A PROJECT REPORT

on

Development of Travel Platform for an Indonesian E-commerce Website “BLIBLI”

Submitted to

KIIT Deemed to be University

In Partial Fulfilment of the Requirement for the Award of

BACHELOR’S DEGREE IN COMPUTER SCIENCE & ENGINEERING

BY

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UNDER THE GUIDANCE OF
PROF. ALEENA SWETAPADMA

SCHOOL OF COMPUTER ENGINEERING
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BHUBANESWAR, ODISHA - 751024
April 2019

KIIT Deemed to be University
School of Computer Engineering
Bhubaneswar, ODISHA 751024

CERTIFICATE

This is certify that the project entitled

Development of Travel Platform for an Indonesian E-commerce Website “BLIBLI”

submitted by

VIJAY KRISHNA	1605332

is a record of bonafide work carried out by them, in the partial fulfilment of the requirement for the award of Degree of Bachelor of Engineering (Computer Science & Engineering) at KIIT Deemed to be university, Bhubaneswar. This work is done during year 2018-2019, under my guidance.

Date: / /

(Mr. Navin Kumar) Project Co-Guide	(Aleena Swetapadma) Project Guide

Acknowledgement

Coviam Technologies' internship program was a great opportunity for training and professional development. I am very much obliged to have the opportunity to be part of the Coviam team. Being here has helped me gain valuable insight into the different technical field and the need for industrial and organizational expertise to achieve goals that certainly have and will contribute to my holistic growth. With this in mind, I would like to express my deepest gratitude and special thanks to Mr. Navin Kumar (External Supervisor), who has taken the time to hear, guide and keep me on the right track despite being extraordinarily busy with his duties. Throughout the internship, his continuous input kept me motivated to strive and do better. I would also extend my appreciation for his support and guidance to Prof. Aleena Swetapadma (Internal Supervisor). I see this opportunity as an important milestone in the growth of my career. I will strive to make the best possible use of the acquired skills and knowledge, and I will continue to upgrade them to achieve the desired career goals. In the future, I hope to continue working with all of you.

VIJAY KRISHNA 1605332

Abstract

This report describes the work that have been done as part of internship in Travel team at Coviam Technologies, Bengaluru. Travel team (Web) works on developing and handling all search related activities of an Indonesian Ecommerce Website **Blibli's sub domain Blibli Travel** using the latest framework VueJS. Our work in the team deals with developing new features for the website, enhancing existing features and fixing the bugs, resolving crashes in the website to ensure smooth usage for user.

Focus on optimization and resolving dependencies to decrease the build time of the Website as well as to decrease the size of website so that the user will be able to load the website in very less time. The developed website include its around-the-clock availability, the speed of access, the wide availability of products for the customers, easy accessibility, and international reach. Website also pays attention on consumer data privacy and security with proper authorisation techniques.

Discontinued Product Management, Feature for Manual Merchandise and Sponsoring of Products by different business teams, Synchronising the search history between travel and different platforms of Blibli and Integration of Insurance aggregator with all the Flight services are the important features developed during internship. I developed both frontend and backend for all these features.

Contents

LIST OF FIGURES

Training

1.1 Introduction

Coviam is focusing on "next generation digital technologies". In Coviam, I worked in Travel team as a software developer. In the first four weeks we had a training programme which made us familiar with software development technologies.

Blibli Travel is a travel platform in Indonesia just like MakeMyTrip and Yatra. The developed website include its around-the-clock availability, the speed of access, easy accessibility, and international reach.

For handling all the search related activities we work on maintaining two websites, one website was for customers i.e.www.blibli.com and the other website was for the business team which was accessible only through VPN. The task of developing different features in this management website was assigned to me. The major features implemented for users of Blibli includes:

- Discontinued Product
- Hotel Mapping Logic
- SEO optimization for Travel pages
- Implementation of centralized login which included E-Mail verification
- Synchronization of search-history between website and mobile web platforms of blibli travel.

1.2 Internship Plan

In the first four weeks, I worked on three projects to be familiar with the development work going on in teams. After team allotment, I worked on new tickets and tasks assigned by team lead in which task description and details are mentioned. These tickets bring new challenges and responsibilities, mainly to add new upcoming features, update existing features and bugfix in the blibli website.

Software Development Technologies

2.1 Introduction

Introduction to **core java and advanced java** which includes spring boot. Various databases both relational and non-relational database which includes ***postgres, mongodb, solr and redis database*.** After they offered us a choice between web development and app development. I choose web development which includes various tools some are ***VueJS, Javascript, HTML and CSS.***

2.2 Multithreading project

Multithreading : Multithreading in java is a process of simultaneous execution of multiple threads. A thread is the smallest unit of processing, a lightweight sub-process. Multiprocessing and multithreading are both used for multitasking purposes.

A simple project was introduced which was based on java and the project concept was based on **multithreading part.** To read and write **JSON, XML and CSV** file using thread handling. Employee data was stored in JSON, CSV and XML file and we have to read data from that file and then pass data into arrayList by creating singleton class and then again read from collection and store it in output JSON, CSV and XML file.

Ecommerce

3.1 Introduction

In this project we were divided into groups, the project was to make an ecommerce website with fully functional backend in spring boot, the main aim of the project is to make some microservices and use the website and to call the micro services whenever user interact with it.

3.2 Microservices

Microservices are a form of service-oriented architecture style in which applications are constructed as a collection of various smaller services rather than an entire application. You have multiple independent applications, instead of a monolithic app, that can run on their own and can be created using different coding or programming languages. Big and complicated systems may consist of simple and separate programs that can be performed on their own. These smaller programs are grouped together to deliver all of the big, monolithic app's features.

Advantages of microservices

The use of microservices has several advantages. For one, because these smaller applications are not dependent on the same language of coding, developers can use the language of programming they are most familiar with. This helps developers to quickly develop a program with lower costs and fewer bugs. The flexibility and low cost may also benefit from the opportunity to recycle these smaller programs on other initiatives, making them more successful.

Microservices in our project

Our team decided to have 5 microservices, they are product microservice, order microservice, login/sign up microservice, merchant service and search microservice. Basically they wanted us to make services which are independent of each other, for example if the search microservice goes down, user can still view products as well as checkout or add to cart product, or if product goes down user can still search product and either checkout or add the product to cart and the same goes for the other two services.

