

ZAPCOM INTERNSHIP 2022 REPORT

PARSEKAR NEHAL PRADEEP

1942

GOA UNIVERSITY MCA 2019-2022

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REPORT OF INTERNSHIP DONE AT ZAPCOM SOLUTIONS PVT LTD

SUBMITTED BY:

PARSEKAR NEHAL PRADEEP

1942

UNDER THE GUIDENCE OF:

Mr. Deepak Puranam

(Head of Delivery, Zapcom)

Mr. Rahul Mishra

(Tech Lead, Zapcom)

Mr. Eswaran Pragasam

(Lead – Software Engineer, Zapcom)

Mr. Jeff Torcato

(Associate Software Engineer, Zapcom)

3rd June 2022

INTERNSHIP LETTER

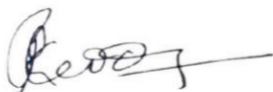
This is to certify that **Mr. Nehal Pradeep Parsekar**, student of MCA, 6th Semester from Goa University is working as an Intern with our Organization at Bangalore location since 10-Jan-2022, his six months internship period will get over on 30-June-2022.

During the period of his Internship program with us, he is found punctual, hardworking and inquisitive.

We wish him a successful career ahead.

Yours Sincerely,

For **ZapCom Solutions Pvt Ltd.**



SRINIVAS KOTHAKOTA COO

INDIA

ZapCom Solutions Pvt Ltd

9th Floor, Gamma Tower, Sigma Soft Tech Park
Whitefield, Bangalore - 560066
Ph: +91-80-67232300

www.zapcg.com

CIN: U72200KA2014PTC075530

USA

ZapCom Group, Inc.

7033 Village Parkway, Ste.211
Dublin, CA 94568
Ph: +1-925-350-7003



GOA UNIVERSITY



GOA BUSINESS SCHOOL

CERTIFICATE OF EVALUATION

This is to certify that Mr. Parsekar Nehal Pradeep has been evaluated for the project work titled "Report of Internship done at Zapcom Solutions Pvt Ltd" undertaken at Zapcom Solutions Pvt Ltd, Bangalore in partial fulfilment for the award of the degree in Master of Computer Application.

Examiner 1

Examiner 2

Place: Goa University

Date: 11th June 2020

Dean, Goa Business School



INDEX

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ACKNOWLEDGEMENT

This internship report is an accumulation of many people's endeavor. But at the beginning I would like to convey my sincere appreciation to the almighty God for giving me the strength and the ability to finish the task within the planned time. Then I would like to express my sincere gratitude to everyone who contributed towards preparing and making this study successfully. Major contribution was received from the development team of Zapcom Solutions Pvt Ltd. as from the Accounts and HR department. To prepare this internship report considerable thinking and information input from various sources were involved.

I would like to thank Mr. Kishore Pallamereddy (CEO, Zapcom) for giving me the opportunity to intern at Zapcom. My sincere and immense gratitude to my internship mentors Mr. Rahul Mishra (Tech Lead, Zapcom) Mr. Eswaran Pragasam (Lead – Software Engineer, Zapcom), Mr. Jeff Torcato (Associate Software Engineer, Zapcom) for mentoring me throughout this internship.

I thank Mr. Ramdas Karmali (Prof. MCA, Goa Business School, Goa University), Mr. Jarret Stevan Anthony Fernandes (Assistant Prof and TPO MCA, Goa Business School, Goa University) and all the faculty of MCA and Non-Teaching staff, Goa University for their constant encouragement and support during the project work.

I am also grateful to my friends and family members who helped me while preparing the study by giving their suggestions, assistance and supply of information, which were valuable to me. Their helping hand supported me to complete my report.

Finally, I would like to express my gratitude towards the Zapcom family who were always ready to help me and guide me in all aspects of life. They have transformed me into a new and renewed person ready to face head-on any challenges that come my way.



INTRODUCTION

This report is a short description of my full-time on-site internship at Zapcom, Bangalore. I joined as an Intern at Zapcom on 10th January 2022.

This report contains necessary information about the organization, the projects and mini projects I worked on and the other tasks and special trainings I completed in this internship period.

In the chapters that will follow, I will talk about the company, the work here, the culture, etc. Then, I shall elaborate on the projects I worked on, a brief information about the projects, the modules I built and the tasks I completed in those modules.

This report highlights my learning experience and my contributions to the organization as an intern. This will describe the knowledge that I gained by successfully completing the tasks that were assigned to me.

I'll also be talking about the tools and technologies that were used followed by my internship timeline. I shall conclude by sharing my experience and how it has helped me to grow, both, on the personal and professional front.



COMPANY PROFILE

Zapcom Group is a US based Product and technology Start-up focusing on Travel, Logistics, Ecommerce, Retail, Banking and Fintech domains. The Company is a Venture floated by a couple of KEY global leaders who had led MNC's globally and worked in the US for over 20 years.



Zapcom is a boutique engineering solutions firm with a product mindset that has the ability to inspire, engage and transform. The Company takes a data-centric approach to creating products, platforms, and teams that drive delightful experiences and measurable business value.

We serve our customer with a unique approach which includes Solution co-creation, Elasticity, Security first, Metrics driven, Automate, Product Mindset and Customized DevOps pods from our five global locations Dublin – California, Dallas – Texas, Heredia – Costa Rica, Hyderabad – India, Bangalore – India.



With the experience acquired over delivering 100s of projects successfully, we have designed the ways of working that is right for client's outcome. We are passionate about building digital products and platforms that can bend revenue and cost curves. We design, build, operate and optimize technology for our clients by leading their digital transformation journey.

Website: <https://zapcg.com/>



TUTORIALS AND COURSES COMPLETED UNDER THE INTERNSHIP

UDEMY COURSES

- Free AWS Certified Cloud Practitioner 2019 by Andrew Brown.
- The Complete Angular Course: Beginner to Advanced by Mosh Hamedani.
- Learn MVC + Web API from scratch - Basics to Advance by Rahul Jha.
- Creating Single Page Apps using ASP.Net Core and React by SkillBakery Studio.
- Introduction to ASP.NET Core MVC (.NET 6) by Bhrugen Patel.
- Introduction to ASP.NET Core Razor Pages (.NET 6) by Bhrugen Patel.
- Mocking application with Moq by Karthik KK.

YOUTUBE TUTORIALS

- OOP Concepts.
- SOLID Principles.
- Memory Management in .NET.
- Design Patterns.
- Parallel Programming in C#.
- .NET Entity Framework Core.
- JWT Authentication.
- Docker.
- CQRS Pattern.



TOOLS AND TECHNOLOGIES USES

	<p>.NET is a free and open-source, managed computer software framework for Windows, Linux, and macOS operating systems. It is a cross-platform successor to .NET Framework. The project is primarily developed by Microsoft employees by way of the .NET Foundation, and released under the MIT License.</p>
	<p>Moq is a mocking framework built to facilitate the testing of components with dependencies. Moq makes the creation of fakes redundant by using dynamically generated types. Its API is built around lambda constructs to ensure tests are strongly typed, easy to read and quick to write. It also provides a string-based API to mock protected methods.</p>
	<p>Microsoft SQL Server is a relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software applications</p>
	<p>Entity Framework (EF) Core is a lightweight, extensible, open source and cross-platform version of the popular Entity Framework data access technology.</p> <p>EF Core can serve as an object-relational mapper (O/RM), which:</p> <p>Enables .NET developers to work with a database using .NET objects. Eliminates the need for most of the data-access code that typically needs to be written.</p>



JSON Web Tokens are an open, industry standard RFC 7519 method for representing claims securely between two parties.



