Project Report

On

Appgo Solutions

Submitted by

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Under the guidance of

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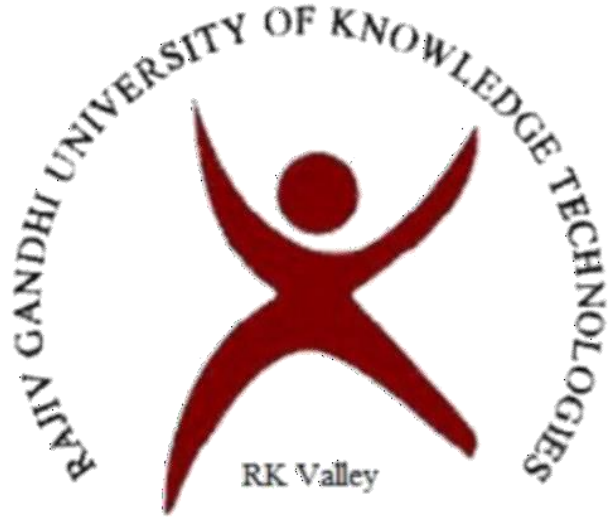

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CERTIFICATE

This is to certify that the project work titled "**Appgo Solutions**" is a bonafied project work submitted by **A.Rishikesh Reddy** in the department of COMPUTER SCIENCE AND ENGINEERING in partial fulfillment of requirements for the award of degree of Bachelor of Technology in Computer science and engineering for the year 2022-2023 carried out the work under the supervision

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Abstract

This internship report documents my experience working as an intern at a software consultancy company that specializes in developing software projects for various individuals and organizations. During my internship, I was assigned to a project that involved developing a software solution for a hospital to manage their insurance checks, patient details and listings

The report provides an overview of the project, including it's objectives, scope and the methodologies used to complete it. It also describes my roles and responsibilities as an inter n and the skills and knowledge I gained during my tenure.

The report further provides a detailed analysis of the project's requirements, design, development, testing, and deployment phases, including the challenges faced and the solutions adopted to overcome them. Additionally, it highlights the project's impact on the hospital's operations and the benefits it provides to the patients and staff.

Overall, the report showcases the valuable experience and knowledge gained during the internship and how it has contributed to my personal and professional growth as a software developer.

Introduction

During my tenure, I was assigned to work on two exciting and challenging projects that provided me with valuable experience and knowledge in web development and hospital management using dot net framework.

The first project involved updating a website using React and jQuery, two popular front-end web development languages. Throughout this project, I was responsible for creating and modifying website components, implementing new features, and improving the overall user experience. This project helped me gain practical experience in web development and refined my basic skills.

As part of the first project I also focused on advertising technologies, where I learned about calculating return on investment(ROI), placing ads, and optimizing campaigns. Through this project, I was exposed to various advertising platforms and tools and gained hands on experience in implementing effective advertising strategies.

In recent months, I was tasked with working on a project that aimed to enhance an insurance management system by enabling users to obtain information about premium payments and pending payments.

I was also responsible for fixing software bugs that were causing miscalculations and delays in the process.

In order to enhance user experience, I was assigned to develop a feature for effective comparison of various insurance policies.

Through this internship, I aim to document my experiences and provide insights into the project that I worked on, and the skills that I developed during the course of the internship.

Purpose

The purpose of this project report is to document and provide insights into the experience gained during an internship at a software development company. The report focuses on two specific projects that the intern worked on during their tenure.

The purpose of this report is to provide in-depth analysis of the projects, including the challenges encountered, the solutions implemented, and the overall outcomes achieved.

Additionally, the report aims to document the skills and knowledge gained through these projects, and how they can be applied to future software development projects.

Overall, the report provides a valuable reflection of the intern's experience and a testament to the skills and knowledge gained during the internship.

Scope

The scope of this project report is to provide a comprehensive overview of the intern's experience during their tenure at a software development company.

The first project involved updating a website using React and jQuery and learning about advertising technologies such as calculating return on investment(ROI), placing ads, and optimizing campaigns. The technical scope of this project will involve an in-depth analysis of technical aspects of website development using React and jQuery, including best practices for web development, front-end design considerations etc.

The scope of second project widens on enhancing an insurance management system by enabling users to obtain information about their premium payments and pending payments. The technical scope of this project will involve an analysis of the software development life cycle, including requirements gathering, design, implementation, testing and deployment.