3.3 Technologies

Java, Spring boot, Android, Postgres, Solr, Monogodb, VueJs

3.4 Wireframe

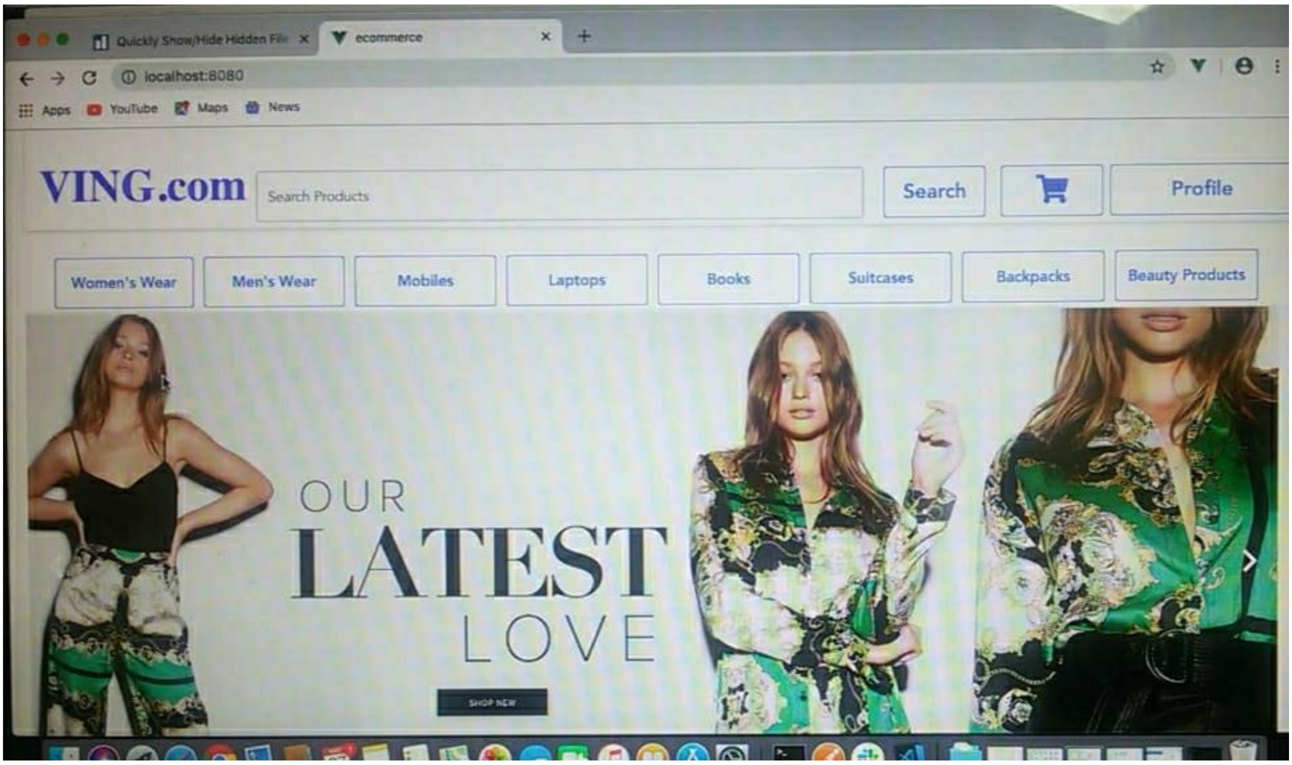
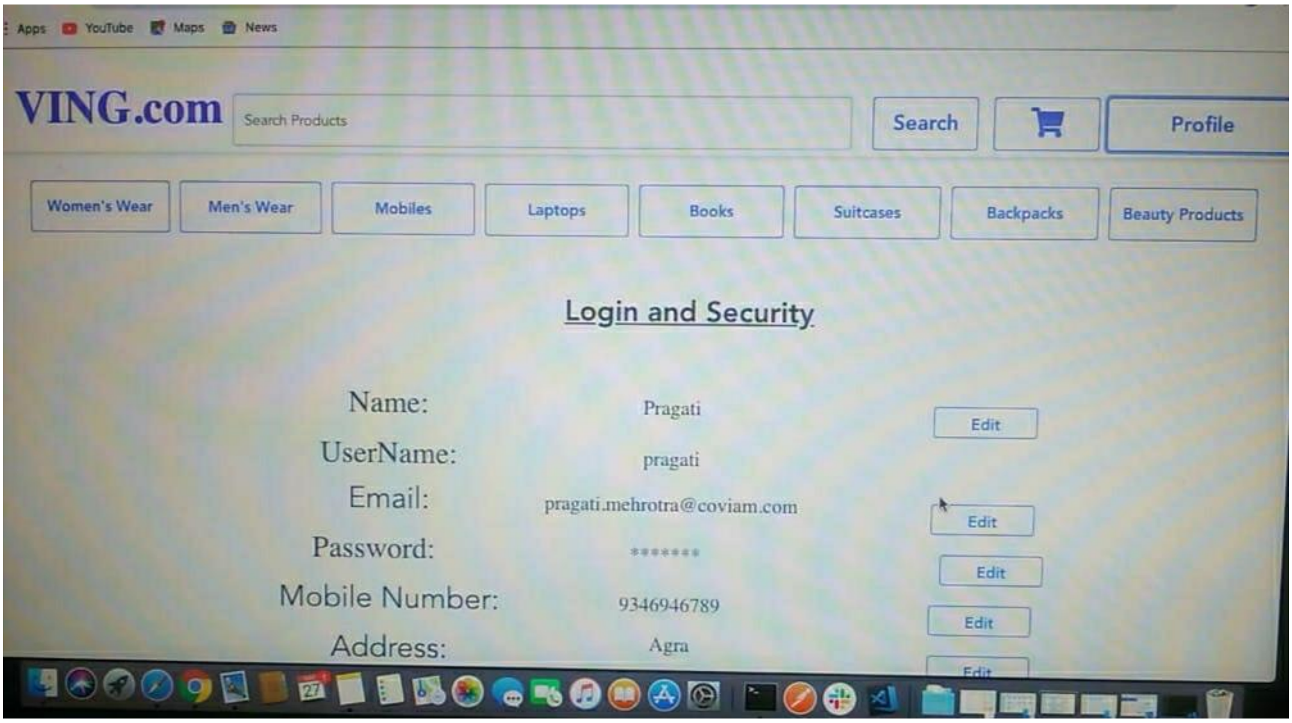


Fig 3.1 Homepage of Website



Login and Security

Name: Pragati

UserName: pragati

Email: pragati.mehrotra@coviam.com

Password: *******

Mobile Number: 9346946789

Address: Agra

Fig 3.2 Login page of Website

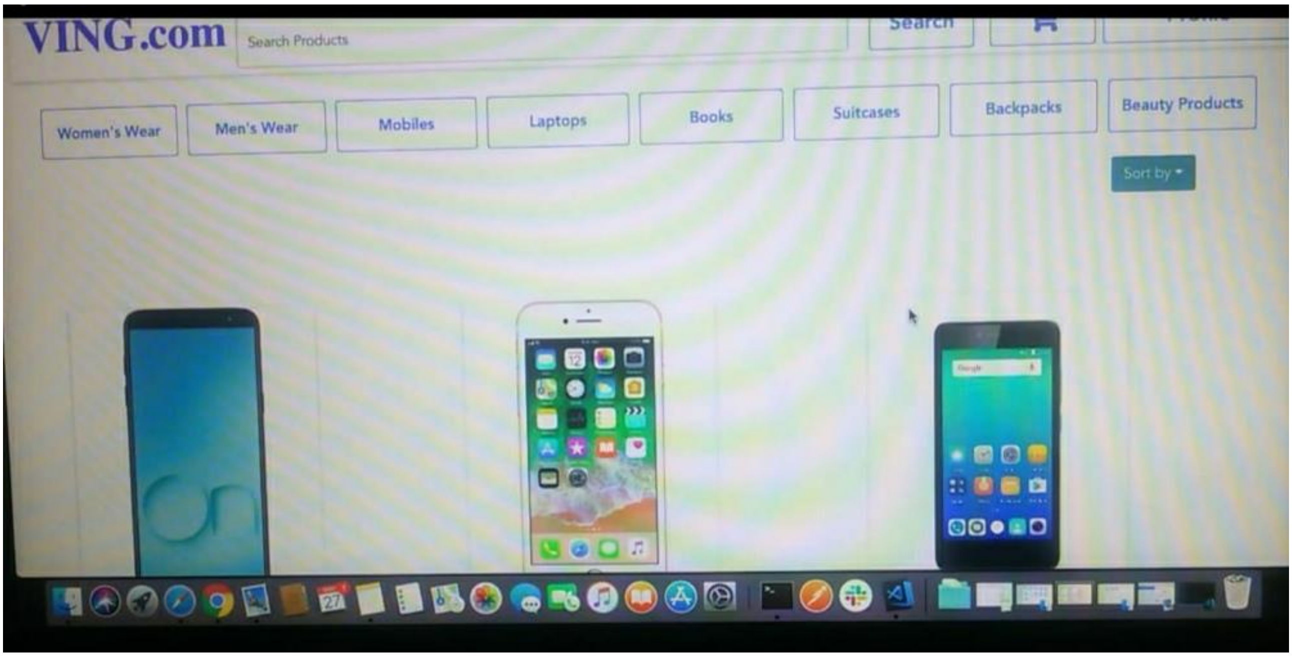
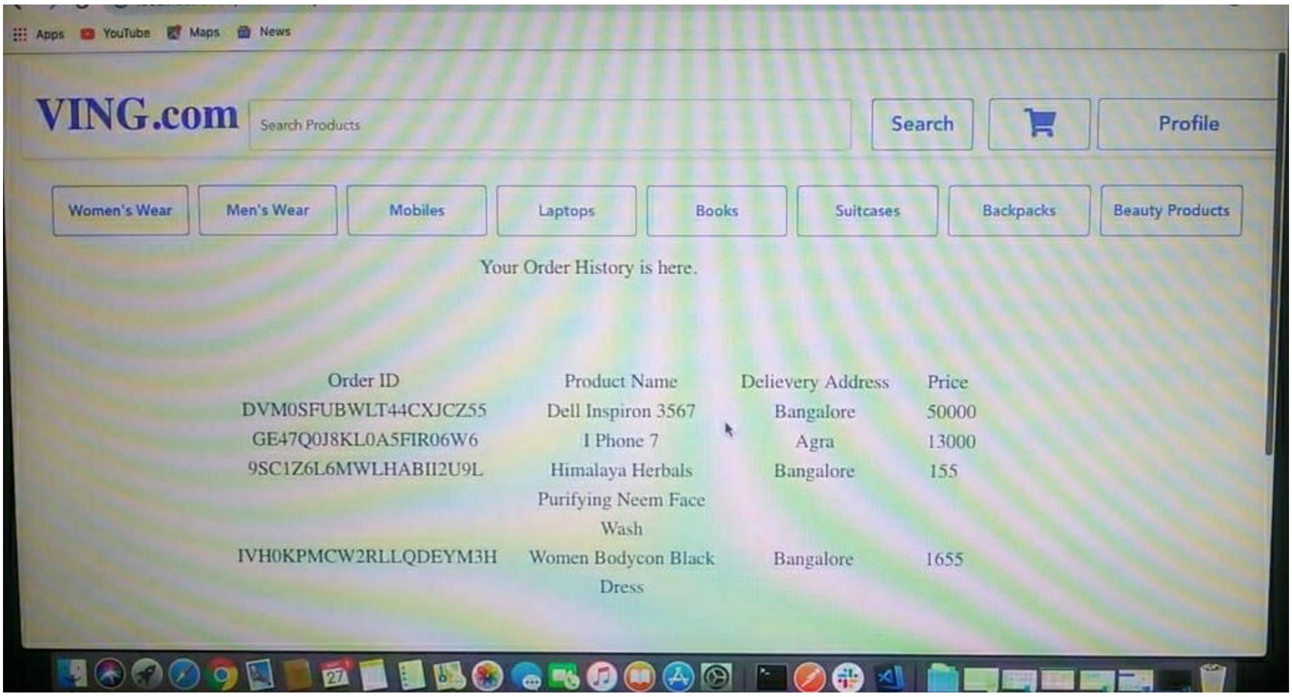


Fig 3.3 Product page of Website



Your Order History is here.

