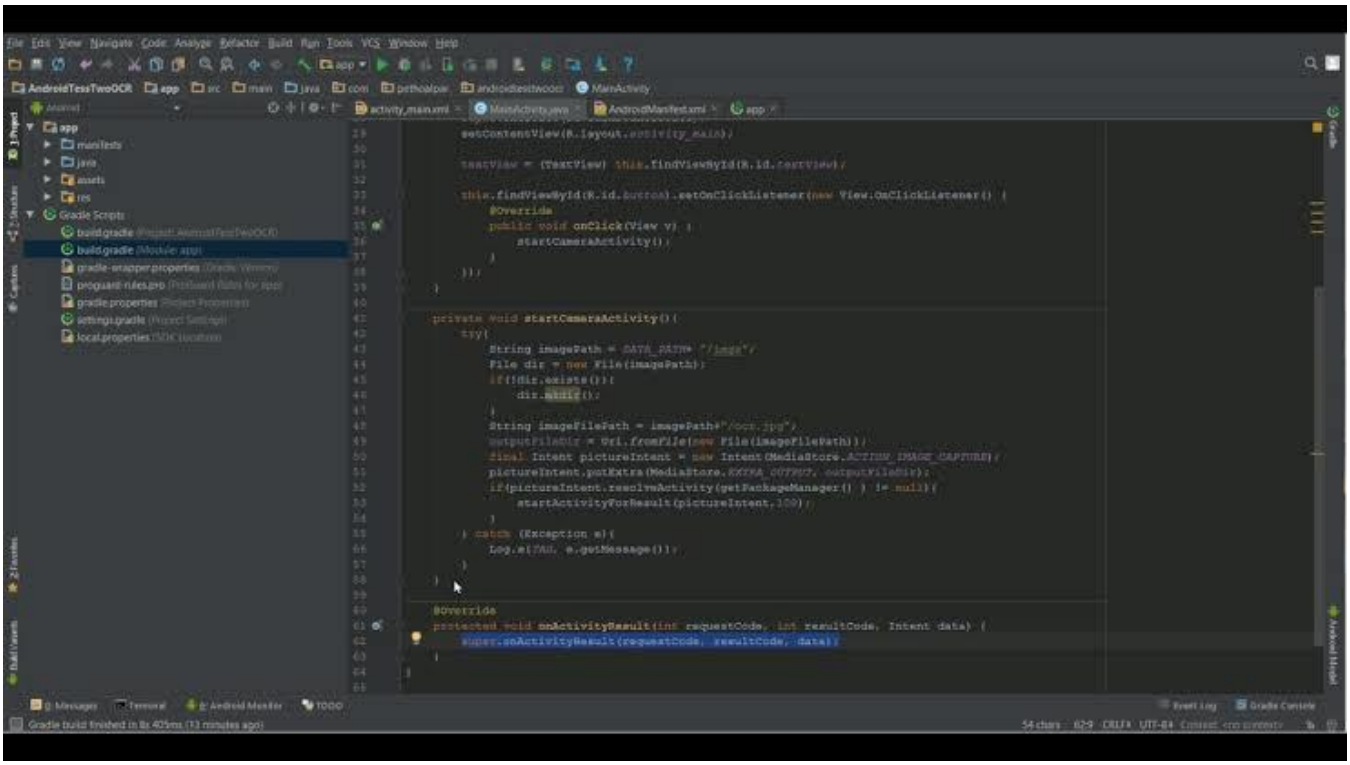

Fig.5.6: Tess Two with Gradle

On-field Testing:

Testing is an important step that helps to detect errors. Testing is a process of finding faults that might occur during the implementation phase. It is also a way to test if the product fulfills the requirements and to check the components functionalities. There exist many ways of testing where each one of them has a distinct requirement, but the only testing that we made is the acceptance testing.

We have tested the application, Android based device, with the supervisor using acceptance testing strategy.

Chapter 6

RESULT AND DISCUSSION

Result:

The simple OCR application uses the input images in different languages and in variety of fonts. The image datasets are provided to recognize the text. The OCR recognizes each and every character in the image in the left hand side and providing the output words at the right which are further used to provide voice output to the user.

