Online Topup System to Mobile Phone

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Cloud Computing Project Report

The aim of this project is to design, develop, and deploy a web application. The application will be coded using Ruby on Rails 3. It is required to demonstrate that the student understand how the framework operates by utilising the built in features when completing their project.

General Overview

This project aims to develop a web system that simulates a online top up for mobile phone. The system will allow the user to register his phone with a password and then authenticate to check his balance, top up his own phone or transfer credits to a friend.

The project will be developed using Ruby on Rails 3 framework with a authentication gem called Devise and a front-end framework called Twitter Bootstrap. As purpose of this project, will be developed a gem to convert currency when transferring credits to different currencies. The gem must be submitted to the ruby gem website and used in this project.

As source code management, will use both Git as Github. Finally, the project will be deployed in a cloud service as Heroku.

Technical Overview

The Data base

As the project uses the Devise gem, it generates a table for user authentication. By default, this data table stores just the email and password for the users (beyond others fields to manage the user session). To reach this project proposal, it was added three more fields to data table: phone number, credits and currency.

The Code

The application has a controller to provide the actions and manage the views. This controller has a method to perform the topup to the user and another to perform transfers between users. Having different currencies, the system is able to convert one currency to another using a gem implemented to do that. That gem was developed especially to this project using Google exchange rate query[1] and was hosted at rubygems[2] website. The CurrencyConverter gem basically receives two params and returns the rate of the day. That two params should follow the official abbreviation to currency found in XE[3] website.

The deployment

To deploy the application we used the the famous and widely adopted Heroku. Heroku is a platform as a service where you can deploy Ruby, Node.js, Python, and Java application with no cost and easily. All we have to do was perform a free registration, create a new app and associate our git repository to Heroku. Once the project is running, if we need to run a script in our app environment, it is possible just running "heroku run" command followed by your console command.   The link for the project running is http://kamarad.herokuapp.com/

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[1] http://rate-exchange.appspot.com/
[2] https://rubygems.org/gems/CurrencyConverter
[3] http://www.xe.com/iso4217.php