Order ID	Product Name	Delievery Address	Price
DVM0SFUBWLT44CXJCZ55	Dell Inspiron 3567	Bangalore	50000
GE47Q0J8KL0A5FIR06W6	I Phone 7	Agra	13000
9SC1Z6L6MWLHABII2U9L	Himalaya Herbals Purifying Neem Face Wash	Bangalore	155
IVH0KPMCW2RLLQDEYM3H	Women Bodycon Black Dress	Bangalore	1655

Fig 3.4 Order History page of Website

Content Management System(CMS)

4.1 Introduction

In this project, we all had to work on a single project as a whole and internally we were divided into 4 teams. The project was to make a website which act as a content management system. The main aim of the project was to give an overview of how a real time project is designed and how to upload dynamic data without actually deploying the code.

4.2 Content Management Website

Our task was to design a content management website for a quizzing application.
Main features of the website includes:

- User Role Management (Admin, Creator, Screener, User)
- Admin has all the read/write access, Screener only has the access to edit questions and Creator has the access to create new contests, to add new questions as well as to edit existing questions.
- User has no access to the CMS, user can only play quizzes on the application.
- Two types of contests: Static and Dynamic
- Static contest will be always valid and available for the users whereas dynamic contests will be valid only for the given timeframe.
- Support to Add, Remove and Edit Quiz Contests.
- Introduce 4 categories of questions (Text, Image, Audio, Video)
- Upload new Questions of different categories.

- Maintain 40% text based, 20% image based, 20% audio based and 20% video based questions in each contest.
- Maintain 40% easy, 40% medium and 20% difficulty weightage in each contest.

To display an audit report of all the add, remove and edit operations performed

- through the website by different users.
- Search functionality for questions and contests.

4.3 Quizzing Application

This android application was designed to host all the quizzing contests active in the CMS portal. The user authorisation was through a session generated token. Main features of the app includes:

- Secured User Authorisation.
- Display of static and dynamic quizzing contests.
- Contest must be displayed according to categories selected by the user ex: sports, entertainment, politics, etc.
- Calculation of scores for every contest played by user.
- Display of leaderboard of three different types: weekly, monthly and overall.
- Allow user to restart a static contest if user left it in the middle.
- Give notifications for live dynamic contests.
- Timer feature for dynamic contests .
- Player support for playing videos for video based questions.

4.4 Technologies

Java, Spring boot, Android, Postgres, Solr, Monogodb, VueJs

4.5 Wireframe

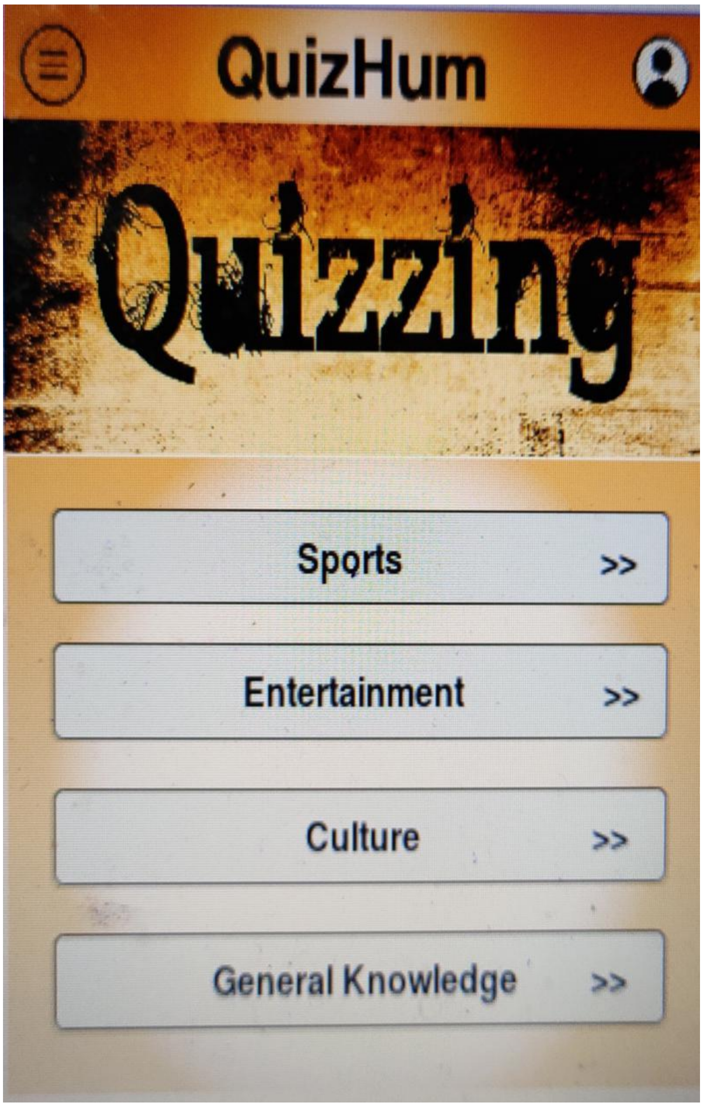


Fig 4.1 Homepage of App

Blibli

5.1 Introduction

Blibli a leading ecommerce platform in Indonesian. As one of the pioneers of online shopping mall, Blibli.com is committed to safe, convenient, easy, and fun online shopping experience anywhere, anytime.

Blibli chooses to expand in Travel domain with a sub domain Blibli Travel which caters people around the world with a foothold on Flight, Rail as well as Hotel booking.

5.2 Description of the frameworks

Frontend was designed in the latest framework VueJs. Vue is a systematic model for user interfaces development. Vue is also fully capable of powering complex single-page applications when combined with modern tools and library support. At the core of Vue.js is a system that enables us to declaratively render data to the DOM.
One of Vue's most distinct features is the unobtrusive reactivity system.

Backend was designed using Spring Boot which is a Java framework. The Spring Software is an application framework and a reversal of the Java architecture control container. Any Java application can use the core features of the framework, but extensions are available to build web applications on top of the Java EE platform. Major features of Spring includes:

- Create stand-alone Spring applications.
- Embed Tomcat, Jetty or Undertow directly (no need to deploy WAR files).
- Provide opinionated 'starter' dependencies to simplify your build configuration.
- Automatically configure Spring and 3rd party libraries whenever possible.
- Provide production-ready features such as metrics, health checks and externalized configuration.
- Absolutely no code generation and no requirement for XML configuration.

5.3 MVC Architecture

The Model-View-Controller (MVC) is an architectural pattern which divides an application into three main logical components: the model, the view, and the control. Each of these components is designed to address

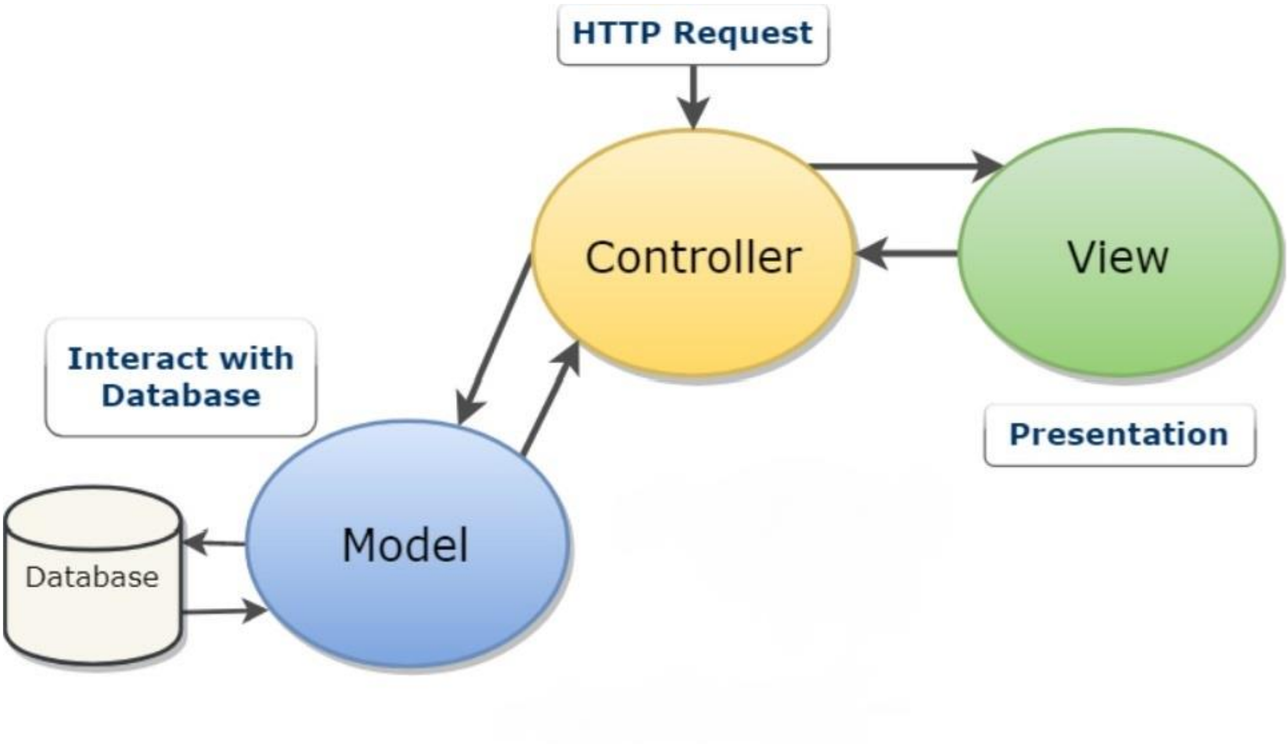


Fig 5.1 MVC Architecture

Following are the components of MVC :

