

Group 4.1

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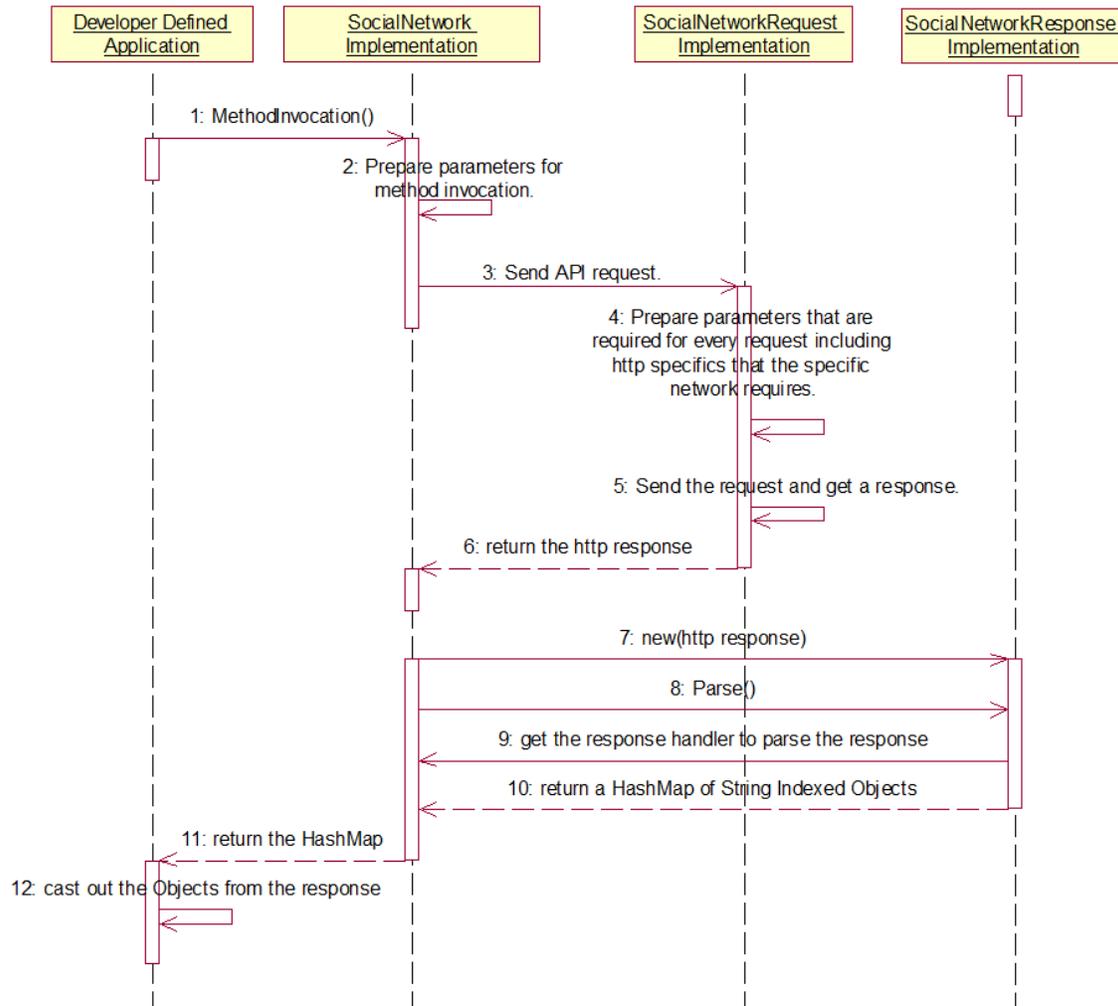
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DroidSocial Framework Library for Android Device Software

Description

DroidSocial is a framework library for Android that allows developers to communicate with social networks and other web service APIs by separating common functionality into logical layers. The mission of DroidSocial is to support general social network API functionality while giving developers the power to extend the base classes included with the framework to create their own implementations. Functionality is separated in logical sections starting with the definition of API methods in the first layer, the definition of how the web services expect their requests to be structured in the second, and how the responses must be parsed in the third. The general process of an API method invocation is illustrated by the following sequence diagram.



Each SocialNetwork implementation class contains a HashMap of response handler objects. Each is indexed by the value of the root element of the XML response. Each response handler object implements XML parsing methods that are used by a SAX xml parser in the Parse method of SocialNetworkResponse.

Social Network

Mirror the web service api methods as much as possible.

Act as the generic entry point for API invocation.

Define how responses from the Social Network's API servers are parsed.

Social Network Request

Prepare HTTP requests in the manner that the network requires.

Send the requests and return the responses.

Social Network Response

Parse responses based on the Social Network's specifications.

Return the parsed response in the form of a HashMap of Strings or Objects.

The supported social networks included with the DroidSocial framework are incredibly simple to use. As of right now, Facebook and Twitter are the only supported networks but in the future we'd like to also support OAuth operations since many other social networks currently use it.

Facebook and twitter objects are simple to instantiate. The following are all that is required.

```
Facebook fb = new Facebook(api_key, secret);
```

```
Twitter tw = new Twitter(username, password);
```

Facebook requires users to log in using a browser instance, which the facebook implementation class supports. The developer is only required to create a class that extends FBWebViewLogin and list it as an activity in the application's manifest.

Invoking the login method of Facebook is as easy as this..

```
fb.Login(requiredPerms, this, fblogin.class)
```

where requiredPerms is an array of strings representing the permissions the application requires, this is the context of the application, which is required in order for the Facebook class to invoke an intent to start the login activity carried by the class that the user creates that extends FBWebViewLogin. The developer doesn't need to do anything to this class, but is able to extend the functionality how they see fit. When the activity finishes it will invoke the onActivityResult method of the activity that invoked it passing an intent object containing the session data that was extracted from the login process.

The framework allows twitter to be implemented similar to facebook and have access to the same functions.

Most facebook operations require extended permissions from to be granted by the user. Facebook is currently experiencing a bug that is blocking desktop/mobile applications from properly prompting for extended permissions <http://bugs.developers.facebook.com/show_bug.cgi?id=8436>. Until the bug is fixed or facebook releases the proper documentation for this, we will be unable to prompt for permissions using the framework. For now though, we can prompt for permissions with a web browser on a pc, which I have done for my account so that operations may be verified to work.

Droid Social Test App

To test our framework we created a test application which implements the functions of the framework. When the application is run the user selects the social network they wish to login to. Each network is its own activity and the users is able to perform operations based on the network that is logged in to. In facebook a user is able to get their current status and view all friends. In twitter the user is able to get, set their status and also update their profile. The test app was created to verify that our framework is functional and can be extended to include other social networks as our framework is extended to include other networks.

Running Droid Social Test App

To run test application unzip the file DroidSocial zip file then import into MOTODEV from the unzipped location. The application can then be loaded in an android device or loaded into the emulator.

You are able to use any facebook account login with the application.

The twitter account is hard coded and the functionality of setting status and updating the profile can be tested.

Twitter Login

Username : dalooch

Password: 1234567890