Screen o/p

On-field Result Analysis:

- **Economic:** Since people will be using such technology, so instead of wasting time typing on their keyboards or writing on papers, many actions might be performed in few minutes which will contribute on the growth of the economy.
- **Political:** No political trend.
- **Technological:** This application is introducing a new technology that will help its users to save time and perform many actions in few minutes. For instance, students can take a picture of the slides and copy them directly instead of wasting time typing and then copying the desirable data.
- **Legal:** No legal trend.
- **Environmental:** Since the use of papers will reduce, so the number of wastes will decrease as well.
- **Social:** This application provides a social issue which is saving time and performing actions in few minutes, helping foreigners to copy and translate the desirable text just by taking a picture of whatever they need.
- **Ethical:** This application should protect the confidentiality of the user's personal information and any personal data stored on the mobile phone.

Discussion:

The project has been developed in order to achieve the objective of text recognition and voice output to assist the blind people in their regional languages. Initially, we have started the project to build an android application continuously giving a voice output for the captured frames by the camera in real time using the OCR technology. We have faced many problems like image loading in an application, frame drops and image brightness while capturing the images, frame-rate variation, orientation and font of the images etc., To overcome all this problems that we have faced in the application building process we used the Google API for Text To Speech conversion. The speech-rate while using API was then too high with the lesser delay between the frames in the voice processing and it supports the English language and not all the regional languages.

To support the application with regional languages there was a need to provide various databases for various languages in different fonts and angles etc. We have made two datasets with the images in varying angles, brightness, noise and angles etc. The database supports the system and recognizes the text efficiently. According to the cleanliness, noise and skew level the efficiency of an android application varies. The project is built using the Box Tess Editor, tesseract and ndk Gradle to manage resources and packages with the APK. The real time implementation of an application with low cost makes it easy to use in daily life for educational purpose in case of blind people and to use in other applications as a base.

Chapter 7

CONCLUSION AND FUTURE SCOPE

Conclusion:

The project provides a clear concept for text reading in any form as an input in any regional language for the blind people all across the world. TTS synthesis is largely growing phenomenon of computer science and it is vastly executing the major role as an interaction with system and interfaces on the variety of platforms. The planned system provides the simplest technique for ITS transformation. Char inputs like alphabet, sentences, words and numbers etc. are provided to system to recognize Text to voice conversion is obtained and receives the best result which is hearable and accurate. OCR performs text character recognition on the text fields in variety of documents and images and transforms it into audio output for blind users. The main advantages this project is it requires less consumption of time in recognizing and reading text with lower operational costs and also text of different fonts can be recognized. It plays a significant role for visually impaired students in their education.

Future Scope:

- **Direction:** It will be possible to develop an application accepting the source and destination of travelling and providing the proper and efficient destination to the users.
- **Allocation of text:** The visually impaired people can move with the mobile device which can beeps when the camera captures the text on any type of text in captured images so that the user can stop there by directing the camera towards the text image to listen it in the voice format.
- **Availability in all languages:** The text conversion is possible in all languages which on need to build the necessary database of images for real time implementation.

- **Automation:** We can make the application automated by using AI by doing any activity like travelling, searching for new place, guessing roads, statues, shops etc. and to analyze the frontier person gestures or face recognition.

- **Alert System:** Using GPS system we can make the application track able in accidental or in any necessary situation.

REFERENCES

[1]Mamta Kadyan (M.Tech Scholar), Deepti Ahlawat (Assistant Professor) N.C. College of Engineering, Israna, Panipat, India. A Review on Character Recognition Using OCR Algorithm, Volume 7, Issue 5, May 2017, Journal of Network Communications and Emerging Technologies

[2]Fatima Ezzahra Zdadou, "The Optical Capture Recognition Mobile Application". 2015.

[3] A.Subbiah. T.Arivukkarasu. MS Saravanan and V.Balaji. "Camera Based Label Reader for Blind People" Int. J. Chem. Sci.: 14(S3), 2016. 840-844 ISSN 0972768 X, Department of EC, Arupadai Veedu Institute of Technology, Chennai, India.

[4] Noman Islam. Zeeshan Islam. Nazia Noor, "A Survey on Optical Character Recognition Sys tem". Journal of Information & Communication Technology-JICT Vol. 10 Issue. 2. December 2016

[5] https:/develoerandroid.com

[6] https://rmtheis.github.io/tess-two/javadoc/

[7] https://github.com/tesseract-ocr/

[8] https://ocrsdk.com

[9] http://researchgate.net

[10] http://stackoverflow.com/

BESE

Charles E. "Chas" Roemer, President

BOARD of ELEMENTARY and SECONDARY EDUCATION

The Board of Elementary and Secondary Education shall provide leadership and create policies for education that expand opportunities for children, empower families and communities, and advance Louisiana in an increasingly competitive global market.