Model: The component of the Model corresponds to all the logic related to data with which the user works. This can represent either the data being transferred between the components of the View and Controller, or any other data related to business logic. A customer object, for instance, can extract customer information from the database, modify it, add it to the database, or use it to make data.

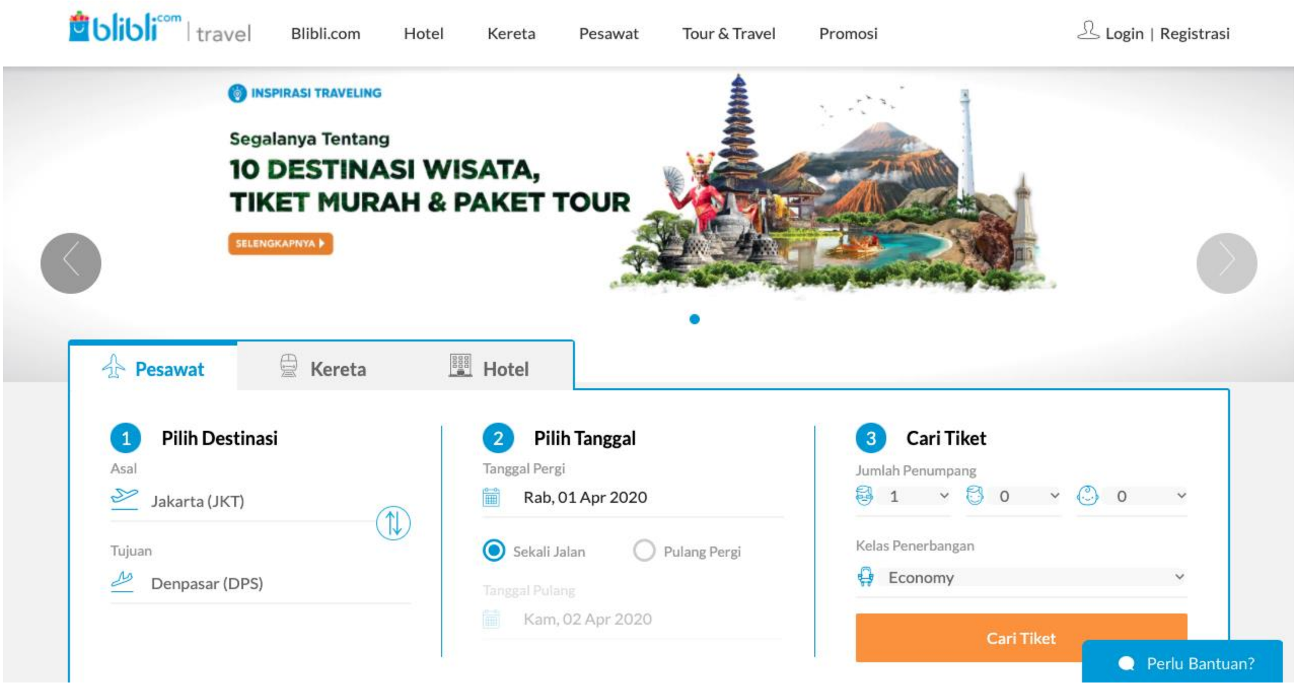
View: The View component is used for the application's entire UI logic. For instance, the Customer view will include all the UI components that the end user interacts with, such as text boxes, dropdowns, etc.

Controller: Controllers act as an interface between components Model and View to process all business logic and incoming requests, manipulate data using the Model component, and interact with Views to render the final output. The Customer Controller, for example, will handle all Customer View interactions and inputs and update the database using the Customer Model. Customer data will be viewed using the same controller.

5.4 Features of Website

Blibli Travel being a travel platform was expected to have all the basic features like listing page, search, user login etc. Our team handles all the activities for the web and mobile web. Features implemented during internship for **Blibli** being a part of **travel team**

- Lowest Fare Price on Calendar
- SEO content for Search Engine Optimisation
- Development of CMS dedicated for Travel Products
- Integration of Cermati Insurance
- Synchronization of search history
- Self-Optimization of search results across all three products



1 Pilih Destinasi

Asal: Jakarta (JKT)

Tujuan: Denpasar (DPS)

2 Pilih Tanggal

Tanggal Pergi: Rab, 01 Apr 2020

● Sekali Jalan ○ Pulang Pergi

Tanggal Pulang: Kam, 02 Apr 2020

3 Cari Tiket

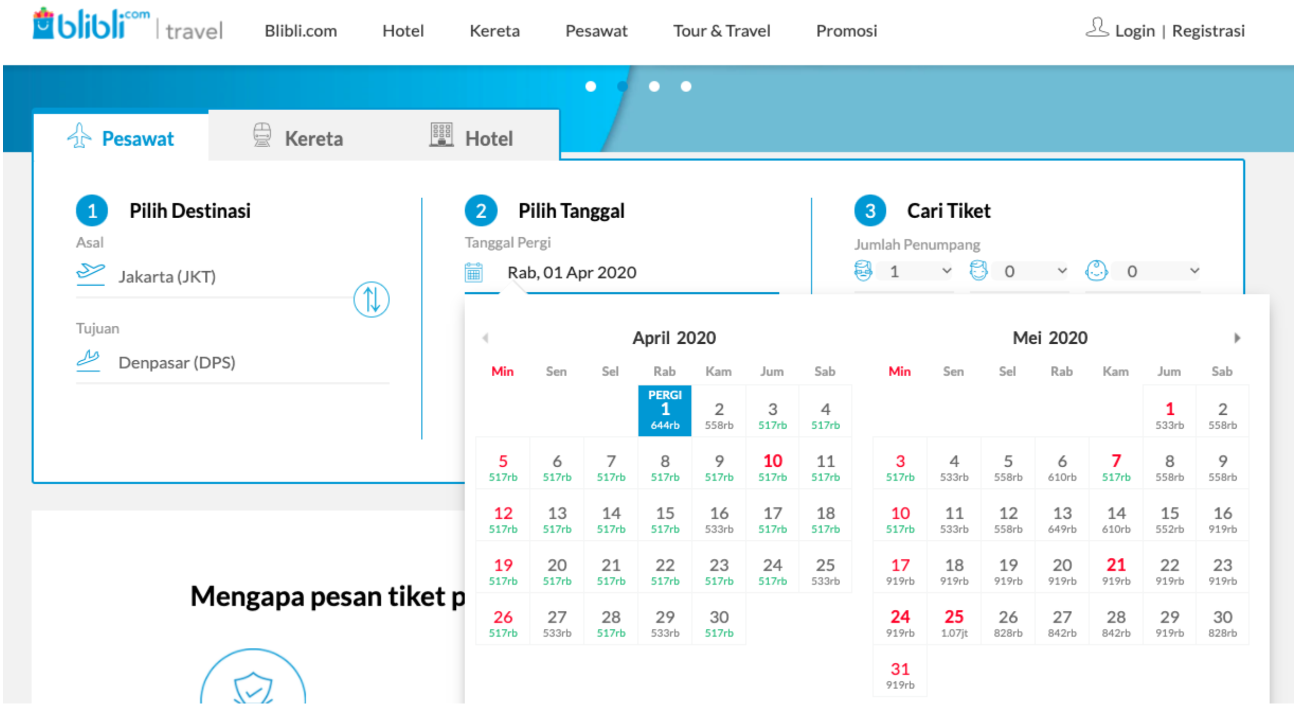
Jumlah Penumpang: 1 / 0 / 0

Kelas Penerbangan: Economy

Fig 5.2 Home Page of Website

5.4.1 Lowest Fare Price on Calendar Feature

One of the major convenience one can give its customers while booking any Flight is to display prices beforehand. So we implemented Lowest Fare Price feature on the Calendar of Flight bookings on web as well as M-Web.



