

Downloads:

1. Github links -

- Tess Two Project - <https://github.com/rmtheis/tess-two/>
- Trained data files - <https://github.com/tesseract-ocr/tessdata>
- Marathi trained data - <https://github.com/tesseract-ocr/tessdata/blob/master/mar.traineddata>
- English trained data - <https://github.com/tesseract-ocr/tessdata/blob/master/eng.traineddata>

2. Apache Ant (1.9.7) - <http://mirror.fibergrid.in/apache//ant/binaries/apache-ant-1.9.7-bin.zip>

3. Android NDK (r13-b Windows

32-bit) - http://dl.google.com/android/ndk/android-ndk-r10c-windows-x86_64.exe

4. Android Studio (2.2 (requires Java 1.8 or later) Windows 32 -bit)

- https://developer.android.com/studio/index.html?gclid=Cj0KEQjwhvbABRD0p4rahNjh-tMBEiQA0QgTGmID8svYooPgNcNkPyGEN_j5CcCtd_3U_klg5WvDfVcaAv-Y8P8HAQ

5. JDK 1.8 - <http://www.oracle.com/technetwork/java/javase/downloads/jdk8-downloads-2133151.html>

Add path to PATH environment variable for NDK, SDK, JDK and Apache ANT

Following instructions from -

1. <http://www.codeproject.com/Tips/840623/Android-Character-Recognition>

2. <http://gaut.am/making-an-ocr-android-app-using-tesseract/>

<https://github.com/GautamGupta/Simple-Android-OCR>

New -

1. <http://imperialsoup.com/2016/04/29/simple-ocr-android-app-using-tesseract-tutorial/> - Simple project and detailed link

2. <https://priyankvex.wordpress.com/2015/09/02/making-an-ocr-app-for-android-using-tesseract/comment-page-1/> - Simple project for english ocr

3. <http://www.codepool.biz/making-an-android-ocr-application-with-tesseract.html> - Using TestOCR class

4. <http://stackoverflow.com/questions/32568045/get-path-of-data-directoryandroid> - Simplest use of tess library

Errors faced -

1. NDK build error: (running command ndk-build in F:\ocrProject\tess-two\tess-two)

- While trying to build eyes-two (tess-two) project -
 - Space not acceptable in ndk path
 - System cannot find the specified path (for ndk) - Fixed by downloading correct ndk from <https://developer.android.com/ndk/downloads/index.html>
- Error - Your build script points to an unknown file jni/Android.mk
 - Fixed by creating new environment variable **NDK_PROJECT_PATH** and setting it's value to **F:\ocrProject\tess-two\tess-two**

2. While setting project path (running command - android update project --path

F:\ocrProject\tess-two\tess-two)

- Error1 - *android is not recognized as an internal or external command*
 - Fix - Add the path to android.bat file to your PATH variable and re-launch command prompt
- Path to android.bat - E:\AndriodSDKS\tools

- **Error2** - *The project either has no target set or the target is invalid*
 - fixed by adding --target argument
android update project --path F:\ocrProject\tess-two\tess-two --target android-23
 You can check the list of available targets in our SDKs by running command - **android list targets**

3. While running command - **ant release** :

- Apache ant was not installed in my machine, downloaded apache ant and added the following path to PATH environment variable - **F:\apache-ant-1.9.7\bin**
- Created a variable **JAVA_HOME** in environment variables and set its value to - **C:\Program Files\Java\jdk1.8.0_111**
- Re-launch command prompt in tess-two

4. While setting up Android Studio-

- Correct project settings- Go to File >> Project Structure >> Make sure the path to our sdk, jdk and ndk is the latest one you installed
- In **gradle.properties** file change the value of **org.gradle.jvmargs=-Xmx512m**
 (Windows 7 32 bit space allocation related error)

5. On adding **libraries/tess-two** to android project -

- Caution: Copy all the contents of your internal tess-two folder into libraries/tess-two in android project tree (create new directory libraries)
- **Error2** - *Plugin with id 'com.jfrog.bintray' not found*

- **Error1** - *Plugin with id 'com.github.dcendents.android-maven'*

Removed lines

```
apply plugin: 'com.github.dcendents.android-maven'
```

```
apply plugin: 'com.jfrog.bintray' from tess-two's build.gradle file
```

And added following **dependencies** in main **build.gradle** -

```
classpath 'com.github.dcendents:android-maven-plugin:1.2'
```

```
classpath 'com.jfrog.bintray.gradle:gradle-bintray-plugin:1.2'
```

- **Error3** - Could not find definitions for tess-two's build.gradle file's install{} and bintray{} blocks. Commented the blocks temporarily

Up and running!

- So the basic app with two buttons and added tess-two library is up and running.
- I am using this link http://instant-eyedropper.com/info/html_color_code/ to get various color codes
- To add our custom layout - for example for a button in your layout.xml(F:\Projects\MarathiOCR\app\src\main\res\layout\activity_main.xml) file under button tag

```
android:background="@drawable/buttonlayout"
```

In **drawable** (F:\Projects\MarathiOCR\app\src\main\res\drawable) folder, add **buttonlayout.xml** file and define your layout.

Quick recap Git - If you have git already installed and set, just open git bash in the code repository you want to upload (first create the repository on your github account -

Example - <https://github.com/onethena/MarathiOCR>. If you have git already set up, you can check our configs by running - **git config --list**

Now, quickly run the following commands to upload your initial code -

1. git init
2. git add .
3. git commit -m "CommitName"
4. git remote add remoteName repositoryURL
5. git remote -v
6. git pull remoteName master
7. git push remoteName master

Android Studio Shortcuts -

1. Indent - Ctrl + Alt + SUPER(Windows Key) + L
2. Run (Debug) - Shift + F9
3. Refactor - Shift + F6
4. Comment/Uncomment - Ctrl + /
5. Step Over - F8
6. Step In - F7
7. Continue/Run - F9

Site I am using to resize icons - <http://resizeimage.net/>

Icons downloaded from -

<http://icons.webtoolhub.com/icon-n44113-detail.aspx>

<http://www.softicons.com/android-icons/uto-circle-icons-1-4-by-alper-cakici/camera-icon>

Picked the definitions of OCR functions from TestOCR class here -

<http://imperialsoup.com/2016/04/29/simple-ocr-android-app-using-tesseract-tutorial/>

Using android's documentation to capture image -

<https://developer.android.com/training/camera/photobasics.html>

Error faced - ImageView object was not initialized in Options.java. Added ImageView in corresponding layout xml file.

6. Error - datapath does not exist on device at - `mTess.init(datapath, languag)` in `OCRFunctions.java` (`mTess` is `TessBaseAPI`'s object)

- Fix - Added mar.trained data file to the folder "storage/emulated/0/tesseract/tessdata/" (folders created manually)

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