OFFICIAL BOARD MINUTES

Meeting of March 7, 2014

LOUISIANA STATE BOARD OF ELEMENTARY AND SECONDARY EDUCATION

MARCH 7, 2014

The Louisiana Purchase Room
Baton Rouge, LA

The Louisiana State Board of Elementary and Secondary Education met in regular session on March 7, 2014, in the Louisiana Purchase Room, located in the Claiborne Building in Baton Rouge, Louisiana. The meeting was called to order at 9:17 a.m. by Board President Chas Roemer and opened with a prayer by Ms. Terry Johnson, Bossier Parish School System.

Board members present were Dr. Lottie Beebe, Ms. Holly Boffy, Mr. Jim Garvey, Mr. Jay Guillot, Ms. Carolyn Hill, Mr. Walter Lee, Dr. Judith Miranti, Mr. Chas Roemer, and Ms. Jane Smith.

Ms. Connie Bradford and Ms. Kira Orange Jones were absent.

Dr. Charlie Michel, Lafourche Parish School System, led the Pledge of Allegiance.

Agenda Item 2. On motion of Mr. Garvey, seconded by Ms. Boffy, the Board approved the agenda, as printed and disseminated. (Schedule 1)

Agenda Item 3. On motion of Ms. Smith, seconded by Ms. Boffy, the Board approved the minutes of January 15, 2014.

Agenda Item 4. **Report by the State Superintendent of Education**

State Superintendent of Education John White provided an update on the intense and increased support that the LDE is providing to teachers to assist with new academic expectations. The LDE has established the following support structures: (1) network teams are working directly with superintendents; (2) district planning teams and district planning guides have been established in every district; and (3) teacher leader teams are doubling to 4,000 next year. Sample test items are being released. The curriculum package for next year is being released. Next year's assessment guides will be produced in the following weeks.

* * * * * * * * * * *

On Point of Personal Privilege, Ms. Hill recognized the Capitol Senior High School Alumni Association for its dedication to the school and its students throughout several transitions, and presented a Certificate of Appreciation to Mr. W. T. Winfield.

Agenda Item 5. **Board Committee Reports**

Agenda Item 5.1. **Academic Goals and Instructional Improvement Committee** (Schedule 2)

5.1.1 On motion of Dr. Miranti, seconded by Mr. Lee, the Board received the minutes of the Accountability Commission meetings held January 9, 2014, and January 27, 2014.

5.1.2 On motion of Dr. Miranti, seconded by Mr. Lee, the Board received the minutes of the Special Education Advisory Panel meeting held February 20, 2014.

5.1.3 On motion of Dr. Beebe, seconded by Mr. Garvey, the Board approved, as a Notice of Intent, revisions to Bulletin 119, *Louisiana School Transportation Specifications and Procedures*: §2509. Used School Buses, as amended and presented by the LDE.

* * * * * * * * * * *

Public comments were received on the following Academic Goals and Instructional Improvement Committee agenda item:

Agenda Item 3.2., "Consideration of policy recommendations relative to the implementation of the Jump Start career education program."

Support: None.
Oppose: None.
Information Only/Other: Ms. Debra Schum, Louisiana Association of Principals.

5.1.4 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, the creation of Bulletin 138, *Jump Start Program*: §101. Overview, §201. Jump Start Program Authorization, §301. General Provisions, and §303. Jump Start Instructional Staff, as presented by the LDE.

Further, the Board approved, as a Notice of Intent, the creation of §305. Student Participation in Jump Start Programs, as amended and presented.

5.1.5 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 111, *The Louisiana School, District, and State Accountability System*: §409. Calculating a 9-12 Assessment Index, and §613. Calculating a Graduation Index, as presented by the LDE.

