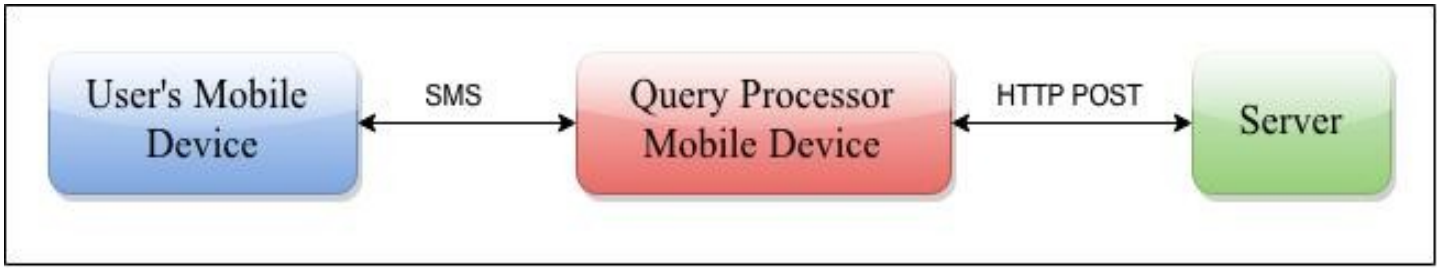
CSL707 | Assignment #6

Entry No.	Name
2012csb1002	Aditya Abhas
2012csb1005	Akshay Prasad Singh
2021csb1020	Mohit Garg

We have made an Android app which can listen for and process the incoming SMS messages to automatically take specific actions based on the content of SMS received. The app acts as a SMS based query/command processor. Users are able to send a query/command message via an SMS to a phone number which has this app installed.

Solution Design:



The steps involved in the solution are as follows:

1. Client sends commands by SMS to the Query Processor Mobile Device. The client device only need to support sending SMS.
2. The Android App running on the Query Processor Mobile Device sends the received SMS to the server using HTTP Post.
3. The SMS is parsed on the server to determine the operation required by it.
4. Based on the content of the SMS, a suitable operation is invoked on the server.
5. The server logs the details about the operation in a database table.
6. The reponse is sent by the server to the Query Processor Mobile device.
7. The mobile device reply to the client through SMS which contains the output of the query.
8. The app on the Query Processor device deletes the SMS after the processing is complete so that it does not waste disk space on the phone.

Client Mobile Device:

The client mobile device only needs to send SMS to the given number. On the basis of the content of the sent SMS, it receives the appropriate reply in form of SMS.

Android App:

1. SMS Receiver: It is a broadcast receiver which runs continuously in background. Whenever a SMS comes, it sends that SMS for processing to MyIntentService.

2. MyIntentService: The received SMS is sent to this Intent Service by the broadcast receiver. If a request comes for this service when another request is being processed, then the request waits in a queue. It sends the received message to the server for invoking appropriate operation. The server's reply for the operation is sent back as SMS to the client. All the SMS used in the operation are deleted after processing.

3. MainActivity: It gives option to customize the settings for the app.

Note: For proper functioning of the application, it MUST be made default SMS application on the device. This is required for deleting the SMS's after the operation is complete to save disk space on the device.

Server:

The requests are sent to the server synchronously and server replies after completing the requested operation. The case where a request gets stuck is handled by timeout after certain fixed amount of time.

The service implemented is showing of the booking status as given in the assignment handout.

Request Logs:

The remote server logs the details about operation invocations in a database table.

This can be viewed using the url http://localhost/csl6/log_display.php in the browser.