Overall, the technical scope of this project report is to provide a detailed analysis of technical skills and knowledge gained during an internship.

TECHNOLOGIES

REACT

1. React is a popular open-source JavaScript library used for building user interfaces(UI) and web applications. It was developed by Facebook in 2011 and is now maintained by a community of developers.
2. React uses components-based architecture, which means that the UI is broken down into small, reusable components that can be easily managed and updated. Each component is responsible for rendering a small part of the UI and can be combined with other components to build complex UI elements.
3. React also uses a virtual DOM (document object model) which allows it to update the UI efficiently by minimizing the number of changes that need to be made to the actual DOM.
4. React can be used to build single page applications, mobile applications, and desktop applications. It is often used in conjunction with other libraries and frameworks such as redux for state management and React router for routing. React has a large and active community, with many third-party packages and resources available for developers to use.

SIGNIFICANCE OF REACT

1. Faster development: React's component-based architecture allows developers to build UI elements more efficiently and with less code, which results in faster development times.
2. Reusability: React components are reusable, which means developers can create complex UI elements by combining small, reusable components.
3. Better performance: React uses a virtual DOM, which minimizes the number of changes need to be made to the actual COM, resulting in faster rendering times and better performance.
4. Cross platform support: react can be used to build applications for web, mobile, and desktop platforms, making it a versatile solution for developers.
5. SEO-friendly: React can be easily integrated with server-side rendering frameworks like Next.js, which allows for better search engine optimization and faster page load times.

ADVANTAGES OF REACT

1. Component based architecture: Makes it easier to manage and reuse code. Components are self contained modules that can be used to build complex UIs by combining smaller components.
2. Developer friendly: with large and active community of developers that share knowledge, code and tools.
3. Testing: React provides a testing framework that makes it easy to write and run tests for your components, ensuring that your code works as expected.

EXAMPLE

Javascipt:

```
import React, { useState } from 'react';

function Example() {
  // Declare a state variable called "count" and initialize it to 0
  const [count, setCount] = useState(0);

  // Function that increments the count variable by 1
  function incrementCount() {
    setCount(count + 1);
  }

  // Render a button that, when clicked, calls the incrementCount function
  return (
    <div>
      <p>You clicked {count} times</p>
      <button onClick={incrementCount}>
        Click me
      </button>
    </div>
  );
}
```

The above code defines a functional component called “Example”. Inside the component, we declare a state variable called “count” and initialize it to 0 using the “useState” hook. We also define a function called “ increment count” that updates the count variable

Jquery

1. jQuery is a popular javascript library that simplifies the process of working with HTML documents, CSS styles, and Java Script code. It was introduced in 2006 and quickly gained popularity among web developers due to its ease of use and wide range of features.
2. Key features include:
    a. DOM manipulation: jQuery makes it easy to manipulate the document object model of an HTML document. With jQuery, you can select elements on a web page and change their attributes, styles and content.
    b. Event handling: jQuery simplifies the process of handling user events, such as clicks and mouseovers. You can use jQuery to attach event handlers to HTML elements and respond to user actions in a consistent and reliable manner.
    c. AJAX: jQuery provides a set of functions for making asynchronous HTTP requests, commonly known as AJAX. This allows web pages to update dynamically without requiring a full page refresh.
    d. Animations: jQuery includes a set of built in animation functions that can be used to create smooth, dynamic effects on web pages.

SIGNIFICANCE OF jQuery

1. Simplifies JavaScript programming:
    a. jQuery provides a simpler syntax for programming in javaScript, which makes it easier for web developers to write complex web applications with less code.
2. Cross-browser compatibility:
    a. jQuery ensures cross browser compatibility for web appplications. It provides a consistent API for accessing and manipulation the document object model and handling events.
3. Improved performance:
    a. jQuery is designed to optimize code for common tasks such as animations, event handling and DOM manipulation.
4. Large communication and support
    a. jQuery has large and active community of developers, which means that there are many resources available for learning, troubleshooting, and extending jQuery.
5. Extensibility:
    a. jQuery is designed to be easily extendable with plugins and custom code. This means that web developers can add new features and functionality to their web applications without having to write everything from scratch.