5.1.6 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 746, *Louisiana Standards for State Certification of School Personnel*: §501. Introduction; adding a new §505. Career and Technical Certificate Types Issued after September 1, 2014; renumbering and renaming the original §505. to §506. CTTIE-1 and CTTIE-2 Certificate Eligibility Requirements; adding a new §507. CTTIE Areas of Specialization; renumbering and renaming the original §507. to §509. CTTIE-1 Certificates Renewal Guidelines for certificates initially issued prior to September 1, 2014; deleting the original §509. CTTIE-2 Certificates Renewal Guidelines; and §511. Process for Reinstating Lapsed CTTIE Certificates, as presented by the LDE.

Further, the Board approved, as a Notice of Intent, revisions to §504. Career and Technical Certificate Types Issued after July 1, 2006, as amended and presented.

5.1.7 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 118, *Statewide Assessment Standards and Practices*: §701. Overview of Assessment Programs in Louisiana, §2209. WorkKeys, and §3501. Approved Home Study Program Students, as presented by the LDE.

5.1.8 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 741, *Louisiana Handbook for School Administrators*: §2317. High Schools and §2318. The College Diploma, as presented by the LDE.

5.1.9 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 1566, *Pupil Progression Policies and Procedures*: §503. Regular Placement, as presented by the LDE.

5.1.10 On motion of Dr. Miranti, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 111, *The Louisiana School, District, and State Accountability System*: §301. School Performance Score Goal; §303. Transition from Fall 2013 to Spring 2015; §413. Dropout/Credit Accumulation Index Calculations; §517. Inclusion of Schools; §521. Pairing/Sharing of Schools with Insufficient Test Data; §603. Determining a Cohort for a Graduation; §611. Documenting a Graduation Index; §1301. Reward Eligibility; §2301. Schools Requiring Reconstitution/Alternate Governance Plans; §3101. Appeals/Waivers and Data Certification Processes; §3301. Inclusion of New Schools; §3303. Reconfigured Schools; §4101. Valid Data Considerations; §4301. Inclusion of All Districts; and §4317. District Accountability Data Corrections, as presented by the LDE.

Dr. Beebe was recorded as being opposed to the motion.

5.1.11 On motion of Dr. Miranti, seconded by Mr. Lee, the Board received the Summary of Public Comments and Agency Response regarding revisions to Bulletin 135, *Health and Safety*: Chapter 5. Injury Management Program Rules for Serious Sports Injuries and Chapter 7: Glossary, and directed BESE staff to proceed with the final adoption of the January 20, 2014, Notice of Intent regarding revisions to Bulletin 135, *Health and Safety*, Chapters 5 and 7.

Agenda Item 5.2. **Administration and Finance Committee** (Schedule 3)

5.2.1 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the report on 8(g) monitoring visits conducted by Board staff.

5.2.2 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the quarterly report from the LDE Director of Internal Audit.

5.2.3 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the report on LDE contracts of $50,000 and under approved by the State Superintendent of Education.

5.2.4 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the reports requested by the Minimum Foundation Program (MFP) Task Force pertaining to the regulations governing students with dyslexia and student access to technology.

5.2.5 On motion of Mr. Guillot, seconded by Mr. Lee, the Board ratified the Board President's submission of the value-added assessment model report to the House Committee on Education and the Senate Committee on Education.

* * * * * * * * * * *

Public comments were received on the following Administration and Finance Committee agenda item:

Agenda Item 4.1., "Consideration of the Minimum Foundation Program (MFP) Formula for FY 2014-2015."

Support: None.
Oppose: None.
Information Only/Other: Mr. Shawn Fleming, Louisiana Developmental Disabilities Council.

5.2.6 On motion of Mr. Guillot, seconded by Mr. Garvey, the Board deferred until a Special Board Meeting to be held during the week of March 10-14, 2014: "Consideration of the Minimum Foundation Program (MFP) Formula for FY 2014-2015."

5.2.7 On motion of Mr. Guillot, seconded by Mr. Lee, the Board, in recognition that the proposed 2014-2015 MFP formula does not include funding for early childhood education, committed to developing a strategy of equitable early childhood education funding in future fiscal years and supports legislation throughout the 2014 Regular Legislative Session that allows for the consideration of 4-year-old pre-kindergarten education as a component of elementary and secondary education.

5.2.8 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the revised 8(g) program and budget for FY 2013-2014.

Dr. Beebe recused herself from voting on this item.

5.2.9 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the revised program and budget for the 8(g) statewide program, Early Childhood Literacy Program (LDE) (S069), for FY 2013-2014.

