Developing Interactive Web Sites

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Problem Background

Redemption Catalog is a service targeting at providing an gift card and loyalty service digitally. It is targeting mainly corporate profiles where the cards can be hosted locally and offered to its employees as an incentive.

With the current catalog setup. "Redemption Catalog" has to have a physical terminal at each location. This terminal, depending on the OS that is installed, provided by the corporate client, will require additional server side software installation. These usually include MAMP or XAMP softwares. On top of which Redemption Catalog will load its rewards catalog.

In the current rewards catalog offerings

- Server has to be configured and installed at the physical location
- Each server has to be maintained and updated physical by a Redemption Catalog staff
  - This require more man hours to physically update the rewards database at each client, when more rewards are added for offer.
  - These database is not secured at a central location neither is it encoded. Thus, everyone is able the read the sql dump file.
- Operations are not able to scale or provide real time data interactions. As more and more programs are being added. It takes days to be available to the end user.
- Because this system is targeted at the corporate internal level operations. Corporate clients are not in favour in externally hosted solutions which interacts with its internal employee informations.
- It takes hours for all the installations and updated to be in place for the service to be back online. This can be detrimental in customer support and product offers.
- Onsite update and installation also depends on the availability of the user end tech and support team. Thus, even the most quickest update takes even longer to execute.

Introduction

With the above mentioned problems and situations. Redemption Catalog has to look into the providing a better platform that is scalable and manageable. It also has to enable real-time catalog datasets to the end user as they are being added or removed.

The suggested solution also has to aid in lesser man hours at the client end support. With security the primary concern with the export data table. The added advantage will be to

have an automated solution to host a server that auto updates and compiles when there is a push notification received.

Importantly, the front-end has to be easy with UI interactions and load just as quickly.

With the tools and services mentioned below, Redemption Catalog will be able to provide a real-time redemption catalog to its clients. Without the need for an employee to hold on to a copy of the database dump for updates.

Redemption Catalog will be able to better manage its code and production pushes. Which in turn notifies at all the client end servers to pull the new update and compile them for production.

With the addon of AngularJS and Bootstrap. Redemption Catalog developers are able to build and scale the applications and standardize its coding practices. This intern enables developers to build more interactive components and services to the front-end of the rewards application.

Google Firebase

Firebase provides a realtime database and backend as a service. The service provides application developers an API that allows application data to be synchronized across clients and stored on Firebase's cloud.

The database is also accessible through a REST API and bindings for several JavaScript frameworks such as AngularJS, React, Ember.js and Backbone.js

Npm (Software)

npm is a package manager for the JavaScript programming language. It is the default package manager for the JavaScript runtime environment Node.js. It consists of a command line client, also called npm, and an online database of public packages, called the npm registry. The registry is accessed via the client, and the available packages can be browsed and searched via the npm website.

AngularJS

AngularJS is a JavaScript-based open-source front-end web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications.

The JavaScript components complement Apache Cordova, the framework used for developing cross-platform mobile apps. It aims to simplify both the development and the testing of such applications by providing a framework for client-side model–view–controller (MVC) and model–view–viewmodel (MVVM) architectures, along with components commonly used in rich Internet applications.

Bootstrap

Bootstrap is a free and open-source front-end web framework for designing websites and web applications. It contains HTML- and CSS-based design templates for typography, forms, buttons, navigation and other interface components, as well as optional JavaScript extensions. Unlike many web frameworks, it concerns itself with front-end development only.
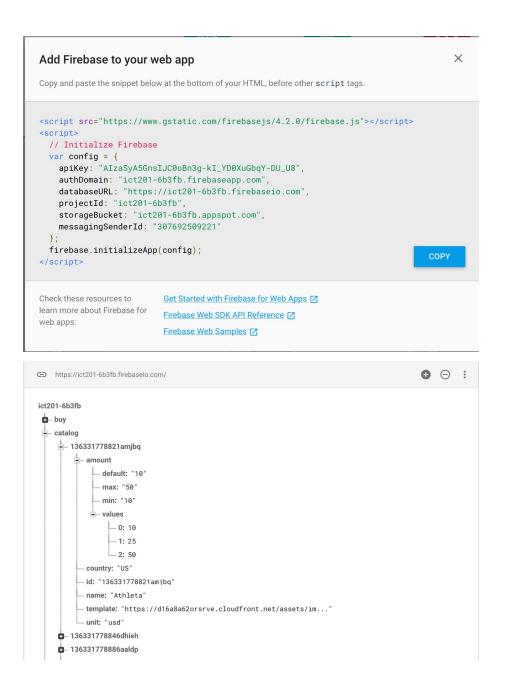
GitHub

GitHub is a web-based Git or version control repository and Internet hosting service. It is mostly used for code. It offers all of the distributed version control and source code management (SCM) functionality of Git as well as adding its own features. It provides access control and several collaboration features such as bug tracking, feature requests, task management, and wikis for every project.