OAuth 2.0, which stands for “Open Authorization”, is a standard designed to allow a website or application to access resources hosted by other web apps on behalf of a user.



The ASP.NET Identity system is designed to replace the previous ASP.NET Membership and Simple Membership systems. It includes profile support, OAuth integration, works with OWIN, and is included with the ASP.NET templates shipped with Visual Studio 2013.



SonarQube is an open-source platform developed by SonarSource for continuous inspection of code quality to perform automatic reviews with static analysis of code to detect bugs, code smells on 17 programming languages.

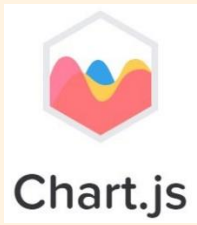







Razer Pages were introduced as a part of ASP.NET Core, and now included in .NET 6, ASP.NET Razor Pages is a server-side, page-focused framework that enables building dynamic, data-driven web sites with clean separation of concerns.

Razor Pages makes use of the popular C# programming language for server-side programming, and the easy-to-learn Razor templating syntax for embedding C# in HTML mark-up to generate content for browsers dynamically.

	<p>Docker is a set of platform as a service products that use OS-level virtualization to deliver software in packages called containers. The service has both free and premium tiers. The software that hosts the containers is called Docker Engine.</p>
	<p>Docker Desktop is an application for MacOS and Windows machines for the building and sharing of containerized applications and micro services.</p>
	<p>WordPress is a free and open-source content management system written in PHP and paired with a MySQL or MariaDB database. Features include a plugin architecture and a template system, referred to within WordPress as Themes.</p>
	<p>Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser.</p>
	<p>React is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta and a community of individual developers and companies.</p>
	<p>Redux is an open-source JavaScript library for managing and centralizing application state. It is most commonly used with libraries such as React or Angular for building user interfaces. Similar to Facebook's Flux architecture, it was created by Dan Abramov and Andrew Clark.</p>



	<p>Chart.js is a free, open-source JavaScript library for data visualization, which supports eight chart types: bar, line, area, pie, bubble, radar, polar, and scatter.</p>
	<p>jsPDF is a library to generate PDFs in JavaScript.</p>
	<p>Axios is a promise-based HTTP Client for node.js and the browser. It is isomorphic (= it can run in the browser and node.js with the same codebase). On the server-side it uses the native node.js http module, while on the client (browser) it uses XMLHttpRequests.</p>
	<p>WampServer refers to a solution stack for the Microsoft Windows operating system, created by Romain Bourdon and consisting of the Apache web server, OpenSSL for SSL support, MySQL database and PHP programming language.</p>
	<p>Pay360 by Capita has been providing secure payment services for over 20 years. Trusted by brands big and small, we help our clients to offer seamless payment experiences across all payment channels.</p>
	<p>Jenkins is an open source automation server. It helps automate the parts of software development related to building, testing, and deploying, facilitating continuous integration and continuous delivery. It is a server-based system that runs in servlet containers such as Apache Tomcat.</p>



	<p>Express.js, or simply Express, is a back end web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.</p>
	<p>Angular is a TypeScript-based free and open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations. Angular is a complete rewrite from the same team that built AngularJS.</p>
	<p>GitLab Inc. is the open-core company that provides GitLab, the DevOps software that combines the ability to develop, secure, and operate software in a single application. The open source software project was created by Ukrainian developer Dmitriy Zaporozhets and Dutch developer Sytse Sijbrandij.</p>
	<p>Jira is a proprietary issue tracking product developed by Atlassian that allows bug tracking and agile project management.</p>
	<p>Azure DevOps Server is a Microsoft product that provides version control, reporting, requirements management, project management, automated builds, testing and release management capabilities. It covers the entire application lifecycle, and enables DevOps capabilities.</p>
	<p>SQL Server Management Studio is a software application first launched with Microsoft SQL Server 2005 that is used for configuring, managing, and administering all components within Microsoft SQL Server.</p>



Visual Studio Code, also commonly referred to as VS Code, is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.



Microsoft Visual Studio is an integrated development environment from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps.



Exchange Web Services (EWS) provides the functionality to enable client applications to communicate with the Exchange server. EWS provides access to much of the same data that is made available through Microsoft OfficeOutlook.



SignalR is a free and open-source software library for Microsoft ASP.NET that allows server code to send asynchronous notifications to client-side web applications. The library includes server-side and client-side JavaScript components.



npm is a package manager for the JavaScript programming language maintained by npm, Inc. npm is the default package manager for the JavaScript runtime environment Node.js.



Windows Subsystem for Linux is a compatibility layer for running Linux binary executables natively on Windows 10, Windows 11, and Windows Server 2019.



Redis is an in-memory data structure store, used as a distributed, in-memory key-value database, cache and message broker, with optional durability.



VMware, Inc. is a cloud computing and virtualization technology company with headquarters in California. VMware was the first commercially successful company to virtualize the x86 architecture.



nvm is a version manager for node.js, designed to be installed per-user, and invoked per-shell. nvm works on any POSIX-compliant shell (sh, dash, ksh, zsh, bash), in particular on these platforms: unix, macOS, and windows WSL.



Postman is an API platform for building and using APIs. Postman simplifies each step of the API lifecycle and streamlines collaboration so you can create better APIs—faster.



Git is a software for tracking changes in any set of files, usually used for coordinating work among programmers collaboratively developing source code during software development. Its goals include speed, data integrity, and support for distributed, non-linear workflows.



Swagger is a suite of API developer tools from SmartBear Software and a former specification upon which the OpenAPI Specification is based.



MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language.



Azure Artifacts is an extension that makes it easy to discover, install, and publish NuGet, npm, and Maven packages in Azure DevOps. It's deeply integrated with other hubs like Build so that package management can become a seamless part of your existing workflows.



xUnit.net is a free and open-source unit testing tool for the .NET Framework, written by the original author of NUnit. It is licensed under Apache License 2.0 and the source code is available on GitHub. xUnit.net works with Xamarin, ReSharper, CodeRush, and TestDriven.NET.



Bluehost is a web hosting company owned by Endurance International Group. It was one of the 20 largest web hosts in 2015 and was collectively hosting over 2 million domains in 2010.



Essential grid, WordPress Gallery Plugin for grid layouts Created By The Developers of Slider Revolution.



WPBakery Page Builder is a page builder plugin for WordPress which allows you to create stunning website content with simple drag and drop.



Elementor is a drag-and-drop page builder for WordPress. This plugin helps you create beautiful pages using a visual editor. It's designed for you to build dynamic websites quickly.



Forminator

Forminator is the easiest way to create any form – contact form, order form, payment form, email form, feedback widgets, interactive polls with real-time results, buzzfeed-style “no wrong answer” quizzes, service estimators, and registration forms with payment options including PayPal and Stripe.



Building forms in WordPress can be hard. **WPForms** makes it easy. Our easy drag & drop WordPress form builder allows you to create contact forms, online surveys, donation forms, order forms and other WordPress forms in just a few minutes without writing any code.



Html2canvas script allows you to take "screenshots" of webpages or parts of it, directly on the user's browser. The screenshot is based on the DOM and as such may not be 100% accurate to the real representation as it does not make an actual screenshot, but builds the screenshot based on the information available on the page.



PROOF OF CONCEPT-1

PROBLEM STATEMENT

Online ecommerce platform for property booking and selling.

