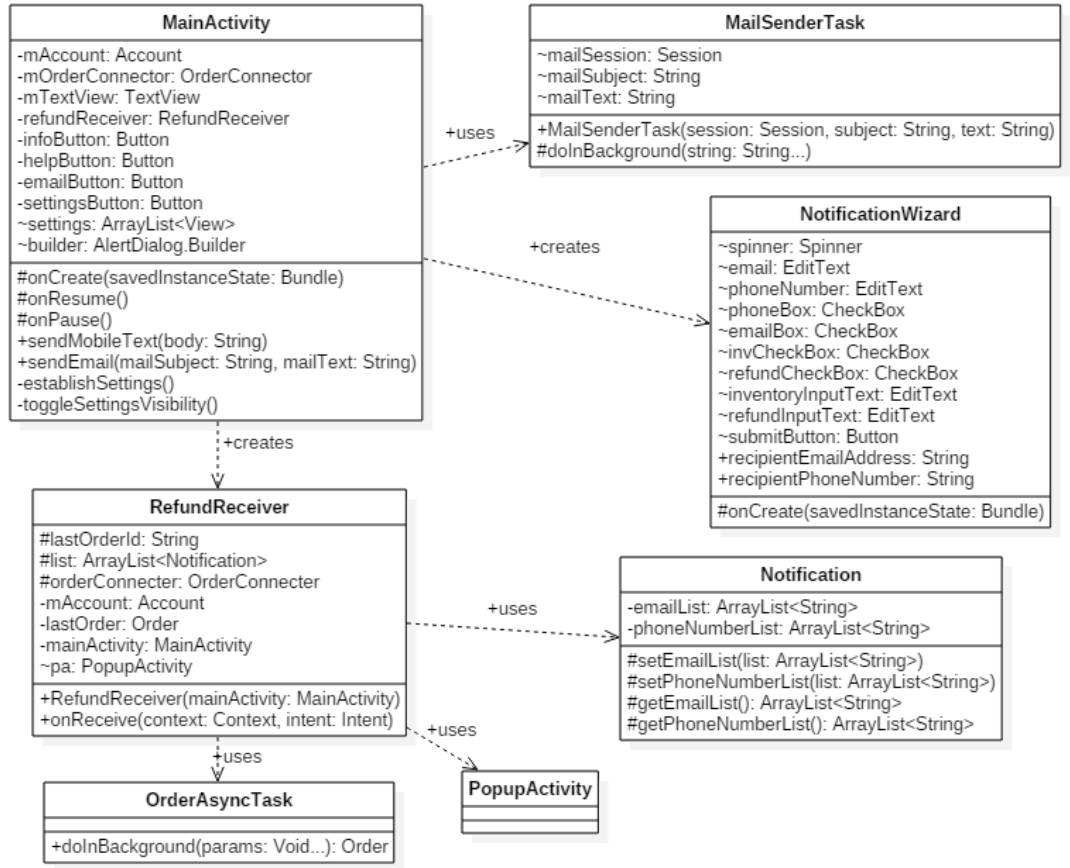
Kien Pham, Tyler Montague, Brian French, Alex Mendelsohn, Paul Brower, Jeffrey Lehman
Senior Project Design Document
Dr. Baliga
20 December 2017

Description:

The goal is to create an Android application for clover devices which will work as a notification system for managers and business owners. This application will have two types of notifications: periodic and custom. For a custom notification the clover device will wait for certain events, such as a refund or a certain item's stock getting low. For a periodic notification other existing applications on the clover device will be polled for data on a fixed schedule. These two types of notifications will send out an email and/or text message to those registered to that notification.

How we plan to work towards this is creating a Listener which will listen for the respective app to be opened on the clover device. For example, if a notification is set to email and text the owner whenever a refund over $50 is entered, the listening will be waiting for the Refund app to be opened on the device, check how much the refund(s) entered are for and act accordingly. This will require the user to use the apps that come default on the device, such as Refund, Register, Inventory, Etc.

Classes: *(An updated diagram is provided at the end of this document)*



MainActivity - main class that interacts with the user interface and contains the refundreceiver object.
DatabaseHelper - enables the automatic saving and loading of notifications.
InformationSelection - a class to allow users to choose between creating a sales total notification and a refund notification.
TypeSelection - a class to allow users to choose between notification by email or by text message.
NotificationManager - a class allowing users to view and delete existing notifications.
RefundReceiver - the listener class. Gets Intents that can be filtered.
PopupActivity - a class that extends activity, for the use of sending the user notifications on the system. It was primarily used for testing and is used in our prototype, but was repurposed to allow for user input in our overhaul of the GUI following the final demo.
OrderAsyncTask - a class that ex ends AsyncTask and retrieves information from orders and refunds.
MailSenderTask - a class that extends AsyncTask and Ms partially responsible for sending emails.
Notification - a class created to allow for customized notifications.
Periodic - a child of Notification that sends the sales total periodically.
Refund - a child of Notification that notifies the user of refunds that exceed a specified threshold when they occur.

- Intents used:
    - ACTION_ORDER_CREATED
    - EXTRA_CLOVER_ORDER_ID
    - FLAG_ACTIVITY_NEW_TASK
    - FLAG_ACTIVITY_CLEAR_TOP

Should any other classes need to be made we will add them as we progress further into the creation of this application.

Project plan (Three Weeks) :

1. Notifications
    a. Custom Class - create an object that can contain a list of intents to listen for and the information to send the notification (Tyler)
    b. Periodic Class - create an object that contains a list of API calls and the information to send the notification (Paul)

    c. Creation of notifications methodically (Kien)
2. User Interface
    a. Type Selection - Creation of an interface that allows for the selection of notification type (Jeff)
    b. Dropdown Choices - Menu that allows the users to select their notification options (Brian)
    c. Setting Menu - A setting button that allows for a description of the app and how to use it. (Alex)
3. UserInfo
    a. Profile - The information of the manager and a list of all recipients of notifications. (Kien)
    b. *SavedData - Possible backup of previous sent notifications into AWS. (Brian)

Prototype Description:
For our prototype we are going to create a Clover application that can use an EventHandler to listen for when an Intent is broadcast and pop a notification to the user. Our prototype listens for an order being completed and a refund being complete. It pops a notification to screen and sends a message to the debugging logs.

Solution Testing:
The application will be tested on an emulator, called genymotion, or if possible on the Clover station itself. First, we will test it on getting notifications before customizing it, meaning we should or shouldn't get any, depending if the default setting is all on, all off, or a selected few. Then we will test it on how it will work after the user customizes the notification settings to get only selected notifications.

Update: More classes have been added to the Classes section. Listener is now called RefundReceiver.

Update (Final): More classes have been added to the Classes section. Intents section has been updated to reflect the current app. API calls section was removed, as the calls in question were not used in the final app.

A new class diagram is shown below. Components of the actual app that are unused have been omitted.

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