Gift Registry

CS 6314 – Web Programming Languages Fall 2017 Dr. Mithun Balakrishna

Team Wish:

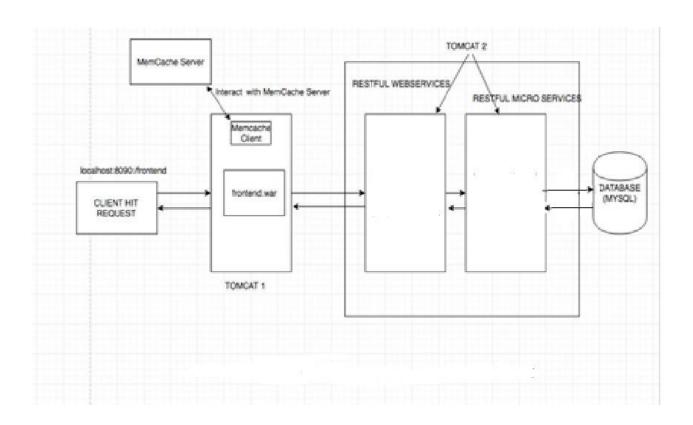
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Introduction

A responsive e-commerce gift registry website was developed as part of our Web Programming Languages Coursework through which user can create a registry and share them to specific users or to all the users in the system. It was designed in a responsive fashion using Bootstrap templates. The detailed architectural diagram showing the interaction between various components is shown below



Technologies Used

- Front-End Technologies: Spring MVC for Controllers, HTML, CSS, JSP and BootStrap.
- Back-End Technologies (Web Services & Micro Services): Spring MVC for hosting Web services and Micro-services, MySql as Database for communication with database.
- Using Memcached as caching technology.
- Encrypted the communication channel between the client (i.e. browser), web site server, web services, and microservices server using TLS/SSL (Installed the self signed certificated.)

2.1 LIST OF TECHNOLOGIES CONSIDERED

For Building Web Services:

- Spring MVC and Java Servlets.

Spring MVC

- Enables low coupling with Autowiring of services and inverse dependency injection
- Easy to use, can write faster code using annotations
- Clearer view of DAOs, services and controllers and easy to assign responsibilities to each class.

Front-End: JSP, BootStrap, Jquery Datatables

-Readily available responsive templates helping us concentrate better on the business logic and other requirements

Table 2.1: Technologies

FRONT END TECHNOLOGIES	BACKEND TECHNOLOGIES
HTML	Java
CSS	Spring
BOOTSTRAP Template	JSON
JavaScript	MySQL
JSON	RESTful
JQuery	JDBC
Memcached	

Functionalities

3.1 Non Functional Requirements

- HTTPS: Made tomcat secure by importing certificate to the keytore, and adding nio protocol connector in the server.xml of tomcat.
- Compression: Requests between all the web servers are compressed and send forward using gzip
- Authentication: Authorization key is added in the header parameter.
- MemCache: Used as caching technology in the front end.

3.2 Functionalities

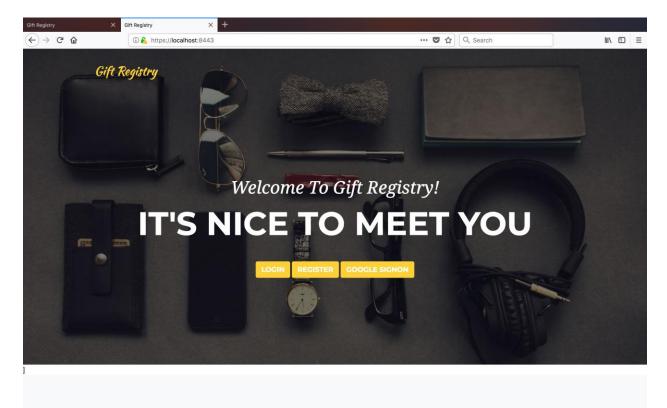
- New user registration: A new user should register by filling out the registration form to create an account. Upon successful registration the user will be redirected to the login page.
- Existing user login and logout: Upon successful login user can acess options to create a registry. The user can logout anytime.
- User profile information display and editing: The user can view /edit their profile information.
- User login information: The login information of the user and the last time of valid login will be displayed on the homepage of the website.
- Ability to create a registry: A user can create a registry along with the ability to add or delete items from the registry.
- Ability to share the registry: A user can share their registry to specific users in private or can make the registry public
- Ability to view shared registry: A user can view all the registries that are shared with him and also can assign an item from the registry
- Ability to filter: A user can filter the products list and sort them on different fields
- Forgot Password functionality: A user can reset his password with the help of forgot password link and answer the security question that was created at the time of registration.
- Ability to view the inventory: A user can view the contents of an inventory and add items to a registry
- Admin functionalities: An admin user can add/remove items from the inventory
- A generic 404 page: A customized generic 404 page is displayed when the user tries to access an unavailable pag