- The admin should be able to add the properties with all details (price, address etc.).
- The membership holder should be getting offers and rebates setup by admin based on their subscription (Premium, gold, silver).
- The properties should have images attached to it for visual details. The page should display minimum 5 properties per page with all the facilities and direction using google maps.
- Any anonymous user should be able to view the properties, but should be asked for registration while buying/booking the same.

TOOLS AND TECHNOLOGIES USED

- .NET 6.0 core
- SonarQube
- ASP.NET Identity
- Entity Framework core
- Microsoft SQL Server
- Razor Pages
- Docker
- Jenkins
- Git
- SQL Server Management Studio
- Microsoft Visual Studio
- Windows Subsystem for Linux
- VMWare
- xUnit Testing Framework



User Login and registration.

No of Bathrooms

3

No of floors

3


Add property description

Loren town is simply during the of the printing and typesetting industry. Loren town has been the industry's standard dummy text ever since the 1500s, when an unknown printer took a galley of type and assembled it to make a type specimen book. It has survived not only five centuries, but also the leap into electronic typesetting, remaining essentially unchanged. It was popularised in the 1960s with the release of *Letraset* sheets containing Loren town patterns, and more recently with desktop publishing software like Aldus PageMaker including versions of Loren town.

Add property Main Image

Choose File




Preview: Choose file 1.jpg



Add property Images

Choose Files

3 Files

Submit

©ZipCdn 2020 Copyright

PropertyBuzz
Add Property
Offers
Membership

Offers

Offer Title
Uses

Message
Membership

Property Type
Discount in %

Send

All Offers

TITLE	MESSAGE	MEMBERSHIP	PROPERTY	DISCOUNT	DATE
75% off	75% off for Premiums	Premium	BOTH	75%	5/28/2022 11:46:34 AM

1



Admin add membership.

Membership

Membership Title: Price Per Month:

Add property Description
Property Description:

Save

All Offers

TITLE	PRICE PER MONTH	DESCRIPTION	EDIT
Premium	75	Upto 75% off on purchase	Edit
Gold	50	Upto 50% off on purchase	Edit
Silver	25	Upto 25% off on purchase	Edit
Free	0	No discounts on purchase	Edit

Add property Description
Property Description:

Save

All Offers

TITLE	PRICE PER MONTH	DESCRIPTION	EDIT
Premium	75	Upto 75% off on purchase	Edit
Gold	50	Upto 50% off on purchase	Edit
Silver	25	Upto 25% off on purchase	Edit
Free	0	No discounts on purchase	Edit

Anonymous and signed in user property listings.

PropertyBuzz My Bookings My Offers My Properties

Search for Properties

Search by Property Name, State, City **Search**

SELLING RENTING

Vasco Villa **Goa Villa**

SELLING RENTING

Vasco Villa **Goa Villa**

Summary

Selling 2 **Sold** 0 **Renting** 1 **Rented** 0

Property details with location.

Vasco Villa

Price: \$30000

BUY

DESCRIPTION

Area: 3 sq ft
Bedrooms: 4
Bathrooms: 4
Paved: 2

Goa Villa

Price: \$30000

BUY

DESCRIPTION

Area: 3 sq ft
Bedrooms: 4
Bathrooms: 4
Paved: 2

Goa Villa

Price: \$30000

BUY

DESCRIPTION

Area: 3 sq ft
Bedrooms: 4
Bathrooms: 4
Paved: 2

Goa Villa

User details and subscription.

Accounts

User Info

Name: Nishu Paraskar
Email: paraskarnishu@gmail.com

Membership

Free **Upgrade**

Upgrade or Downgrade Membership

Premium **Buy \$700/mo**
Gold **Buy \$500/mo**
Silver **Buy \$300/mo**

Gold Membership

You get Upto 50% off on purchase

Payment Method

Paypal **Upgrade**

Credit card **Upgrade**

Card Number:

Expiry Date:

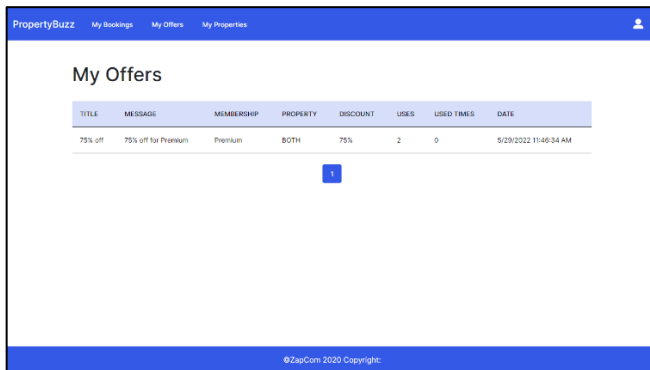
Summary

Price: \$50
Discount: -0%
Discounted Price: \$50
You pay: \$50

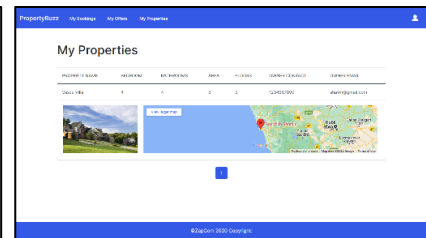
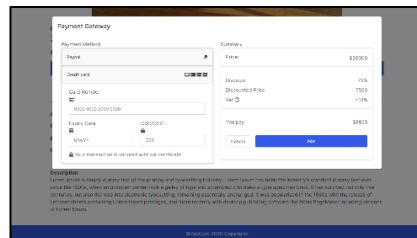
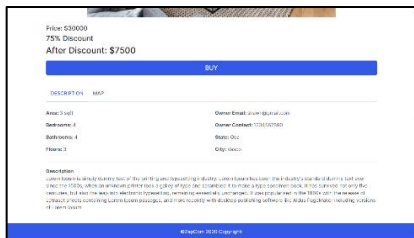
Cancel **Buy**



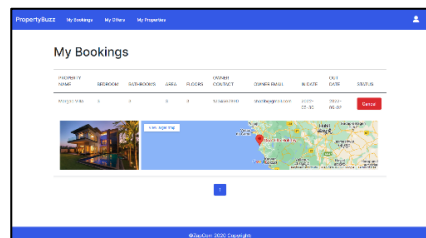
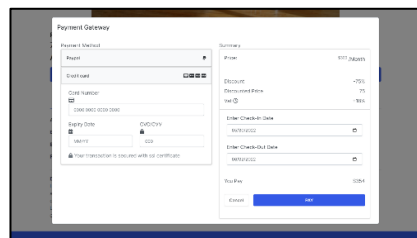
User offer section.



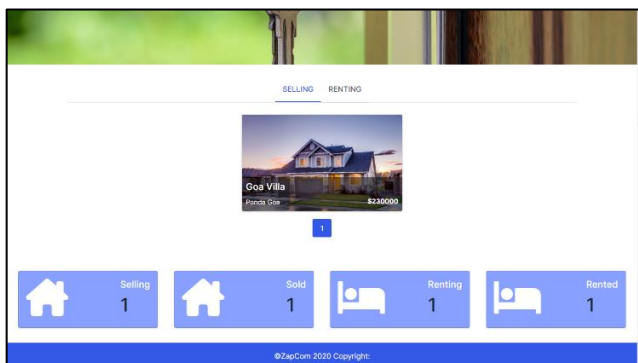
User buy property with offer.



User rent property section booking dates with offer.