1 Pilih Destinasi

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Tanggal Pergi: Rab, 01 Apr 2020

3 Cari Tiket

Jumlah Penumpang: 1 / 0 / 0

April 2020

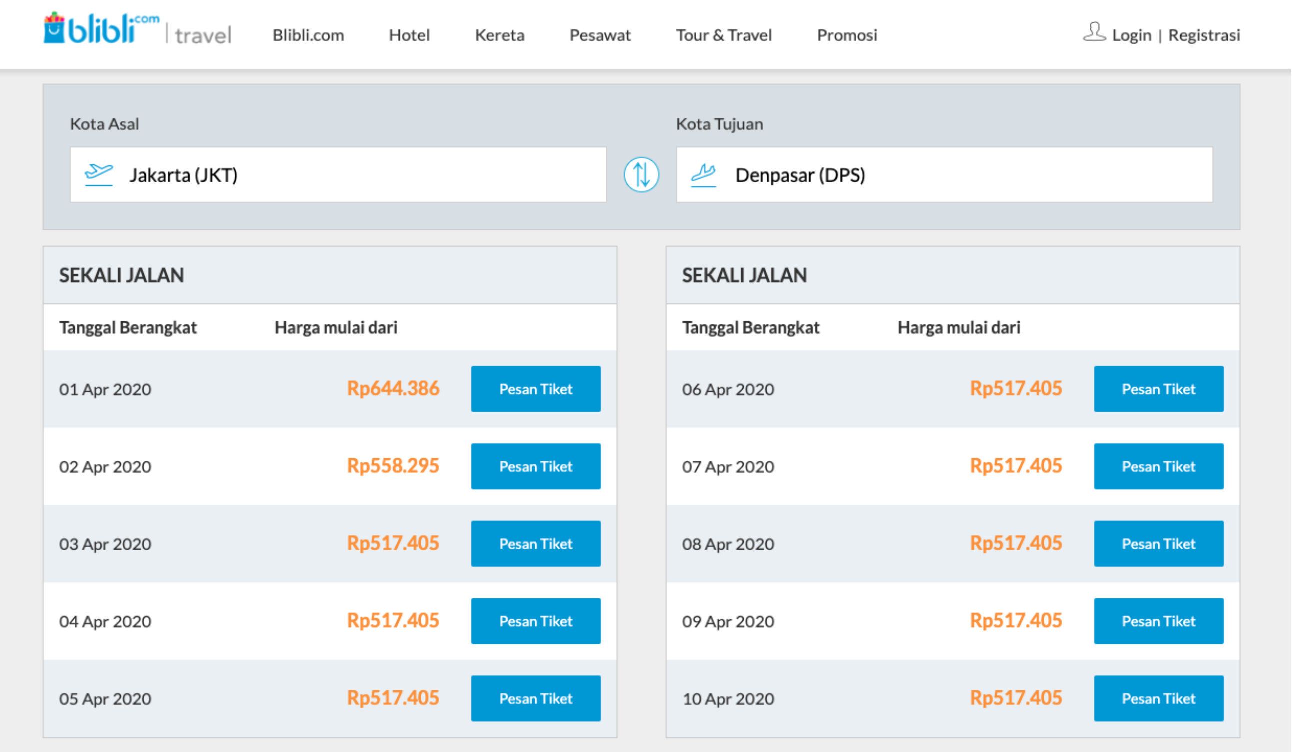
Min	Sen	Sel	Rab	Kam	Jum	Sab
			PERGI 1 644rb	2 558rb	3 517rb	4 517rb
5 517rb	6 517rb	7 517rb	8 517rb	9 517rb	10 517rb	11 517rb
12 517rb	13 517rb	14 517rb	15 517rb	16 533rb	17 517rb	18 517rb
19 517rb	20 517rb	21 517rb	22 517rb	23 517rb	24 517rb	25 533rb
26 517rb	27 533rb	28 517rb	29 533rb	30 517rb		

Mei 2020

Min	Sen	Sel	Rab	Kam	Jum	Sab
					1 533rb	2 558rb
3 517rb	4 533rb	5 558rb	6 610rb	7 517rb	8 558rb	9 558rb
10 517rb	11 533rb	12 558rb	13 649rb	14 610rb	15 552rb	16 919rb
17 919rb	18 919rb	19 919rb	20 919rb	21 919rb	22 919rb	23 919rb
24 919rb	25 1.07jt	26 828rb	27 842rb	28 842rb	29 919rb	30 828rb
31 919rb						

Fig 5.3 Lowest Fare on Flight Booking

Here the prices are stored in browser local storage for certain amount of time which in turn is brought via an API call. This data is stored in Redis cache which gets updated after a certain period of time. To get the price for certain route we create a key by certain combinations which helps in getting the data stored in Redis cache.



Kota Asal: Jakarta (JKT)

Kota Tujuan: Denpasar (DPS)

SEKALI JALAN

Tanggal Berangkat	Harga mulai dari	
01 Apr 2020	Rp644.386	Pesan Tiket
02 Apr 2020	Rp558.295	Pesan Tiket
03 Apr 2020	Rp517.405	Pesan Tiket
04 Apr 2020	Rp517.405	Pesan Tiket
05 Apr 2020	Rp517.405	Pesan Tiket

SEKALI JALAN

Tanggal Berangkat	Harga mulai dari	
06 Apr 2020	Rp517.405	Pesan Tiket
07 Apr 2020	Rp517.405	Pesan Tiket
08 Apr 2020	Rp517.405	Pesan Tiket
09 Apr 2020	Rp517.405	Pesan Tiket
10 Apr 2020	Rp517.405	Pesan Tiket

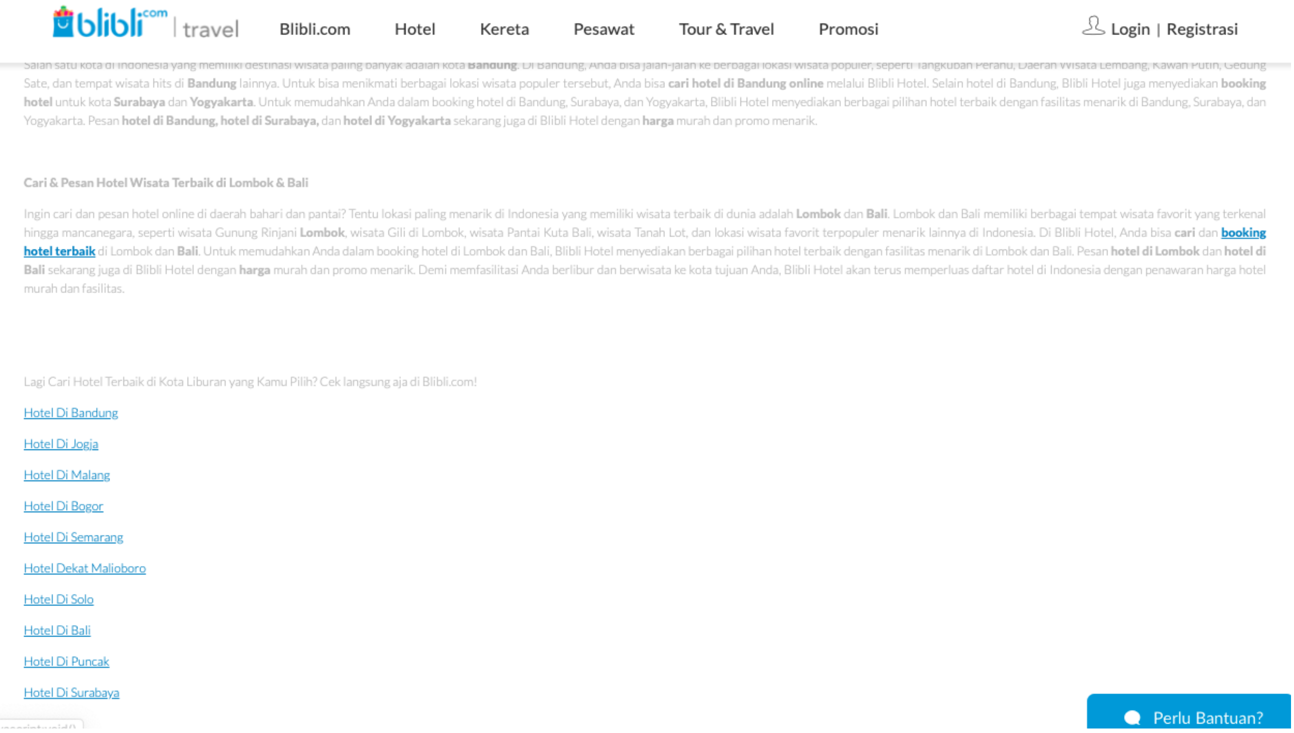
Fig 5.4 : For Route Specific Search

5.4.2 SEO content for Search Engine Optimisation

This feature has improved a lot for our website in terms of Google’s Search Engine rankings. The SEO content needed to be put in every page that serves two major purpose:

1. Increase internal flow of bots once they enter our Website
2. To match few metrics that improves Google SEO

The SEO content is now displayed at the bottom of almost all the Pages with some of them being injected in the head file also.