Dr. Beebe recused herself from voting on this item.

5.2.10 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the revised program and budget for the 8(g) statewide program, Compass (LDE) (S067), for FY 2013-2014.

Dr. Beebe was recorded as being opposed to the motion.

5.2.11 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the revised program and budget for the 8(g) statewide program, Expanding High School Choice (LDE) (S073), for FY 2013-2014.

Dr. Beebe recused herself from voting on this item.

5.2.12 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the revised program and budget for the 8(g) statewide program, New Schools Incubation Program (LDE) (S074), for FY 2013-2014.

Dr. Beebe and Ms. Hill were recorded as being opposed to the motion.

School and District Innovations - Other

5.2.13 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following allocation:

Allocation:	RSD Charter School Transformation
Amount:	$250,000.00
Funding Period:	07/01/2013 - 06/30/2014
Source of Funds:	IAT - 8(g)

Purpose: The purpose of these funds is to support RSD transformation activities.

Basis of Allocation: The LDE supports the efforts of the RSD to create an environment with the conditions necessary for charter schools to succeed and to support the transformation process for low-performing schools.

(Motion continues on page 7)

Funds may be used to provide professional development, stabilize school staffing during the transformation process, provide for additional staffing resources needed to successfully transition a direct-run school to a charter school, and other activities that support the development of a high performing charter school environment.

Dr. Beebe recused herself from voting on this item.

Departmental Support - Other

5.2.14 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following allocation:

Allocation:	Educator Leader Cadre Substitute Reimbursement
Amount:	$1,893.36
Funding Period:	10/01/2013 - 12/13/2014
Source of Funds:	Federal

Purpose: The purpose of the Teacher Leader Advisors is to develop an understanding of the changes required of Common Core and Compass, including reviewing and creating materials for implementation, serving as a Common Core expert, assisting in building a growing network of teacher leaders throughout the state, and attending face-to-face meetings to provide recommendations and feedback on resources and tools.

Basis of Allocation: Allocations to school districts are to reimburse the districts for the substitutes paid to work while the Teacher Leader Advisors met in Baton Rouge on October 15-16, 2013, and December 13, 2013, to begin their work for the program.

Dr. Beebe recused herself from voting on this item.

5.2.15 **Office of Management and Finance – Competitive**

On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following allocation:

Allocation:	Early Childhood Community Network Pilots
Amount:	$676,666.67
Funding Period:	03/08/2014 - 06/30/2014
Source of Funds:	State - IAT

(Motion continues on page 8)

Purpose: The purpose of these funds is to support Early Childhood Community Network Pilots to implement the five strategies outlined in the Early Childhood Care and Education Network - Roadmap to 2015, which are as follows:

1. Unify expectations;
2. Support teachers and providers;
3. Measure and recognize progress;
4. Fund high quality providers; and
5. Provide clear information and high quality choices.

The ultimate goal of the Early Childhood Care and Education Network is to prepare our youngest learners for kindergarten.

Basis of Allocation: Allocations were determined competitively via a request for applications. The selection of the Community Network Pilots occurred through a two-step process – 1. Application review for basic requirements and 2. Interview with the finalists. The interview sought to determine networks that could demonstrate their readiness to work on the five strategies listed above.

Dr. Beebe recused herself from voting on this item.

5.2.16 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract:

Contractor:	LSU-Health Science Center
Contract Period:	01/31/2014 - 09/30/2014
Contract Amount:	$102,734.00
Fund:	Federal Fund - IDEA Part B
Competitive Process:	Non Competitive

Description of Service: This agreement will provide for activities for the federally funded 2008-2013 Deaf Blind Project for which funding was extended through 9/30/14 to be completed. Activities will include building capacity of current and future educators working with students who are deaf-blind, facilitation of effective instructional strategies for students with deaf-blindness, and outreach and early intervention identification for families and service providers.

5.2.17 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract:

Contractor:	Department of Health and Hospitals
Contract Period:	04/01/2014 - 08/31/2014
Contract Amount:	$196,252.00
Fund:	Federal Funds - USDA
Competitive Process:	Non Competitive

Description of Service: This Interagency Agreement will provide that the Louisiana Department of Health and Hospitals, Office of Public Health (DHH), Sanitarian Services Section, conduct pre-opening inspections of each food service site or preparation facility participating in the SFSP. The sanitarian services will perform at least one (1) other inspection (besides the pre-opening inspection) at each site/facility during the period of operation and record inspection results on the appropriate inspection form.