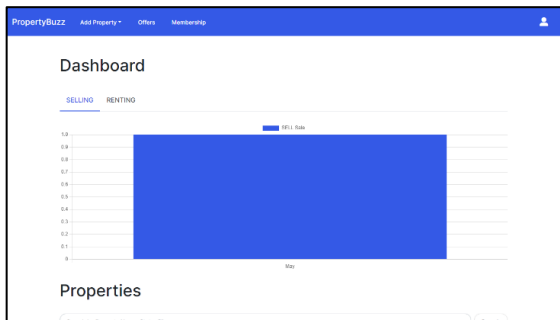


Anonymous and signed in user home screen statistics.





Admin Dashbaord with chart statistics.



Admin section property sold to.

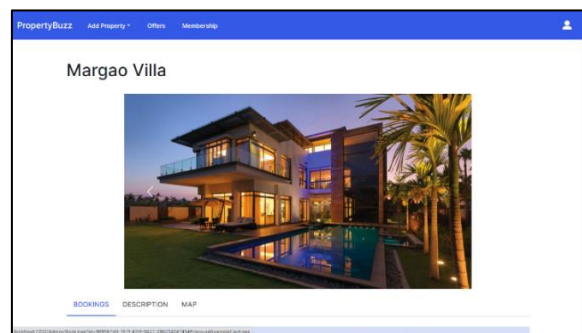
Sold To

PROPERTY NAME	BEDROOM	BATHROOM	AREA	FLOORS	OWNER CONTACT	OWNER EMAIL	STATE	CITY	IS SELL
100% Sold	4	4	5	5	1014481000	shree@gnm.com	Goa	Vasco	100%

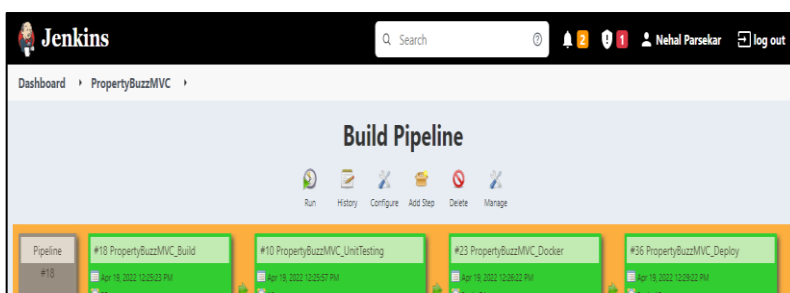
Admin section property bookings.

Bookings

CLIENT NAME	CLIENT CONTACT	CLIENT EMAIL	CLIENT ADDRESS	IN DATE	OUT DATE	STATUS
Nehal Parsekar	9673584499	parsekarnehal@gmail.com	Chorao Goa	2022-09-30	2022-09-30	Active



Jenkins Pipeline to deploy the project in a local instance simulating ec2.





PROOF OF CONCEPT-2

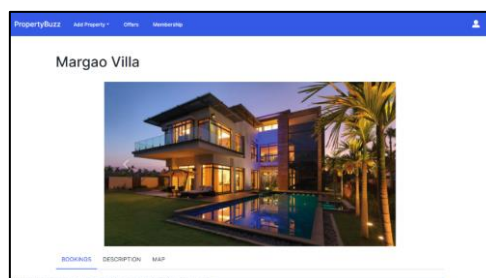
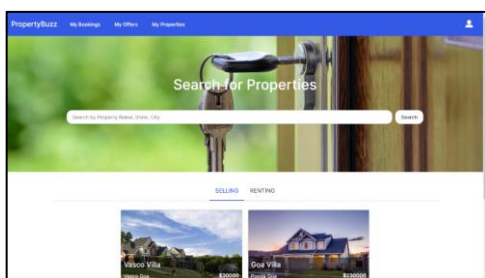
PROBLEM STATEMENT

- Same as POC-1.
- Change the project from .NET MVC to React frontend and .NET core backend API.

TECHNOLOGIES AND TOLS USED

- .NET 6.0 core
- ASP.NET Identity
- Entity Framework core
- Microsoft SQL Server
- Git
- SQL Server Management Studio
- Microsoft Visual Studio
- React
- Visual Studio code
- Postman
- Axios
- Redux
- NodeJs
- JWT
- Chart.js

PROJECT SCREENSHOTS





PROJECT-1 – ZAPCOM WEBSITE

PROBLEM STATEMENT

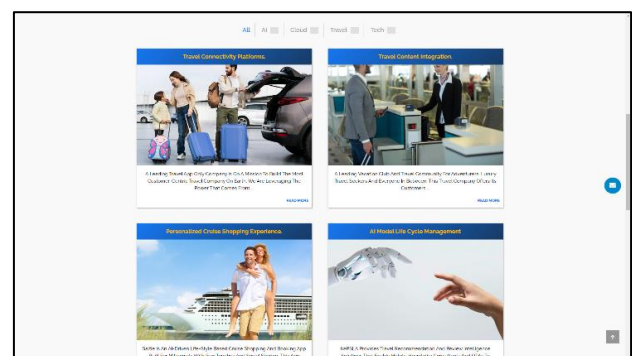
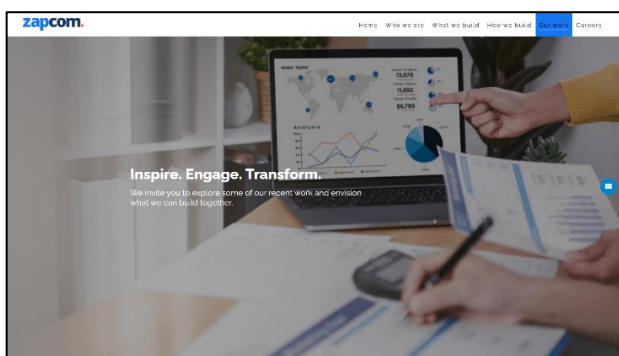
Update existing zapcom website with new posts and changes in the UI elements.

TECHNOLOGIES AND TOOLS USED

- WordPress
- MySQL
- Bluehost
- Essential Grid
- WPBakery Page Builder
- Elementor
- WPForms
- Forminator

MY CONTRIBUTION

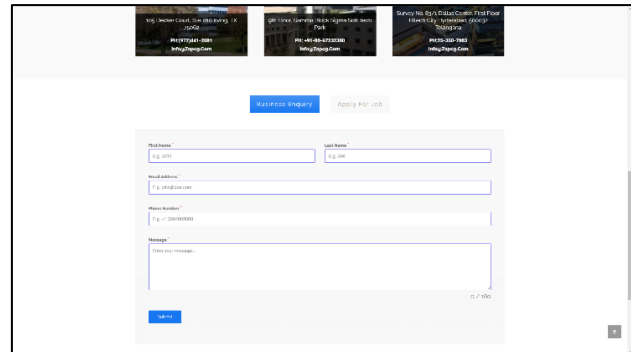
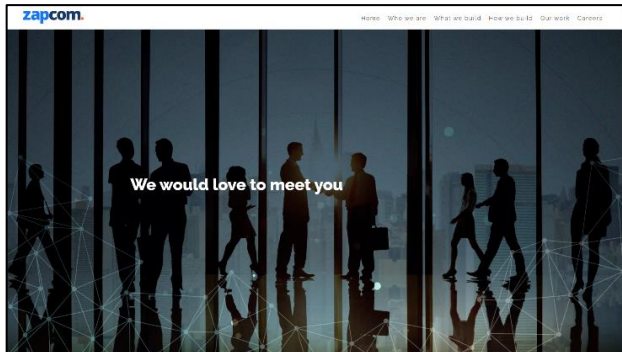
- Our works page add grid layout.