Website

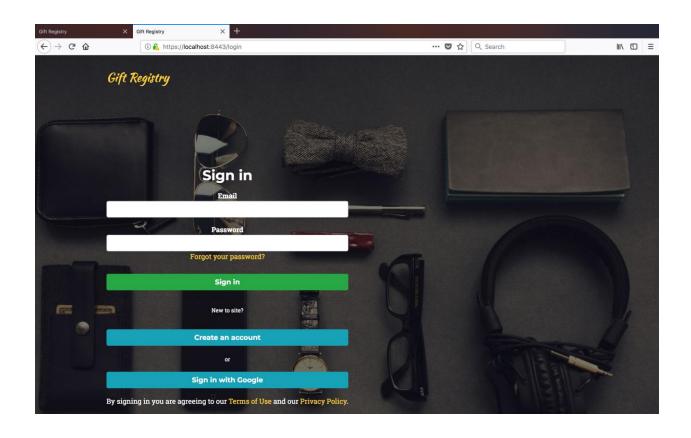
4.1 Frontend Website:

All pages of the website are built using Boot strap Framework. When user clicks on https://localhost:8443 they will be redirected to the landing page of the website, where he/she has the option to login a registered user or register to the site if a new user.

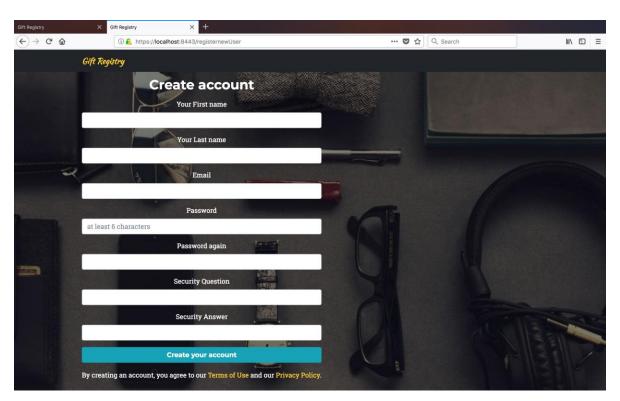
HOME PAGE



SIGN IN



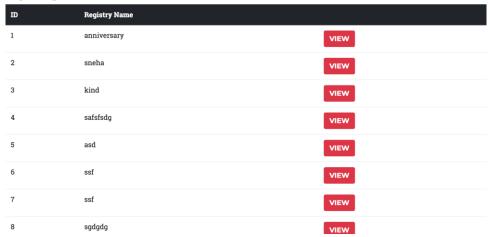
REGISTRATION



LIST OF REGISTRIES

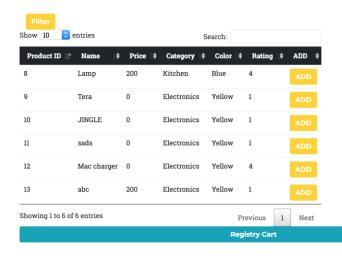


My Registries

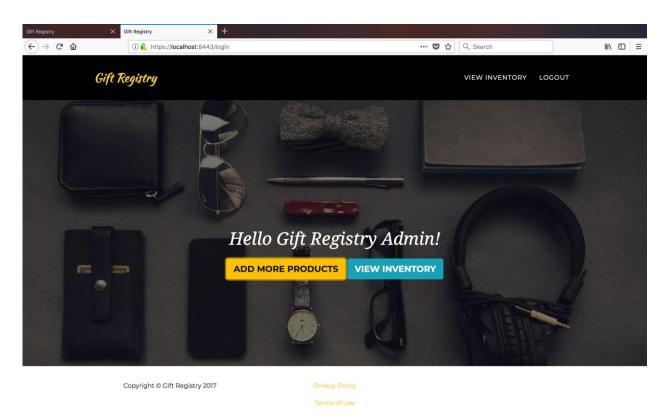


REGISTRY CART



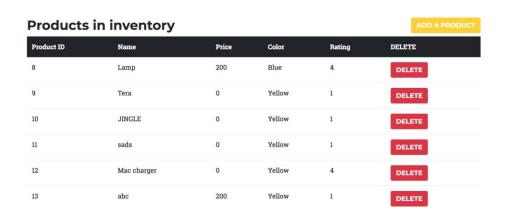


ADMIN HOME PAGE



VIEW INVENTORY PAGE

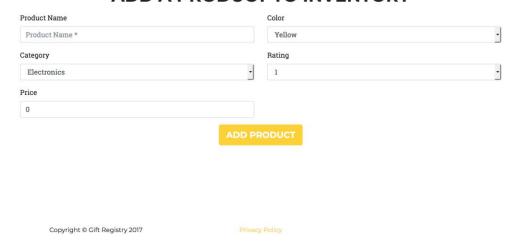




ADD TO INVENTORY



ADD A PRODUCT TO INVENTORY



SUMMARY

5.1 Problems Encountered

The main challenges encountered during the course of this project are

- Was not able to resolve the issues with using AJAX for gzipped response
- Took some time to understand how Memcache works
- Because we are passing a request through three layers. It got harder to debug, but postman was useful in debugging the webservices
- Had trouble merging codes from each of us.
- We explored Git, version control system to works as a team but we faced some issues while merging the changes together.

5.2 Conclusion

During the course of the project we have learnt how to architect web applications from a single html page to a large scale application spread horizontally and vertically. The technologies learnt during the course of the project were all implemented for the project and it is plenty helpful for our further work in this area.

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