5.2.18 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	Volunteers of America North LA
Contract Period:	07/01/2013 - 06/30/2014
Previous Amount:	$360,000.00
Amended Amount:	$38,400.00
Contract Amount:	$398,400.00
Fund:	Federal - Title IV - 21st Century Community Learning Centers (21st CCLC)
Competitive Process:	Competitive/21st CCLC RFP Process

Description of Service: The contract provides before-, during-, and after-school academic enrichment opportunities for children attending low-performing schools through the establishment and operation of 21st Century Community Learning Centers.

5.2.19 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	Urban Support Agency, Inc.
Contract Period:	07/01/2013 - 06/30/2014

(Motion continues on page 10)

Previous Amount:	$639,000.00
Amended Amount:	$133,800.00
Contract Amount:	$772,800.00
Fund:	Federal - Title IV - 21st Century Community Learning Centers (21st CCLC)
Competitive Process:	Competitive/21st CCLC RFP Process

Description of Service: The contract provides before-, during-, and after-school academic enrichment opportunities for children attending low-performing schools through the establishment and operation of 21st Century Community Learning Centers.

5.2.20 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	Outreach Community Development Corporation
Contract Period:	07/01/2013 - 06/30/2014
Previous Amount:	$240,000.00
Amended Amount:	$6,000.00
Contract Amount:	$246,000.00
Fund:	Federal - Title IV - 21st Century Community Learning Centers (21st CCLC)
Competitive Process:	Competitive/21st CCLC RFP Process

Description of Service: The contract provides before-, during-, and after-school academic enrichment opportunities for children attending low-performing schools through the establishment and operation of 21st Century Community Learning Centers.

5.2.21 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	NZBC Urban Corporation
Contract Period:	07/01/2013 - 06/30/2014
Previous Amount:	$180,000.00
Amended Amount:	$8,400.00
Contract Amount:	$188,400.00
Fund:	Federal - Title IV - 21st Century Community Learning Centers (21st CCLC)
Competitive Process:	Competitive/21st CCLC RFP Process

(Motion continues on page 11)

Description of Service: The contract provides before-, during-, and after-school academic enrichment opportunities for children attending low-performing schools through the establishment and operation of 21st Century Community Learning Centers.

5.2.22 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	Akili Academy/Crescent City Schools
Contract Period:	07/01/2013 - 06/30/2014
Previous Amount:	$492,000.00
Amended Amount:	$74,400.00
Contract Amount:	$566,400.00
Fund:	Federal - Title IV - 21st Century Community Learning Centers (21st CCLC)
Competitive Process:	Competitive/21st CCLC RFP Process

Description of Service: The contract provides before-, during-, and after-school academic enrichment opportunities for children attending low-performing schools through the establishment and operation of 21st Century Community Learning Centers.

5.2.23 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following LDE contract amendment:

Contractor:	Karen Boudreaux
Contract Period:	02/01/2012 - 01/31/2015
Previous Amount:	$79,500.00
Amended Amount:	$25,500.00
Contract Amount:	$105,000.00
Fund:	Federal Fund - Title III
Competitive Process:	Non Competitive

Description of Service: The contract is being amended for the contractor to calculate the performance of Title III subgrantee Local Education Agencies (LEAs) and the state on ESEA/NCLB Title III Annual Measurable Achievement Objectives (AMAOs) for the 2013-2014 school years, using student assessment data (ELDA, LEAP, *i*LEAP, etc.).

5.2.24 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Blitch/Knevel Architects, Inc.
Contract Period:	03/09/2012 - 03/09/2015
Previous Amount:	$1,473,321.00
Amended Amount:	$15,433.60
Contract Amount:	$1,488,754.60
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for the additional service for a Phase II environmental subsurface investigation, and a pre-renovation ACM and LBP survey for Drew Elementary School renovation. It adds three (3) days to the design time due to Hurricane Isaac and fourteen (14) days to design time due to historic preservation revisions. This amendment provides for reimbursable expenses for regulatory agency approvals and for the printing of bidding documents.

5.2.25 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract:

Contractor:	Byron J. Stewart and Associates, APC Architects and Planners
Contract Period:	03/07/2014 - 03/07/2017
Contract Amount:	$105,034.00
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This project provides for the refurbishment of Rosenwald Elementary School.