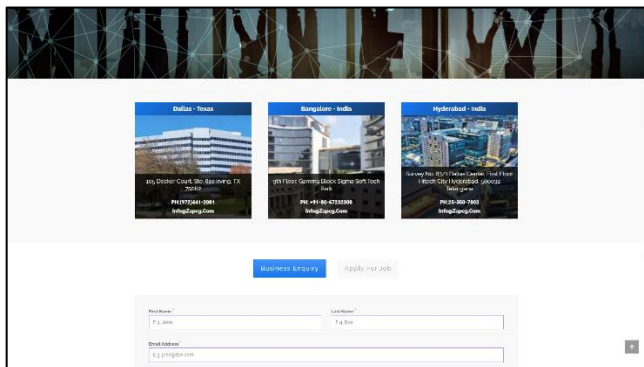
- Consistent font across website.



- Contact us form on Contact us page.



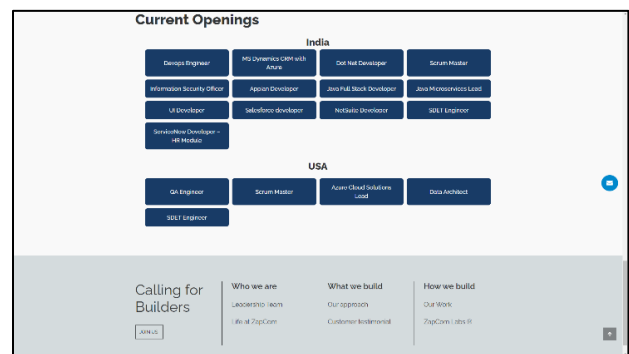
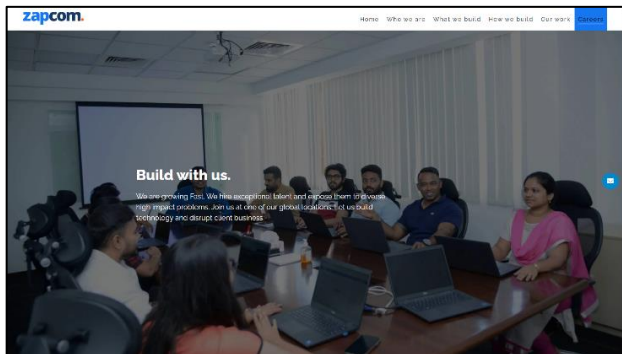
- Add Grid layout to global branches in Contact us page.



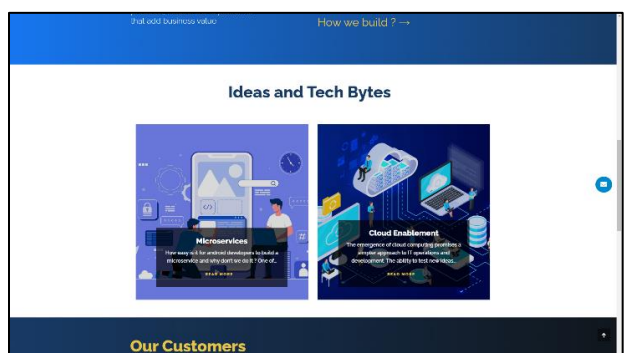
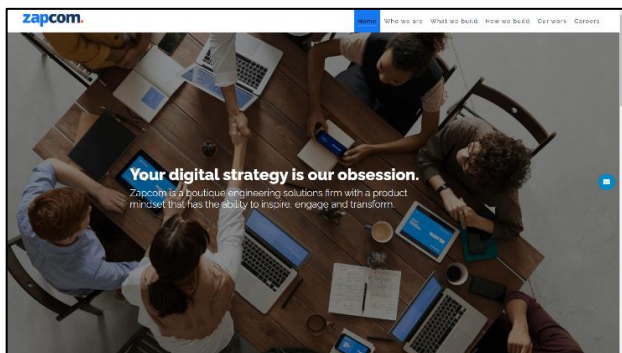
- Join us page, responsive layout.
- Consistent layout across post pages.
- How we build Page, change subtitle and timeline order.
- Our works page, change subtitle.
- Join us Page, Change headings, add and remove perks and benefits section content.
- Home page, add career menu, add floating contact us button throughout page.
- Contact us page, remove subtitle.
- What we build page, Change headings.



- Join us page, change headings.
- Add current opening in posts on website.



- Change home page 'blogs' to 'Ideas and techbytes'.



- Update spelling and grammar mistakes in home page blogs.
- Home page spelling and grammar mistakes.
- Contact us page, form changes.
- Changes in current openings.



PROJECT-2 – REAL PROPERTY MANAGEMENT (RPM) BY NEIGHBORLY

DESCRIPTION

Real Property Management is the largest residential property management franchise organization in North America, managing tens of thousands of properties for individuals, investors, and institutions across the country. Founded from a single property management business started more than 35 years ago, each of the independently owned and operated RPM offices nationwide provides professional property management services for the benefit of our clients.

PROBLEM STATEMENT

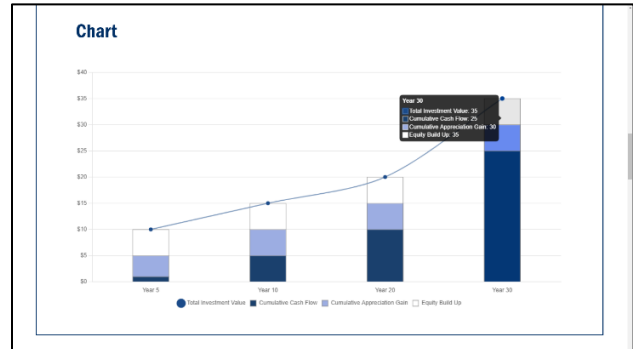
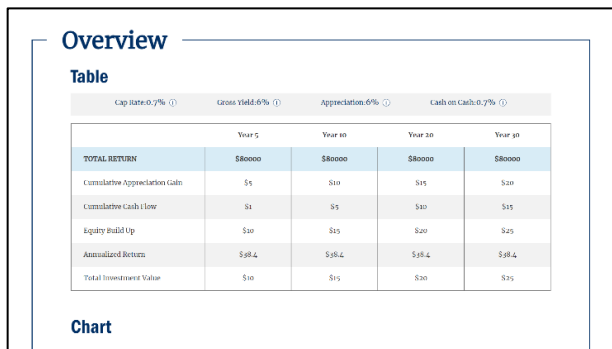
Create table and chart UI component using React and Typescript for the given set of data of property and image of the final component layout.

TOOLS AND TECHNOLOGIES USED

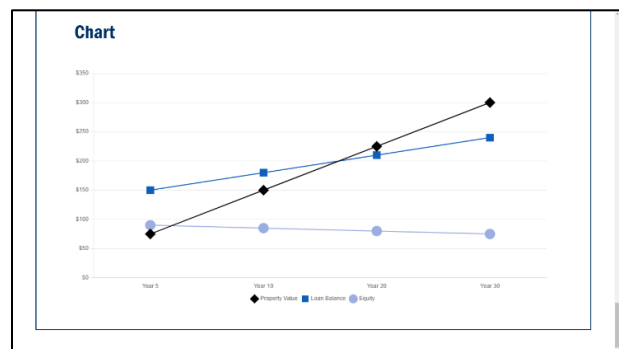
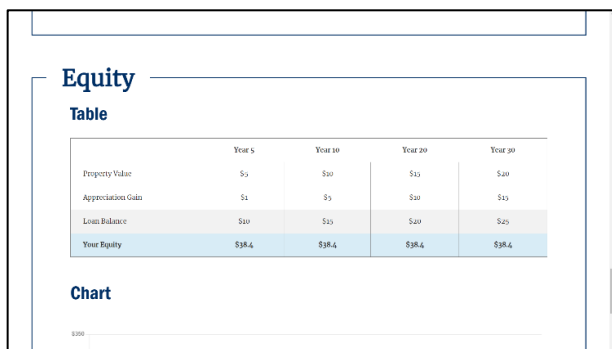
- React
- Typescript
- NodeJs
- Chart.js
- Html2canvas
- JsPdf
- Visual studio code

MY CONTRIBUTION

- Create Table and Chart UI as React Component.