Salah satu kota di Indonesia yang memiliki destinasi wisata paling banyak adalah kota **Bandung**. Di Bandung, Anda bisa jalan-jalan ke berbagai lokasi wisata populer, seperti Tangkuban Perahu, Daerah Wisata Lembang, Kawah Putih, Gedung Sate, dan tempat wisata hits di **Bandung** lainnya. Untuk bisa menikmati berbagai lokasi wisata populer tersebut, Anda bisa **cari hotel di Bandung online** melalui Blibli Hotel. Selain hotel di Bandung, Blibli Hotel juga menyediakan **booking hotel** untuk kota **Surabaya** dan **Yogyakarta**. Untuk memudahkan Anda dalam booking hotel di Bandung, Surabaya, dan Yogyakarta, Blibli Hotel menyediakan berbagai pilihan hotel terbaik dengan fasilitas menarik di Bandung, Surabaya, dan Yogyakarta. Pesan **hotel di Bandung, hotel di Surabaya,** dan **hotel di Yogyakarta** sekarang juga di Blibli Hotel dengan **harga** murah dan promo menarik.

Cari & Pesan Hotel Wisata Terbaik di Lombok & Bali

Ingin cari dan pesan hotel online di daerah bahari dan pantai? Tentu lokasi paling menarik di Indonesia yang memiliki wisata terbaik di dunia adalah **Lombok** dan **Bali**. Lombok dan Bali memiliki berbagai tempat wisata favorit yang terkenal hingga mancanegara, seperti wisata Gunung Rinjani **Lombok**, wisata Gili di Lombok, wisata Pantai Kuta Bali, wisata Tanah Lot, dan lokasi wisata favorit terpopuler menarik lainnya di Indonesia. Di Blibli Hotel, Anda bisa **cari** dan **booking hotel terbaik** di Lombok dan **Bali**. Untuk memudahkan Anda dalam booking hotel di Lombok dan Bali, Blibli Hotel menyediakan berbagai pilihan hotel terbaik dengan fasilitas menarik di Lombok dan Bali. Pesan **hotel di Lombok** dan **hotel di Bali** sekarang juga di Blibli Hotel dengan **harga** murah dan promo menarik. Demi memfasilitasi Anda berlibur dan berwisata ke kota tujuan Anda, Blibli Hotel akan terus memperluas daftar hotel di Indonesia dengan penawaran harga hotel murah dan fasilitas.

Lagi Cari Hotel Terbaik di Kota Liburan yang Kamu Pilih? Cek langsung aja di Blibli.com!

Hotel Di Bandung

Hotel Di Jogja

Hotel Di Malang

Hotel Di Bogor

Hotel Di Semarang

Hotel Dekat Malioboro

Hotel Di Solo

Hotel Di Bali

Hotel Di Puncak

Hotel Di Surabaya

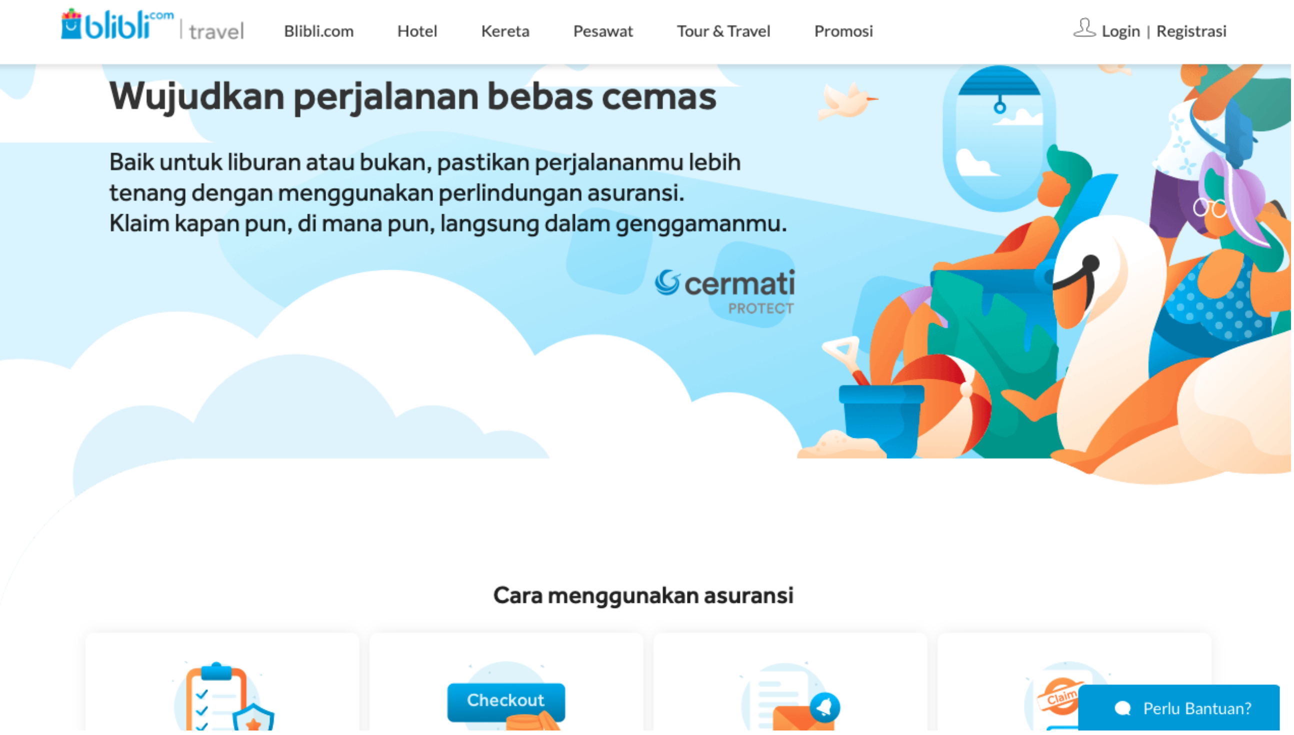
Fig 5.5: SEO content for Pages

5.4.3 Development of CMS dedicated for Travel Products

This feature is very important in making our product more reliable, fast and standalone. Previously for all the Travel product we used to use the central CMS system of Blibli, but with heavy traffic and reliability issues finally we decided to move our CMS separately. This lead to establishment of completely new microservice. This was used by Business team as well as developers to easily maintain the website. The CMS can only by accessed by someone within the organisation with a VPN connection of the company (Due to this no images can be attached for this).

5.4.4 Integration of Cermati Insurance

This feature is integrated from a third party cross platform aggregator which is providing insurance for all the flight bookings. Introduction and integration of this feature has made Flight travel more secure than ever before there was no option of insurance on our website.



Wujudkan perjalanan bebas cemas

Baik untuk liburan atau bukan, pastikan perjalananmu lebih tenang dengan menggunakan perlindungan asuransi. Klaim kapan pun, di mana pun, langsung dalam genggamanmu.

Cara menggunakan asuransi

Fig 5.6 : Cermati Insurance

5.4.5 Synchronisation of search history

Earlier when one logged user performs a search in one of the blibli platform the search history doesn't get reflected in any of the other blibli platform even if the customer is logged in other platforms.

Ideally, we have synchronized the searched keyword history information between the channels irrespective of the platform the customer is using as long as the user is logged in.

Gives an additional advantage,

Storing search terms from each user will help us profile them more effectively. We can use their search keywords history to improve our recommendations.

Activities:

1. We set up a system to store all the search terms used by a customer.
2. When a user clicks on the search box and the search box is empty, user's recent search history (containing 5 search terms) shows up.
3. User is allowed to delete a search history item. We prevent that data from being shown in search history in the future but do not delete the data.
4. We will implement only for logged in users.
5. We implemented this for website and mobile web
6. This feature for mobile apps is still in development