Various use cases of jQuery:

1. Form validation
    a. It is used to validate user input in web forms, ensuring that users enter valid and correct information.
2. Mobile optimization
    a. jQuery mobile allows web developers to create mobile friendly web applications with responsive design and touch -based user interfaces.
3. Navigation menus
    a. To create dynamic and responsive navigation menus.
4. Carousel slider:
    a. To create image carousels and sliders that allow users to view multiple images or content items in a compact and visually appealing way.
5. Modal dialogs:
    a. jQuery can be used to create modal dialogs and popups that provide additional information or functionality without interrupting the user's workflow.

EXAMPLE

HTML CODE:

```
<div class="slider">
  <img src="image1.jpg">
  <img src="image2.jpg">
  <img src="image3.jpg">
</div>
```

jQuery CODE

```
$(document).ready(function() {
  $('.slider img:gt(0)').hide(); // hide all images except the first one
  setInterval(function() {
    $('.slider img:first-child').fadeOut().next('img').fadeIn().end().appendTo('.slider');
    // fade out the first image, fade in the next one, and move the first image to the end of the list
  }, 3000); // repeat every 3 seconds
});
```

This results in a simple image slider that automatically cycles through a list of image every 3 seconds.

DOT NET FRAMEWORK

The .NET Framework is a software development framework developed by Microsoft that provides a comprehensive platform for building windows-based applications. It includes a large library of pre-built components, tools, and services that developers can use to quickly build and deploy a wide range of applications, including desktop applications, web applications, and mobile applications.

The .NET framework provides a number of key features and benefits for developers, including:

1. Common language runtime(CLR)
    a. This is the foundation of the .NET framework and provides a consistent and managed environment for executing code. It includes automatic memory management, security, exception handling, and other key features that simplify the development process and improve application reliability.
2. Base class library(BCL)
    a. This is a collection of pre-built classes, interfaces, and types that developers can use to build applications. It includes a wide range of functionality, including I/O, XML processing, database access, and more.
3. Language interoperability
    a. The .NET framework supports multiple programming languages, including c#, visual basic.NET, F#, and others. Developers can build applications in their preferred language and still share code and components across language.
4. Rapid application development(RAD)
    a. The .NET framework includes a number of tools and features that simplify and accelerate the development process. This includes visual studio integrated development environment(IDE), which provides a comprehensive set of tools for building, testing, and deployment applications.
5. Scalability and Performace
    a. The .NET framework is designed to support scalable and high performance applications. It includes a number of features that optimize application performance, including just-in-time compilation, code optimization, and caching.

SIGNIFICANCE OF .NET FRAMEWORK

1. Cross platform compatibility:
    1. The .NET framework provides a common platform for developers to build applications to build applications that can run on various operating systems, including windows, macOS, and Linux.
2. Simplified environment:
    a. The .NET framework includes a large library of pre-built components and services that developers can use to build applications more quickly and easily. It also supports multiple programming languages, making it easier for developers to write code in the language
3. Security:
    a. The .NET framework includes a number of security features, such as code access security and role-based security, that help to protect applications from attacks and unauthorized access.
4. Performance:
    a. The .NET framework includes a just-in-time(JIT) compiler that translates code into machine code at runtime, which can result in faster application performance.
5. Interoperability:
    a. The .NET framework is designed to work well with other technologies and platforms, making it easier to integrate applications with other systems.

Let's take a **simple example** of a console application written in C# that uses .NET framework.

Csharp

```
using System;

namespace HelloWorld
{
   class Program
   {
      static void Main(string[] args)
      {
         Console.WriteLine("Hello, World!");
         Console.ReadLine();
      }
   }
}
```

The first line of code, "using system", is an example of how .NET framework provides set of pre-built components that can be used by developers.
The "class" statement defines a class for our application, in this case, we're creating a 'program' class.
This example demonstrates how we can use these components to create a simple console application in C#

In the ***Current project*** that I am involved in deals with insurance related issues and the associated code.