- Chart and Table as single Component.



- Generate PDF of the table chart UI.

Send me this breakdown:

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Aenean lacinia bibendum laoreet.

First Name* Last Name*

Email*

☐ I'm not a robot

☐ Lorem ipsum dolor sit amet, consectetur adipiscing elit.

*Indicates a required field

Goa Maharashtra

Goa

Parameter	Goa	Maharashtra
Purchase Price	\$100,000	\$100,000
Initial Investment	\$100,000	\$100,000
Total Return	\$100,000	\$100,000
ROI	10.0%	10.0%

Estimated Price: \$195,000

Calculated Return: 9.5%
% ROI: 9.5%
Initial Investment: \$100,000

Parameters

Parameter	Value	Unit
Purchase Price	\$100,000	Dollars
Loan Amount	\$100,000	Dollars
Loan Term	30	Years
Interest Rate	6.0%	Percent
Appreciation	10.0%	Percent
Down Payment	\$0	Dollars
Closing Costs	\$0	Dollars
Year Growth	10.0%	Percent



PROJECT 3 – VIVA VOYAGE WEBSITE INTEGRATE PAY360 PAYMENT GATEWAY

DESCRIPTION

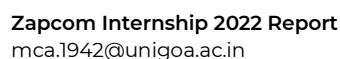
Viva Voyage is a cruise booking website whose mission is to become the best seller of vacations by redefining the way they are sold. It was designed to work harder than other travel agencies to make sure that their customers are purchasing the right vacation to match their needs. Their goal is to provide vacation solutions that provide the highest possible value for your vacation dollar.

PROBLEM STATEMENT

Integrate Pay360 payment gateway into Viva Voyage website replacing the previous optomany payment gateway.

TOOLS AND TECHNOLOGIES USED

- WAMP server
- WordPress
- MySQL
- NodeJs
- Pay360
- Visual Studio code
- Jira
- Postman
- Redis



- Requesting Pay360 payment page from UI. This returns a session ID.

- Getting transaction details using the session ID.

```

{
  "local": "en",
  "process": {
    "model": "MANAGE",
    "authData": {
      "status": "00",
      "acquirerName": "Barclays Merchant Services",
      "gatewayApproved": "action",
      "authCode": "000033",
      "gatewayReference": "111gh02639a00296aa3f8ee99200",
      "gatewayCode": "0000_000",
      "gatewayMessage": "Transaction succeeded",
      "gatewayStatus": "SUCCESS",
      "evsPostcodeCheck": "FULL_PATCH",
      "cv2Check": "MATCHED",
      "status": "AUTHORISED"
    },
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  },
  "paymentMethod": {
    "registered": true,
    "card": {
      "cardoken": "MH_03a0M0M071a0b5x01234",
      "cardingestion": "5150c0p03a0f43a0z0c0f31a",
      "new": true,
      "cardType": "VISA_CREDIT",
      "cardLabelType": "CLASSIC",
      "cardScheme": "VISA",
      "cardCategory": "CREDIT",
      "maskCard": "424242*****4242",
      "expiryDate": "09/22",
      "issuer": "VISA CHECKOUT TESTING",
      "issuerCountry": "GB",
      "cardHolderName": "MH",
      "validDate": "01/20"
    },
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      "line1": "Text Address Line 1",
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      "line3": "",
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      "country": "United Kingdom",
      "countryCode": "GB"
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    "paymentClass": "CARD",
    "route": {
      "storage": "NEW",
      "agreement": "ADHOC",
      "receivedSchemeReference": "111gh02639a00296aa3f8ee99200"
    }
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  "threeSecure": {
    "scheme": "VISA_SECURE",
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    "eci": "00",
    "version": 2,
    "protocolVersion": "2.1.0",
    "threeDServerTransId": "6d74a05-79aa-46c3-97d9-f755ac0fa24",
    "threeDServerTransId": "0079b26-4bae-403f-8ff7-ae74d036c07",
    "threeDServerTransId": "8b3a7ad2-6b49-4e47-8537-c3e5ac5eb0a7",
    "challengeRequest": "CHALLENGE_REQUEST",
    "frictionless": false,
    "versionAttempted": {
      "version": 2,
      "availability": "AVAILABLE"
    }
  },
  "customer": {
    "merchantRef": "5f180263-e95-4a00-aad8-a051253a35779",
    "id": "2343813",
    "displayName": "Text Name",
    "billingAddress": {
      "line1": "Text Address Line 1",
      "line2": "Text Address Line 2",
      "line3": "Text City",
      "region": "Text Region",
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      "country": "United Kingdom",
      "countryCode": "GB",
      "email": "dcham1@gmail.com",
      "telephone": "1234567890",
      "defaultCurrency": "GBP",
      "sp": "122.127.196.143",
      "registered": true
    },
    "financialServices": {
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      "surname": "Smith",
      "accountNumber": "12345678",
      "postcode": "AV5113",
      "transaction": {
        "transactionId": "10152768853",
        "merchantRef": "426c8f42-9902-46fb-ba7a-7319bc822486",
        "status": "SUCCESS",
        "tag": "COMPLETE",
        "type": "PAYMENT",
        "amount": 99,
        "consumerSpaid": 99,
        "currency": "GBP",
        "transactionTime": "2022-05-29T17:39:770+01:00",
        "receivedTime": "2022-05-29T17:39:770+01:00",
        "channel": "WEB",
        "customerInitiated": true
      },
      "sessionId": "5b37f70a03740001635n",
      "history": {
        {
          "transactionStatus": "PENDING",
          "reasonCode": "U000",
          "reasonMessage": "Suspended pending 3 Secure process",
          "timestamp": "2022-05-29T17:17:40.956+01:00"
        },
        {
          "transactionStatus": "SUCCESS",
          "reasonCode": "S100",
          "reasonMessage": "Authorized",
          "timestamp": "2022-05-29T17:17:56.847+01:00"
        }
      },
      "strongCustomerAuthentication": {
        "transactionType": "GOODS_OR_SERVICES",
        "followUpStatus": {},
        "link": {
          "rel": "self",
          "href": "https://api.mite.pay360.com/acceptor/rest/transactions/5309917/10152768853"
        },
        "rel": "customer",
        "href": "https://api.mite.pay360.com/acceptor/rest/customers/5309917/2343813"
      },
        "rel": "payment-method",
        href": "https://api.mite.pay360.com/acceptor/rest/customers/5309917/2343813/paymentMethods/MH_03a0M0M071a0b5x01234"
      }
    }
  },
  "registered": true
}

```


- Pay360 CardLock (saves previously used cards) Implementation.