5.2.26 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Jacobs Project Management Company/CSRS Consortium
Contract Period:	12/01/2013 - 11/30/2016
Previous Amount:	$23,590,758.00
Amended Amount:	$1,069,673.31

(Motion continues on page 13)

Contract Amount:	$24,660,431.31
Fund:	IAT - FEMA/Lexington Insurance Proceeds
Competitive Process:	Competitive

Description of Service: This amendment provides for additional services as directed by the RSD; additional service for support to RSD and "OPSB v. Lexington, et al.;" additional service for claims consulting services; and additional service for grants management - Phase 1 - negative balance/grant debt/undocumented advances/applied payment proposal for the RSD multi-site Capital Plan.

5.2.27 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Mahlum Scairono Martinez Architects, LLC
Contract Period:	01/07/2013 - 01/07/2015
Previous Amount:	$35,640.00
Amended Amount:	$21,390.00
Contract Amount:	$57,030.00
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for the relocation of playground equipment at William Fischer School and the relocation of playground equipment at Little Woods Elementary School.

5.2.28 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Richard C Lambert, LLC
Contract Period:	06/17/2010 - 06/17/2014
Previous Amount:	$262,656.51
Amended Amount:	$8,032.24
Contract Amount:	$270,688.75
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for the adjustment of the basic services fee for Village de L'est Elementary School (roof) and modular demo based on the final construction price of the project. It also provides for prolonged contract administration for the various roof and repair projects based on 48 days of liquidated damages at no fault of the designer.

5.2.29 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Shaw Environmental and Infrastructure
Contract Period:	02/14/2013 - 02/14/2015
Previous Amount:	$49,500.00
Amended Amount:	$14,640.00
Contract Amount:	$64,140.00
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for additional services for corrective action work plan preparation.

5.2.30 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract:

Contractor:	VergesRome Architects, APAC
Contract Period:	03/07/2014 - 03/07/2017
Contract Amount:	$2,696,406.00
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This project consists of the renovation of John McDonogh High School.

5.2.31 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	VergesRome Architects, APAC
Contract Period:	10/16/2013 - 10/16/2016
Previous Amount:	$265,287.00
Amended Amount:	$20,625.00
Contract Amount:	$285,912.00
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for the additional services for a water flow test, a Phase I environmental site assessment, lead and asbestos investigation, and a topographic survey for Live Oak Elementary School refurbishment.

5.2.32 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	VergesRome Architects, APAC
Contract Period:	09/16/2010 - 09/16/2015
Previous Amount:	$944,413.20
Amended Amount:	$38,546.20
Contract Amount:	$982,959.40
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment adjusts the designer's fee for basic services for mothballing of closed schools - safe and secure at George Mondy Elementary School based on the revised AFC. The project was canceled, but is now being reinstated by the owner, and additional scope of work is being added to the project. It also provides for the addition of a new project and project number for demolition of the caretaker's cottage at George Mondy Elementary School and at Andrew J. Bell Junior High School.

5.2.33 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved the following RSD contract amendment:

Contractor:	Waggonner and Ball Architects, APC
Contract Period:	08/15/2012 - 08/15/2015
Previous Amount:	$1,151,421.08
Amended Amount:	$5,500.00
Contract Amount:	$1,156,921.08
Fund:	IAT - FEMA
Competitive Process:	Competitive

Description of Service: This amendment provides for additional services for a land survey at the new three-section PK-8 school at Sherwood Forest School (New – PK-8).

5.2.34 On motion of Mr. Guillot, seconded by Mr. Lee, the Board:

a. approved the Change Order for the construction contract with C.D.W. Services, L.L.C., for the mothballing of Andrew J. Bell Junior High School (project number 2011-0853-0001) in the amount of

(Motion continues on page 16)

$361,334.40 in order to provide for: (1) removal of Regulated Asbestos-Containing Materials (RACM) for all hazardous materials in Building-E (Christy Building) and Building A (Annex Building) due to construction debris and finishes that were dislodged during the necessary repairs to structural walls; (2) installation of a course of brick and mortar cap over the brick wall at the demolished breezeway roof; and (3) general contractor's performance and payment bonds and overhead and profit for the additional work; and

b. directed the RSD to submit the approved Change Order for consideration and approval at the next regularly scheduled meeting of the Joint Legislative Committee on the Budget.

