

Currency Exchange Notification Bot [CEN Bot]

-Varun Kulkarni Somashekhar
Perm #:7292808

Motivation

- Most Indian students love to keep track of forex rate so that they can transfer funds/make investments etc at the lowest possible exchange rate and thus save money !!!.
- It is a tedious job to monitor the exchange rates on finance websites or twitter feeds on a regular basis.
- Solution : CEN Bot - An automated framework which monitors Indian Rupee and notifies the user/student via SMS if the forex rate falls below a certain threshold.
- Novelty : Perhaps the first forex notification tool of this kind. This version supports Indian currency , as they are the main targeted audience. But this can easily be extended to all currencies.

Overview

- An user can register with the app using his gmail credentials.
- Once logged in, he will be asked to fill up a registration form to update his intended cell number and notification trigger points.
- This sets up a cron job in the background which monitors the exchange rate and notifies if the appropriate conditions are met.
- Meanwhile user is taken to a home page, which is a mashup of twitter feeds and news trends. This page also has a widget showcasing current forex rate. This can be used as a reference to update trigger points and stop notifications if required.

API's used:

- Datastore API
- TaskQueue
- Memcache
- Users
- Urlfetch
- JSON
- Twilio SMS API
- OpenExchangeRate API.
- Cron jobs
- Jersey Restful Service

CEN Bot RESTFUL Interfaces

- The app exposes restful apis via Jersey. You can use it to query exchange rates and users programmatically. This can be tested via Postman Restclient or curl.

GET API :

http://currencyxchange-notifbot.appspot.com/context/jerseyws/get/rates_memcache

<http://currencyxchange-notifbot.appspot.com/context/jerseyws/get/rates>

<http://currencyxchange-notifbot.appspot.com/context/jerseyws/get/users>

POST API:

<http://currencyxchange-notifbot.appspot.com/context/jerseyws/post/rates>

<http://currencyxchange-notifbot.appspot.com/context/jerseyws/post/users>

Optimisation:

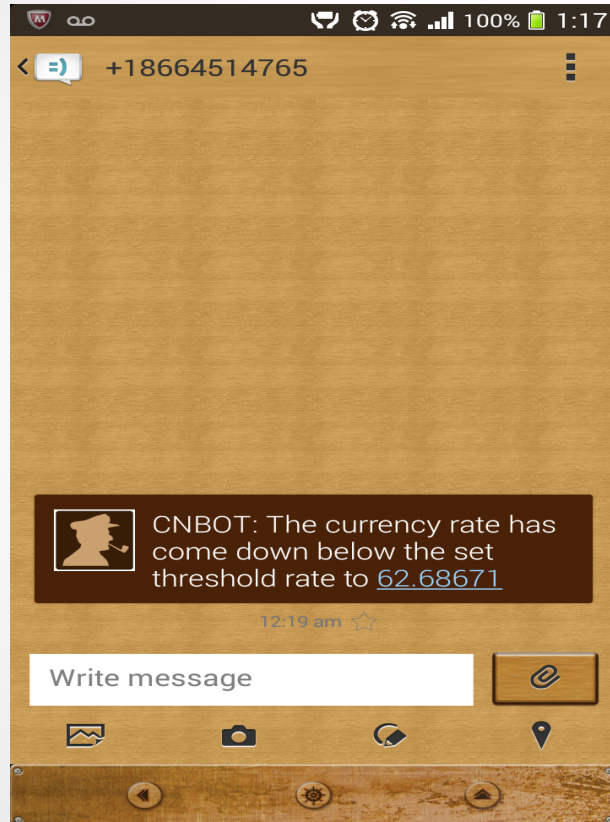
- Using Datastore indexes for faster querying.
- Batching datastore writes so that number of RPC made to the datastore service is reduced.
- Usage of Task Queue and cron jobs to improve response time of the app.

Learning Experience

- GAE leveraged as a PaaS.
- NoSQL databases. Datastore implementations.
- Developing RESTFUL API's.

DEMO

SMS Screenshot



Thank You