Amount

£9.00 (GBP)

Choose a card

Preferred / Default card

Card

VISA

Ending in: 4242

Other cards

Card

VISA

Ending in: 1111

Use a new card

Manage your cards

Security code

123

Pay Now

< Back

Pay360

by Capita

Pay360 3DSv2 Simulator

Challenge Flow

Transaction Details

Transaction ID:

9856877-ea2f-415b-9f73-a649131846d3

Amount:

9.00

Payment method:

Visa ending 4142

Choose the authentication outcome to simulate:

Authenticated

Not authenticated

You will be returned to <https://secure.mta.pay360.com/checkout3MgIgcnyHfRHPkQXKcJagOc3?resume3MgIgcnyHfRHPkQXKcJagOc3?27447554384-44265890044E39253986232>

- Change payment flow, from popup to payment page redirect.
- Insert Viva Voyage header in the Pay360 payment page. (Blocked)
- Add Failure page URL to Pay360 cancel URL.
- Setup and test Viva Voyage booking extractor (API for Odysseus to connect when booking is done).
- Pay360 Instalment payment feature. (Blocked)
- Create an endpoint in booking extractor API to accept data sent by Odysseus, check the API key for authentication, create and verify hmac signature for data alteration, save data in database with a shortcode and send redirect url to Odysseus with the shortcode.
- Read shortcode from the URL and fetch the data from the database in the client application.



PROJECT 4 – NEIGHBORLY CALL A NEIGHBOUR (CAN) APPLICATION.

DESCRIPTION

Neighborly is a family of home service brands that share a commitment to providing you with an outstanding level of service. Call a neighbor (CAN) is an application used by call centers to handle customer service for the neighborly brands.

PROBLEM DESCRIPTION

Update the existing CAN application to incorporate new functionality and features.

TOOLS AND TECHNOLOGIES USED

- .NET
- Microsoft SQL server
- Entity framework core
- JWT
- ASP.NET identity
- NodeJs
- Azure DevOps
- SQL server management studio
- Angular
- Git
- Visual Studio code
- Exchange web Service
- SignalR
- npm
- nvm
- Postman
- Swagger
- Azure Artifacts



MY CONTRIBUTION

- Functionality to re-queue outbound calls in the CAN application till six call attempts.
- Added retry attempt column to the outbound table.

Phone Number	Customer Name	Brand Called	Vendor	Time in Queue	Message	Call Attempts
(987) 656-4321	Phani Reddy ByReddy	Five Star Painting		May 9, 2022, 7:29:14 PM		0
(970) 308-7747	Kim Baldwin	Five Star Painting		May 9, 2022, 11:55:18 PM		0
(952) 406-1223	Kamini McChesney	Five Star Painting		May 10, 2022, 8:40:07 AM		0
(123) 656-4321	Phani_Test Reddy	Five Star Painting		May 10, 2022, 5:26:24 PM		0
(888) 693-9649	Phani_Test Reddy	Five Star Painting		May 10, 2022, 6:35:47 PM		0
(468) 312-2434	Phani_Test Reddy	Five Star Painting		May 10, 2022, 6:43:37 PM		0
(468) 312-2434	Sangeet_001 Samal	Five Star Painting		May 10, 2022, 7:26:47 PM		1

- Create email listener for particular inbox using Microsoft Exchange Web Service (EWS).
- Create POC project to show multi tab web socket communication.

First Name	Last Name	DOB Year	Gender	Email	Address	Delete
Nehal	Parekar	1997	Male	parekarnahal@gmail.com	Goa India	<input type="checkbox"/>
Nehal	Parekar	1997	Male	parekarnahal@gmail.com	Goa India	<input type="checkbox"/>

First Name	Last Name	DOB Year	Gender	Email	Address	Delete
Nehal	Parekar	1997	Male	parekarnahal@gmail.com	Goa India	<input type="checkbox"/>
Nehal	Parekar	1997	Male	parekarnahal@gmail.com	Goa India	<input type="checkbox"/>

- Fix web socket communication issue in call queue section.

Status	Time Received	Called Phone Number	Caller Phone Number	Zip Code	Call Type	Brand	
InProgress	5/27/22, 12:49 PM	8002097618	8172889220	76707	National	Aire Serv	Take Call
InComplete	3/25/22, 12:49 PM	2542301902	8172889220	76707	National	Dryer Vent Wizard	Take Call

- Resolve a BUG, refused email not appearing if refused email is checked.
- Resolve a BUG, State field is wiped out while moving from service to information tab.
- Writing unit test cases for backend API to reach the required code coverage score.



INTERNSHIP TIMELINE

Week 1

- Interaction with HR Team.
- Interaction with CEO.
- Interaction with Global HR.
- Interaction with CCO.
- Interaction with Mentor.

Week 2

- OOP Concepts using C#.
- SOLID Principles using C#.
- Memory Management in .NET.

Week 3

- Design Patterns using C#.
- xUnit.
- nUnit.
- Presentation on Dependency Inversion to mentor.

Week 4

- MOQ.
- .NET MVC Framework.
- .NET Parallel Programming.
- Task 1: Recursively map objects.
- HR Session: Presentation on Digital Currency.
- MS SQL Server.

Week 5

- Entity Framework Core.
- IEnumerable.
- Yield.
- JWT.
- OAuth 2.0.

Week 6

- POC 1: E-Commerce Property Selling, Booking Website using .NET MVC and Razor Pages.
- POC 1: UI.
- POC 1: Authentication.
- POC 1: UI Demo to mentor.

Week 7

- POC 1: Authorization.
- POC 1: Admin Section.

Week 8

- POC 1: User Section.
- POC 1: Pagination.
- POC 1: UI Search Functionality.
- POC 1: Charts.
- POC 1: Logging.
- POC 1: Implement Design Patterns.
- POC 1: Testing.

Week 9

- Final Demo of POC 1 to mentor.
- Docker
- Project 1: Zapcom Website



Week 10

- Project 1: Our work page, Add grid layout.
- Project 1: Consistent font across website.
- Project 1: Contact us form on Contact Page.
- Project 1: Add grid layout to Contact us branch locations.
- Project 1: Join Us page, responsive layout
- Project 1: Consistent layout across post pages.

Week 11

- POC 2: Convert POC 1 into React and backend as API.
- POC 2: ASP.NET Identity with JWT.
- POC 2: Razer Pages to React Components.
- POC 2: User Login and Registration.

Week 12

- POC 2: Admin Membership and Offers React Component
- POC 2: Admin Add Property
- POC 2: Client Booking, Offers and Properties display.
- POC 2: Anonymous user Property display.
- Project 2: Real Property Management (Neighborly brand) using React with Typescript.
- Project 2: Create Table UI as React Component.
- Project 2: Create Chart UI using table data as React Component.
- Project 2: Chart and Table as single Component.



Week 13

- Project 2: Generate PDF of the table chart UI.
- Project 1: How we build Page, change subtitle and timeline order.
- Project 1: Our works page, change subtitle.
- Project 1: Join us Page, Change headings, add and remove perks and benefits section content.
- Project 1: Home page, add career menu, add floating contact us button throughout page.
- Project 1: Contact us page, remove subtitle.
- Project 1: What we build page, Change headings.
- Project 1: Join us page, change headings
- Project 3: Viva Voyage, Integrate Pay360 gateway using NodeJs and WordPress.
- Project 3: Viva Voyage, going through Pay360 documentation.
- Project 3: Local setup WordPress, WAMP and NodeJs.

Week 14

- POC 1: Setup CI/CD using Jenkins and local instance simulating ec2.
- POC 1: CI/CD, BUILD – Create Jenkins job to build the .NET project
- POC 1: CI/CD, TEST – Jenkins job to run xUnit test cases of the .NET project.
- POC 1: CI/CD, DOCKER – Jenkins job to create a Docker image of the .NET project and upload to Docker hub.
- POC 1: CI/CD, DEPLOY – Jenkins job to deploy on local instance simulating ec2 instance.