5.2.35 On motion of Mr. Guillot, seconded by Mr. Lee, the Board:

a. approved the Change Order for the construction contract with FHP Tectonics Corporation for the refurbishment of Frederick A. Douglass High School (project number: 2012-0868-0001) in the amount of $378,871.98 in order to provide for: (1) asbestos removal associated with classroom window replacement, due to the uncovering of unforeseen caulk at these openings that consisted of Regulated Asbestos-Containing Materials (RACM); (2) repair of existing Reinforced Concrete Pipe (RCP); and (3) deletion of the installation of flood gates and Fiber Reinforced Panels (FRP) for the gymnasium, at the owner’s request; and

b. directed the RSD to submit the approved Change Order for consideration and approval at the next regularly scheduled meeting of the Joint Legislative Committee on the Budget.

5.2.36 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the report on the BESE Budget.

5.2.37 On motion of Mr. Guillot, seconded by Mr. Lee, the Board received the BESE member notification protocol developed by the State Superintendent of Education.

5.2.38 On motion of Mr. Guillot, seconded by Mr. Lee, the Board approved, as a Notice of Intent, revisions to Bulletin 1929, *Louisiana Accounting and Uniform Governmental Handbook*, adding Chapter 15. Expenditure Requirements, §1501. Seventy Percent Expenditure Requirement.

Agenda Item 5.3. **Educator Effectiveness Committee** (Schedule 4)

5.3.1 On motion of Ms. Boffy, seconded by Mr. Guillot, the Board received the update regarding the study of the state accountability system and value-added model.

5.3.2 On motion of Ms. Boffy, seconded by Mr. Guillot, the Board deferred until April 2014: "Consideration of revisions to Bulletin 746, *Louisiana Standards for State Certification of School Personnel,* regarding endorsements to existing teaching certificates."

Agenda Item 5.4. **School Innovation and Turnaround Committee** (Schedule 5)

5.4.1 On motion of Mr. Garvey, seconded by Mr. Lee, the Board approved the request for a material amendment to the charter governing Linwood Public Charter School, operated by Shreveport Charter Schools, Inc., to add kindergarten and first grade in the fall of 2014 and expand an additional grade per year until the school serves grades K-8.

* * * * * * * * * * *

Public comments were received on the following School Innovation and Turnaround Committee agenda item:

Agenda Item 3.1., "Consideration of revisions to Bulletin 126, *Charter Schools*, regarding charter school renewal and extension, evaluation of alternative charter schools, and streamlining of policies."

Support: None.
Oppose: None.
Information Only/Other: Mr. Shawn Fleming, Louisiana Developmental Disabilities Council.

5.4.2 On motion of Mr. Garvey, seconded by Mr. Guillot, the Board approved, as a Notice of Intent, revisions to Bulletin 126, *Charter Schools*: §103. Definitions; §105. Purpose of Charter Schools; §505. Eligibility to Apply for a Type 4 Charter School; §1101. Charter School Evaluation; §1103. Alternate Evaluation of Charter Schools; §1303. Extension Review; §1503. Charter Renewal Process and Timeline; §1903. Material

(Motion continues on page 18)

Amendments for BESE-Authorized Charter Schools; §1905. Non-Material Amendments for BESE-Authorized Charter Schools; §2301. State Funding; §2303. Federal Funding; §2713. At-Risk Students; §2907. Leave of Absence; and §2909. Employee Benefits, as presented by the LDE.

Dr. Beebe and Ms. Hill were recorded as being opposed to the motion.

Agenda Item 6. **Board Advisory Council Reports**

Agenda Item 6.1. **Nonpublic School Council** (Schedule 6)

On motion of Dr. Miranti, seconded by Mr. Guillot, the Board received the minutes of the Nonpublic School Council meeting held February 4, 2014, and approved the tentative agenda for March 25, 2014.

Agenda Item 6.2. **Superintendents' Advisory Council** (Schedule 7)

On motion of Dr. Miranti, seconded by Mr. Guillot, the Board received the minutes of the Superintendents' Advisory Council meeting held February 13, 2014, and approved the tentative agenda for March 20, 2014.

With no further business to come before the Board, the meeting was adjourned at 10:15 a.m.