

CSCI 4237-6907 Project Proposal

Allegro

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Project Abstract

Allegro is an Italian word meaning fast and lively. The purpose of Allegro mobile application is to quickly convert the images captured from android device to portable document format i.e. PDF. This application will attempt to convert the images containing any printed or handwritten text. The generated PDF can later be emailed or shared with other tools like Google Docs, Evernote, DropBox etc.

Strategy

I intend to develop Allegro application for Android mobile platform. The development shall be done using Android SDK API Level 7, thus enabling the application to be backward compatible with older Android versions. I will attempt this application to be compatible with newer devices like tablets which boast higher resolution as compared to the mobile phones. Following are the libraries that shall be used in development:

1. android.graphics – For capturing images from camera.
2. javax.mail – For sending the emails
3. Evernote API – For syncing with Evernote account
4. DropBox API – For syncing and sharing with DropBox account.
5. OCR API – For converting captured image to equivalent text.
6. PDF API – For assembling the result to a PDF file.

More libraries may be required based on the requirements.

Unknowns & Problems

I'm expecting some problems in OCR module particularly for handwritten text. Identifying images and segmenting them is also an additional concern. The next major concern shall be regarding the PDF conversion process where layout and other parameters need to be defined. One of the challenges will be adding the synchronization and sharing functionality using available web-services of Evernote, DropBox and Google Docs

Implementation Plan

Sr. No	Task	Time Estimate	Timeline
1	Setting up and configuring the IDE, Android SDK and AVD	1 day	Week 2
2	Identifying the project requirements. Define the development phases.	2-3 days	
3	Develop preliminary GUI screens.	2-3 days	
4	Develop image capture module.	1 week	Week 3
5	Develop image to text conversion module.	2 weeks	Week 4-5
6	Develop PDF creation module	2 weeks	Week 6-7
7	Develop web-service class	2 weeks	Week 8-9
8	Develop email class	1 week	Week 10
9	Feature Optimization and tuning	1.5 weeks	Week 11,12 & 13
10	Testing and deployment	1.5 weeks	
11	In class presentation	-	Week 14

Figure 1 below shows the preliminary functional block diagram of the application.

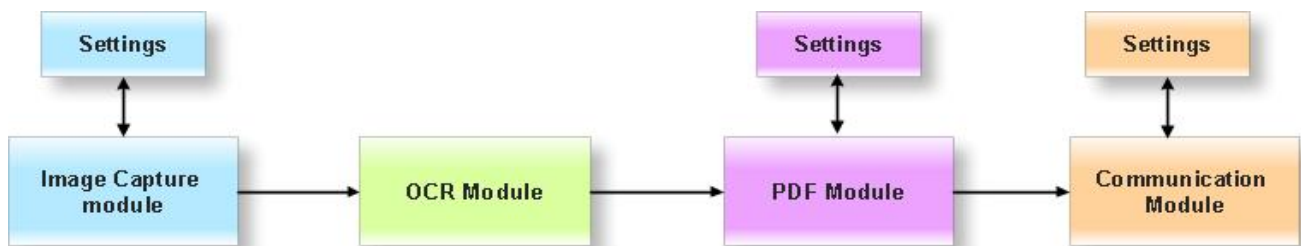


Fig.1 Allegro - Functional Block Diagram

Figure 2 depicts the tentative class diagram for the application. The package name is android.pkg.allegro.

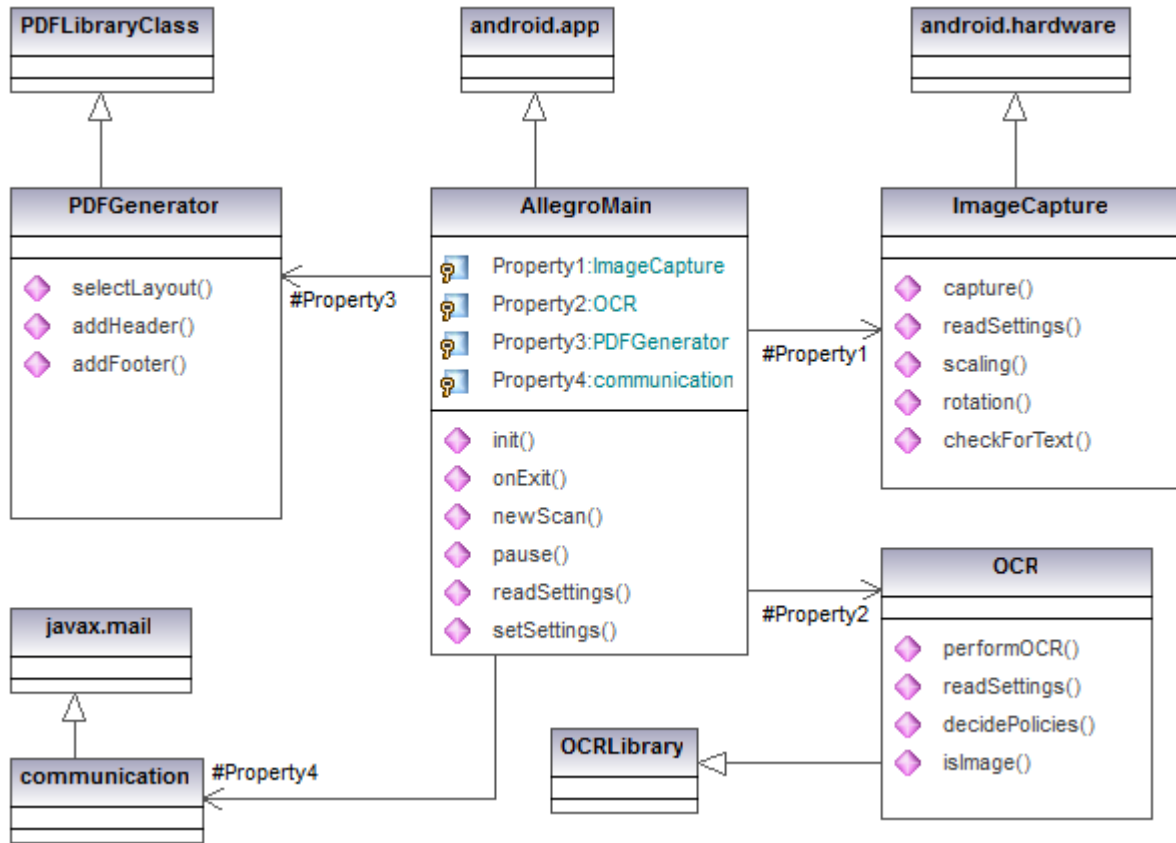


Figure 2 Allegro Class Diagram

Currently I'm planning to use following activities (GUI screens)

1. Allegro Splash Screen
2. Main Screen
3. Image Capture Screen
4. PDF Screen
5. Settings



Figure 3 Main Screen



Figure 4 Capture Screen