Week 15

- Project 3: Connecting WordPress to NodeJs app in localhost
- Project 3: Assigned task in Jira, Research Pay360 UI integration.
- Project 3: Requesting Pay360 payment page from UI. This returns a session ID.
- Project 3: Getting transaction details using the session ID.
- Project 3: Research on customizing the Payment page returned by Pay360.
- Project 3: Research on different skins provided by Pay360 for Payment Page.



Week 16

- Project 3: Research on Pay360 CardLock feature.
- Project 3: CardLock Implementation.
- Project 3: Adding Booking agent and User details page template in frontend.
- Project 3: Creating Payment success and Failure page.
- Project 3: Implementing Pay360 in the project.
- Project 1: Add current opening in posts on website.
- Project 4: Neighborly Call a neighbour (CAN) application, using Angular and .NET technology.

Week 17

- Project 1: Change home page 'blogs' to 'Ideas and techbytes'
- Project 1: Update spelling and grammar mistakes in home page blogs.
- Project 4: KT session, frontend Angular app.
- Project 4: KT session, backend .NET APIs.
- Project 1: Home page spelling and grammar mistakes.
- Project 1: Contact us page, form changes.
- Project 1: Changes in current openings.
- CQRS Pattern tutorial.
- Project 4: Clone all required repositories.
- Project 3: Assigned task in Jira, Integrate Pay360 hosted UI in Viva Voyage site.



Week 18

- Project 3: Change payment flow, from popup to payment page redirect.
- Project 3: Insert Viva Voyage header in the Pay360 payment page.
- Project 3: Add Failure page URL to Pay360 cancel URL.
- Project 3: Setup and test Viva Voyage booking extractor (API for Odysseus to connect when booking is done).
- Project 4: Setup main repository of neighborly locally.
- Project 4: Setup database locally.
- Project 4: Assigned task in Azure DevOps for sprint 9, Implementing re-queue logic for outbound call, call should re-queue till 6 attempts.
- Project 4: Create backend branch for the task in Azure DevOps
- Project 4: Setup API endpoint for the task.
- Project 4: Create frontend branch for the task in Azure DevOps.
- Project 4: Frontend changes for the task
- Project 4: Pushed and deployed changes
- Project 4: Created Pull Request in Azure DevOps and submitted for testing.
- Project 4: Error in API while testing, (Column length constraint error)

Week 19

- Project 4: Resolved Column length constraint error
- Project 4: Issue while testing re-queue logic re-queueing till 7 attempts instead of 6.
- Project 4: Resolved 7 attempt issue.
- Project 4: Complete the outbound re-queue logic task.
- Project 3: Assigned task in Jira, Research on Pay360 instalment payment.
- Project 3: Instalment payment task blocked due to an error during transaction with test account and cards. Error solution requested from Pay360.
- Project 4: Assigned task in Azure DevOps for sprint 10, Create email listener for particular inbox using Microsoft Exchange Web Service (EWS).
- Project 4: Assigned task in Azure DevOps for sprint 10, Resolve zip code error received when booking prompt scripting to the agent.
- Project 4: Assigned task in Azure DevOps for sprint 10, multiple client web socket communication issue.
- Project 4: Started email listener task.
- Project 4: Authenticating with Microsoft EWS to read mails.
- Project 4: Listen to new mails with a .NET worker.
- Project 4: Pushed code, created Pull request and completed the task.



Week 20

- Project 4: Started multiple client web socket communication issue task.
- Project 4: Created a POC project to show multiple tab web socket communication works using Microsoft SignalR library using Angular and .NET technology.
- Project 4: Resolved communication issue in CAN application locally.
- Project 4: Pushed changes, created Pull Request and submitted task for testing in staging environment.
- Project 4: Assigned task, outbound queue error. Some columns resulting null values.
- Project 4: Started task, outbound queue error.
- Project 4: Started debugging the issue to recreate the error reported.
- Project 4: Documented the finding about the outbound queue errors and sent to error issuer for testing.
- Project 4: Started enhancement task to add retry attempt column in the outbound table.
- Project 4: Completed task of adding retry attempt column

Week 21

- Project 3: Assigned task to create endpoint in booking extractor API to get payment details from odysseus then route the data to vv microservice.
- Project 3: Completed the task. The task included verifying API key from odysseus, creating a hmac signature to ensure no data alteration took place. Saving the data in database with a unique shortcode and sending odysseus back the redirect URL.
- Project 3: Assigned task to read the shortcode from URL and retrieve the data of the user.
- Project 3: Completed the above task.
- Project 4: Assigned task to resolve a BUG, reused email not appearing if refused email checked.
- Project 4: Completed the task.
- Project 4: Assigned task to resolve a BUG, State field wipes out while moving from service to information tab.
- Project 4: Completed the task.
- Project 4: Assigned task to write test cases for the backend API to reach the required code coverage score.
- Project 4: Assigned the task to create a new table for webhook lead events.



MY EXPERIENCE OF INTERNSHIP

My Internship at Zapcom has been a wonderful experience, it was a ride with ups and downs facing challenges every day. I was intrigued by the family culture at Zapcom after speaking to some of my seniors who had gone to Zapcom through university placement. As Zapcom provides technology solutions on a global scale, I felt that an internship at Zapcom was a great platform for me to gain deeper insights into the IT industry.

What I like about my internship experience

I like how interns are treated just like full-time associates and get assigned actual and meaningful tasks which are crucial and beneficial to the company's clients. It feels great to be a part of the actual development team working for a client. The most memorable part of my internship was when I completed one of my sprint task in quarter of the time assigned to me for which I was appreciated by my team. Even though I only joined as intern for past four months, I still felt a strong sense of achievement by completing the task.

There were gathering events conducted at Zapcom of which one was 'Pot Luck', where all Zapcom employees were requested to get their favorite food and share with all and other was a gaming events where indoor games like housie were conducted in which even I won a prize for completed the first row. The best part of the internship were these gathering events that were full of fun and along with that an opportunity to connect with other employees of Zapcom.

What I learnt from my internship

I gained deeper insights into the IT industry and it will help me significantly with my career planning. I developed a better understanding of the career path of a web developer through the internship, helping me to make an informed career decision. My biggest takeaway would be the new long-term relationships and connections which I had forged with my colleague and fellow interns at Zapcom.



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- <https://jwt.io/>
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- <https://docs.microsoft.com/en-us/aspnet/identity/overview/getting-started/introduction-to-aspnet-identity>
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- <https://www.docker.com/>
- <https://wordpress.com/>
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- <https://reactjs.org/>
- <https://redux.js.org/>
- <https://www.chartjs.org/>
- <https://github.com/parallax/jsPDF>
- <https://github.com/axios/axios>
- <https://www.wampserver.com/en/>
- <https://www.pay360.com/>
- <https://www.jenkins.io/>
- <https://expressjs.com/>
- <https://angular.io/>
- <https://about.gitlab.com/>
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- <https://code.visualstudio.com/>
- <https://visualstudio.microsoft.com/>
- [https://docs.microsoft.com/en-us/previous-versions/office/developer/exchange-server-2010/dd877045\(v=exchg.140\)](https://docs.microsoft.com/en-us/previous-versions/office/developer/exchange-server-2010/dd877045(v=exchg.140))
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- <https://github.com/nvm-sh/nvm>
- <https://www.postman.com/>
- <https://git-scm.com/>
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- <https://azure.microsoft.com/en-in/services/devops/artifacts/>
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- <https://wpforms.com/>
- <https://html2canvas.hertzen.com/>
- <https://www.youtube.com/>
- <https://www.realpropertymgt.com/>
- <https://www.vivavoyage.com/>
- <https://www.google.co.in/>