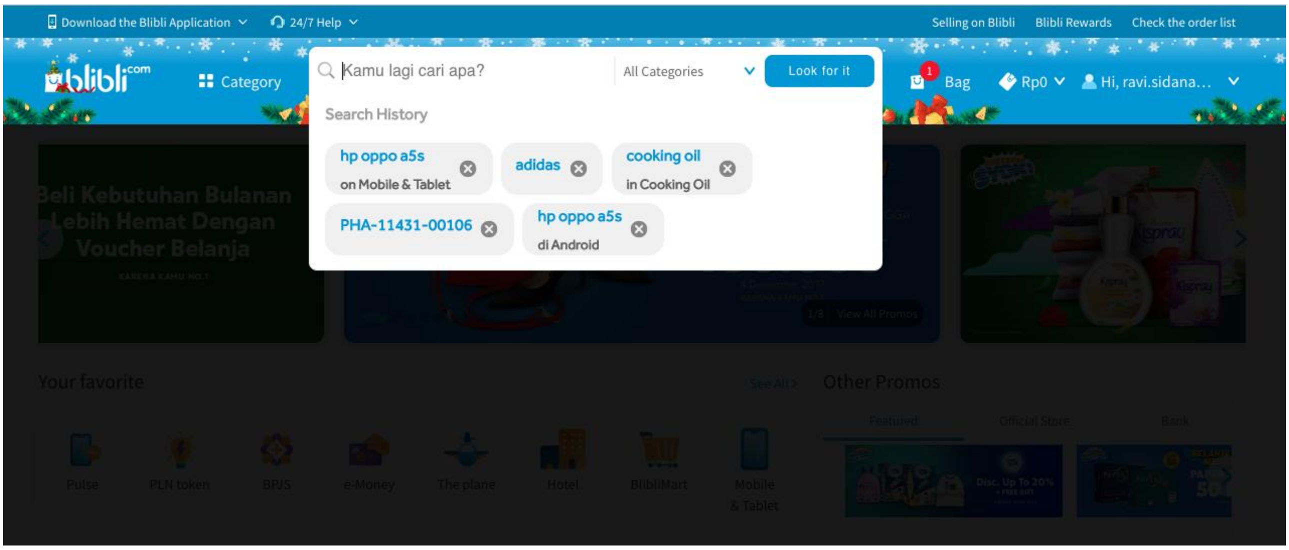
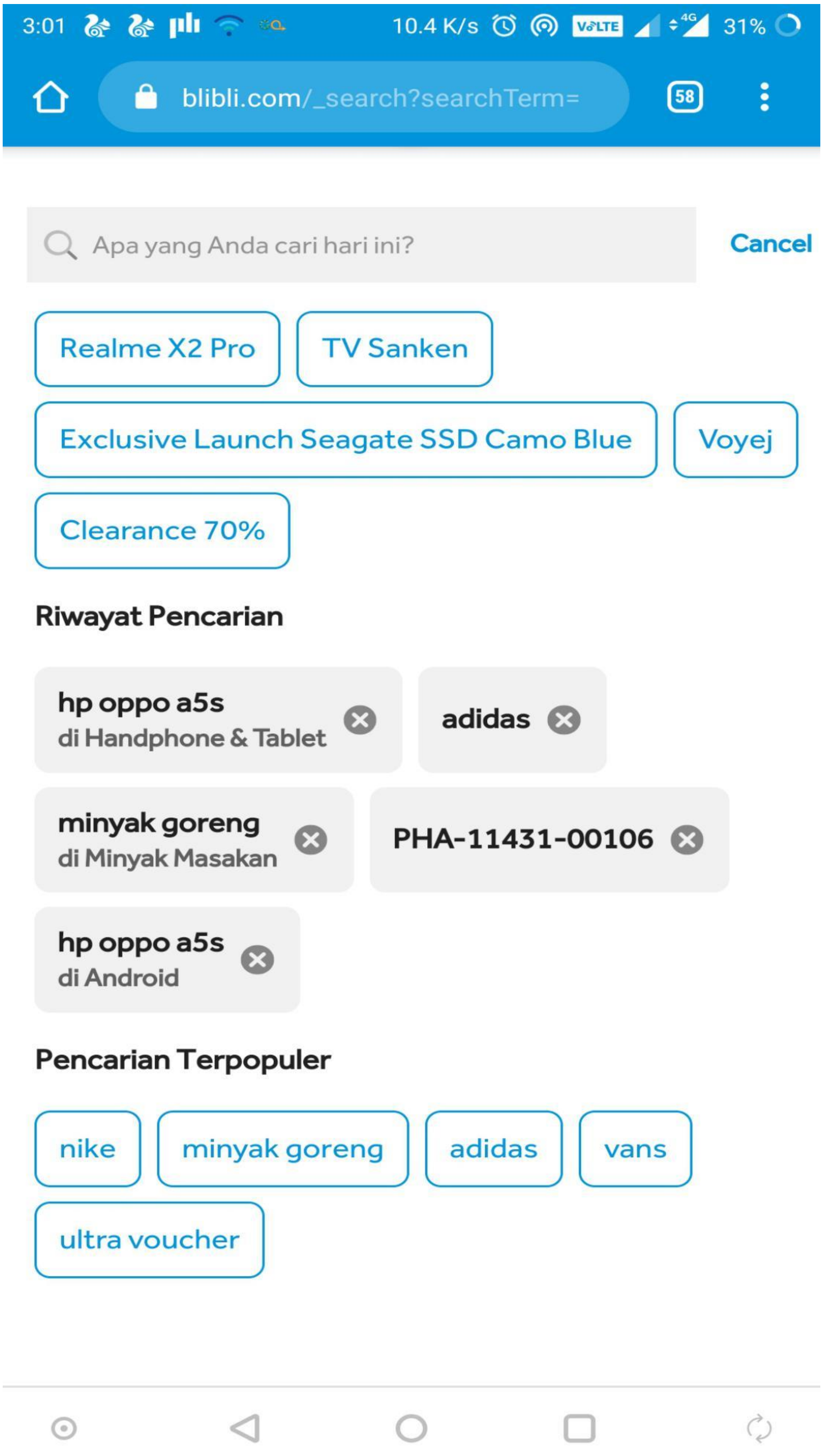


Fig 5.7: Search history in website for logged-in user



3:01 10.4 K/s VoLTE 4G 31%

blibli.com/_search?searchTerm=

58

Apa yang Anda cari hari ini?

Cancel

Realme X2 Pro

TV Sanken

Exclusive Launch Seagate SSD Camo Blue

Voyej

Clearance 70%

Riwayat Pencarian

hp oppo a5s
di Handphone & Tablet ⊗

adidas ⊗

minyak goreng
di Minyak Masakan ⊗

PHA-11431-00106 ⊗

hp oppo a5s
di Android ⊗

Pencarian Terpopuler

nike

minyak goreng

adidas

vans

ultra voucher

Fig 5.8: Search history in website for logged-in user in M-Web

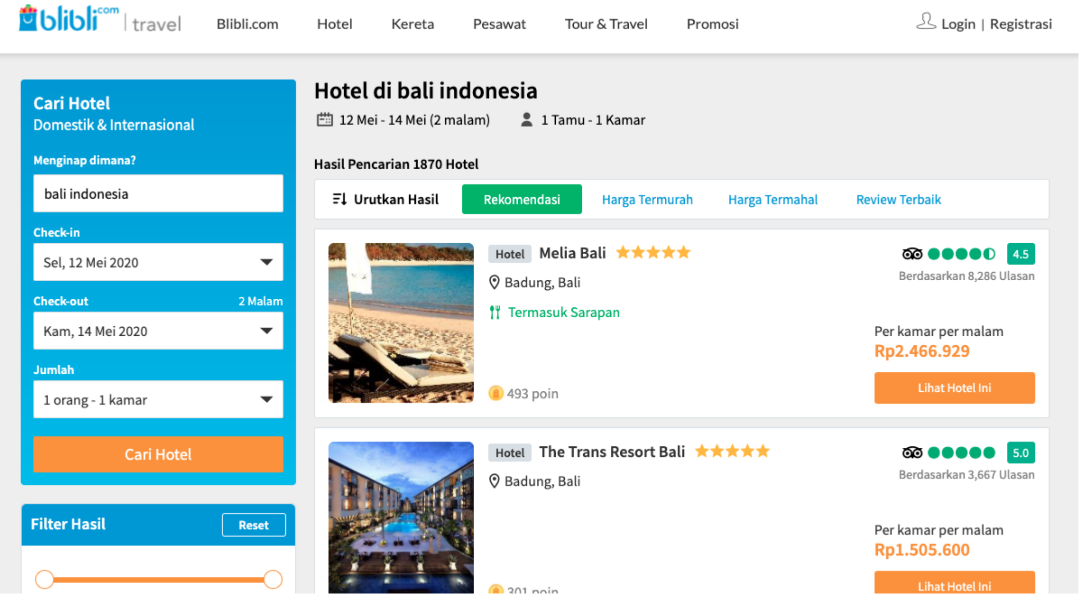
5.4.6 Trackers

Trackers are an important part of any website. Using trackers we can track the events happening on the website. Google Tag Manager (GTM) was used to introduce tracking events in the website. Tracking events were introduced to track the clicks on a particular video and the data of that video was transferred to GTM using data layer. Later on, GTM transfers the data to Google Analytics which creates a detailed report based on the tracking events.

The reports of google analytics are used to plan and take further business decisions for the project. Trackers also tracks how many users are logged in at the website at any moment. Trackers give an exact value of API calls happening every second which helps in load management.