Program Specifications

GitHub Repo: https://github.com/sanjitster/ictcatalog

I. Firebase

Upon registering for firebase. These are the general requirements and database structure of the service.

```
<script src="https://www.gstatic.com/firebasejs/4.2.0/firebase.js"></script>
<script>
  // Initialize Firebase
  var config = {
    apiKey: "AIzaSyA5GnsIJC0oBn3g-kI_YD0XuGbqY-DU_U8",
    authDomain: "ict201-6b3fb.firebaseapp.com",
    databaseURL: "https://ict201-6b3fb.firebaseio.com",
    projectId: "ict201-6b3fb",
    storageBucket: "ict201-6b3fb.appspot.com",
    messagingSenderId: "307692509221"
  };
  firebase.initializeApp(config);
</script>
```
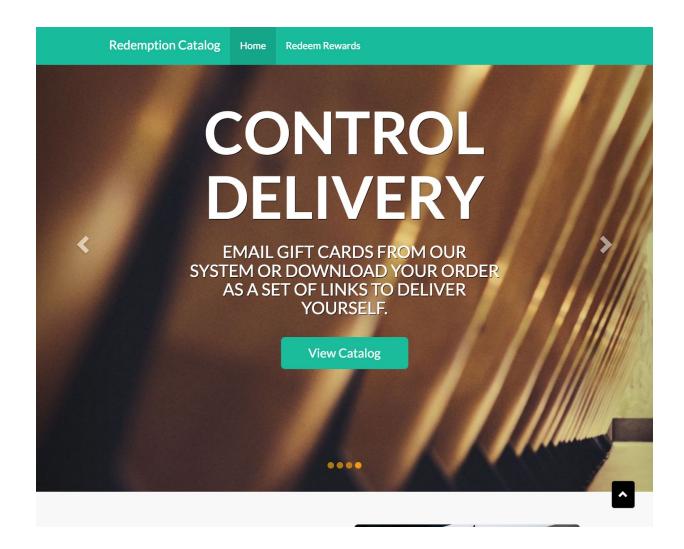
II.   Homepage

These page the Carousel banners with transitions effect to be easy and explains the service offerings that is available. It also enables users to click on the button and redirect them to the redemption catalog page.

Content at the bottom also explains to the users in greater detail of the offerings available. The page is generated with SCSS transitions styles and the random images are generated by an angular controller and image provider (unsplash.it)

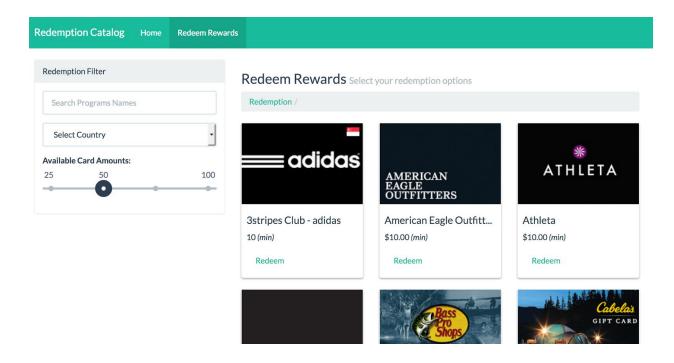**DEMO URL:** http://45.77.45.197/#!/homepage

III. Redeem Rewards

These page offers the redemption catalog to the users. With a clean and simple bootstrap theme created with SCSS. This pages offers users to interaction by rewards name search, country filters and the rewards/gift cards available from the min.

An responsive slider has been put in place to provide the user with the ease to sort the minimum values.

The dataset is generated using the firebase database in realtime and the filters act accordingly with the dataset changes.

DEMO URL: http://45.77.45.197/#!/dashboard/
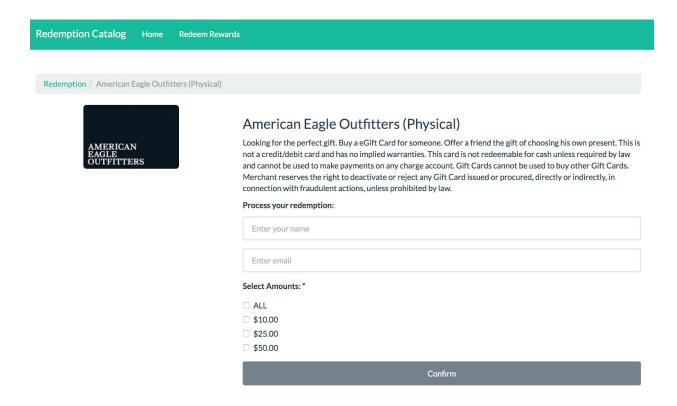
IV.   Redemption Form

This page provides the user with the simple description of the buying process and also provides a form with values for the user to select.

This page is generated with the help of angularjs and firebase. It also uses angular formly plugin with multiple extended plugins for validations

- Name - Validation (Required)
- Email - Validation (Required, Simple email format validations)
- Select Amount - Validation (Required, Least one or more amounts has to be selected)

These form then submits the values to firebase. Which then returns a callback response which triggers the proper alerts. Success message for properly saved and Error message for network problem and to try again.

Demo URL: http://45.77.45.197/#!/redemption/136549222407nqoek

Redemption Catalog   Home   Redeem Rewards

Redemption / American Eagle Outfitters (Physical)

American Eagle Outfitters (Physical)

Looking for the perfect gift. Buy a eGift Card for someone. Offer a friend the gift of choosing his own present. This is not a credit/debit card and has no implied warranties. This card is not redeemable for cash unless required by law and cannot be used to make payments on any charge account. Gift Cards cannot be used to buy other Gift Cards. Merchant reserves the right to deactivate or reject any Gift Card issued or procured, directly or indirectly, in connection with fraudulent actions, unless prohibited by law.

Process your redemption:

Enter your name

Enter email

Select Amounts: *
- ☐ ALL
- ☐ $10.00
- ☐ $25.00
- ☐ $50.00

Confirm

Conclusion

With this lightweight and manageable architecture. Redemption Catalog will be able to provide a comprehensive and competitive catalog and service to its corporate clients.

It will also minimize the cost of tech support and focus will be then spend on developing more interactive components and programs.