5.4.7 Search and Recommendations

Search was introduced to search flight, rail and hotel based on different categories, based on various metrics etc. Search was implemented using **Solr** which is one of the most powerful search database. **Solr** is an open source search platform that is based on Lucene, a Java library. **Solr** is a popular website search platform because it can index and search multiple sites and return related content recommendations based on the taxonomy of the search query**.**



blibli.com | travel Blibli.com Hotel Kereta Pesawat Tour & Travel Promosi Login | Registrasi

Cari Hotel
Domestik & Internasional

Menginap dimana?
bali indonesia

Check-in
Sel, 12 Mei 2020

Check-out 2 Malam
Kam, 14 Mei 2020

Jumlah
1 orang - 1 kamar

Cari Hotel

Filter Hasil Reset

Hotel di bali indonesia
12 Mei - 14 Mei (2 malam) 1 Tamu - 1 Kamar

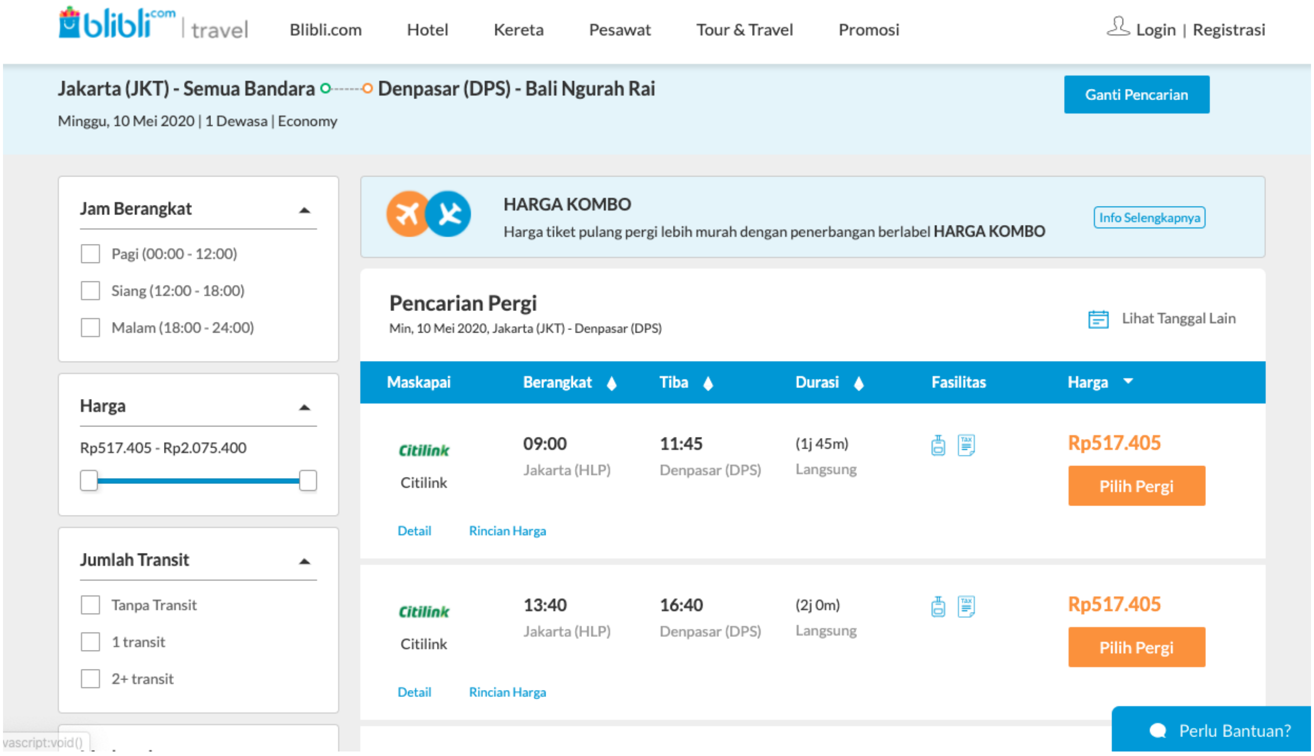
Hasil Pencarian 1870 Hotel

Urutkan Hasil | Rekomendasi | Harga Termurah | Harga Termahal | Review Terbaik

Hotel Melia Bali ★★★★★ 4.5
Berdasarkan 8,286 Ulasan
Badung, Bali
Termasuk Sarapan
Per kamar per malam
Rp2.466.929
493 poin
Lihat Hotel Ini

Hotel The Trans Resort Bali ★★★★★ 5.0
Berdasarkan 3,667 Ulasan
Badung, Bali
Per kamar per malam
Rp1.505.600
301 poin
Lihat Hotel Ini

Fig 5.9: Search Result Page Hotel



Jakarta (JKT) - Semua Bandara ○-----○ Denpasar (DPS) - Bali Ngurah Rai

Minggu, 10 Mei 2020 | 1 Dewasa | Economy

Jam Berangkat

□ Pagi (00:00 - 12:00)
□ Siang (12:00 - 18:00)
□ Malam (18:00 - 24:00)

Harga

Rp517.405 - Rp2.075.400

Jumlah Transit

□ Tanpa Transit
□ 1 transit
□ 2+ transit

HARGA KOMBO

Harga tiket pulang pergi lebih murah dengan penerbangan berlabel **HARGA KOMBO**

Pencarian Pergi

Min, 10 Mei 2020, Jakarta (JKT) - Denpasar (DPS)

Maskapai	Berangkat	Tiba	Durasi	Fasilitas	Harga
Citilink Citilink	09:00 Jakarta (HLP)	11:45 Denpasar (DPS)	(1j 45m) Langsung		Rp517.405
Citilink Citilink	13:40 Jakarta (HLP)	16:40 Denpasar (DPS)	(2j 0m) Langsung		Rp517.405

Fig 5.10: Search Results Page Flight

5.4.8 Self optimisation of search results across Products

This feature is basically optimisation of search results for a particular search term based on certain strategies .We have implemented different trackers in our website which keeps track of user interaction with the website. These trackers send data to **Big Query** through GTM(Google tag manager) and these data help us to optimise search results as per user interaction with the website. Big Query gives us different scores of particular product.

Scores comprise of products '**clickthroughRate', 'addtocartRate"** and there **'buying score'.** Depending on these scores we optimize the search results for the search terms by receiving data from big query through our BRS service (**blibli recommendation service**). BRS returns the respective scores of product ids and we boost them in descending order of their scores following different **BRS strategies**.

We generate the boost as :

boost = Self optimise boost factor *(∑ boost factor[i] * boosting score[i])

'i' - for click through rate(ctr) & add to cart rate(atoc)

boost factor : is configurable

boosting score : normalised score from BRS for add to cart rate and normalised score for click through rate from solr database.

5.5 Testcases

Quality of code a developer writes is measured with the help of testcases. Developers has to write unit testcases for the code. We used Jest framework to write testcases of frontend and Junit to write testcases for Backend. The whole code is divided into numerous functions. Testcases are written for every function. To write testcases we have to follow these steps:

- Mock the dependencies
- Run the function
- Assert the result

Mocking the dependencies means we have to make a mock of all external dependencies and provide pseudo values to all depended variables.

After mocking, the function whose testcase we are writing, is called.

As it runs it produces a result and we have to verify whether the result produced by the function for given mock values is correct or not. This verification is called asserting the result.

During the production build the testcases are executed and a quality report is produced which contains the calculated quality value. If the quality value is less than 90% than the code is rejected.

Results And Discussions

I learned various aspects of working in a software development team. Such as:
1. Ensuring the consistency of the data transfer to run project for demos.

2. The most important is integration and which is done easily by Github, Bitbucket and Bamboo.

3. Group discussions regarding how to tackle a certain problem, taking and giving feedbacks and proper communication of ideas.

4. How to make sure to work under the given time framework, ensuring that others work don't get stalled, devising pipelines so that people can work as much parallel as possible.

5. Realized the importance of making tasks as much independent as possible. Final step conversion helps in reducing the various inconsistency which would have otherwise made the task more complex.

6. Regular demo and code review done by team lead helped me to write clean code.

Summary and Conclusion

9.1 Summary

Internship started with software development training. In training we did three projects java basic project, ecommerce website and a content management system. Later, they divided us into teams. I am a part of Travel team. I got a deep dive in the codebase of the website by fixing small bugs initially. Then after being familiar with the codebase I was given features.

I also participated in UI and backend knowledge sharing sessions in which all the developers of COVIAM discusses new technologies..

9.2 Conclusion

I completed all the tickets and tasks assigned to me. I learned new software technologies such as VueJs, AngularJs, JSP, Spring Boot and various frameworks. This is the best experience in which I am getting exposure to industrial knowledge.

Development of Travel Platform for an Indonesian E-commerce Website "BLIBLI"

VIJAY KRISHNA

1605332

Abstract: This project basically revolves around the different features and functionalities for travel platform implemented for an Indonesian ecommerce website **BLIBLI.** The various features implemented in this project were Calendar Lowest Fare, Dedicated CMS for travel product, Synchronization of search history between different platforms of blibli ,SEO content for Google Search Engine Optimization and Integration of Cermati Insurance to Flights. All the features implemented was done end to end i.e. both frontend and backend. Frontend in latest framework of VueJS and backend using spring boot and primary programming language as JAVA(JAVA 8).

Individual contribution and findings: This was an individual project except. My assignment was to do end-to-end development for each and every feature assigned to me. I had to make sure any feature does not hamper performance of the website. So I have to think for most optimised approach and come up with a design which is best suited for various features performance.

Individual contribution to project report preparation: I have written entire project myself, images showing different features.

Individual contribution for project presentation and demonstration: I have created the complete presentation and demonstration is also entirely mine.

Full Signature of Supervisor: …………………………….

Full signature of the student: ……………………………..