My contribution:

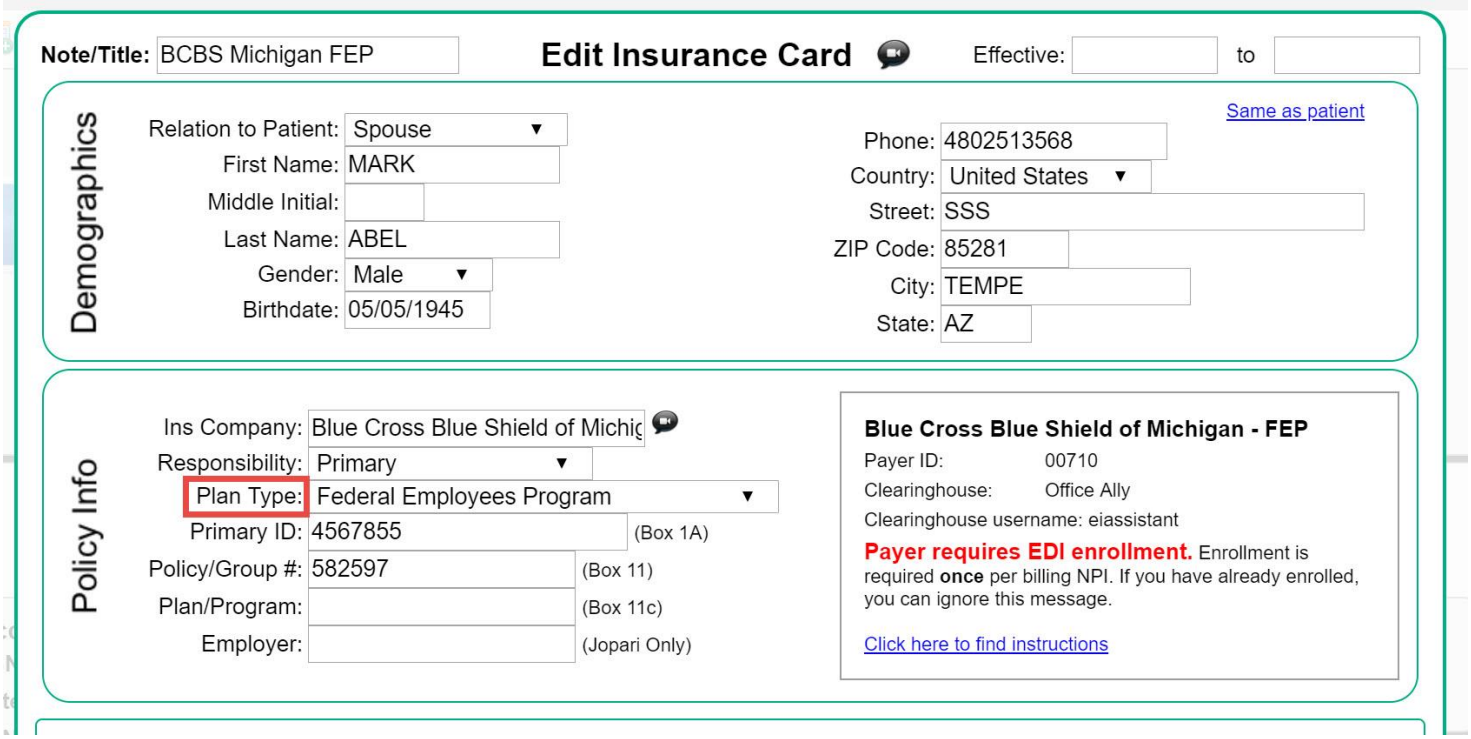
1. Identifying and editing bugs regarding insurance policy calculations and comparisons.
2. To eliminate ambiguity in purchasing policies and paying premium
3. Responsible for maintaining and updating the applications as needed.
4. Did my part in testing and debugging the code to ensure that it is functioning as it is expected.
5. To integrate insurance software with policy management systems, claim management systems or other third party software.
6. It often involves complex business rules and logic such as underwriting rules, pricing algorithms and claims processing workflows in code.
7. Often worked with databases to store policy data, claim data and other information.

I used C# to code for comparison between two insurance policies.

```
using System;

namespace InsurancePolicy
{
    class Program
    {
        static void Main(string[] args)
        {
            // Set up the two policy options
            int policy1 = 1000;

            // Ask the user which policy they prefer
            Console.WriteLine("Choose an insurance policy:");
            Console.WriteLine($"1. Policy 1 ({policy1:C})");
            Console.WriteLine($"2. Policy 2 ({policy2:C})");

            // Get the user's choice
            int choice = int.Parse(Console.ReadLine());

            // Determine which policy to select based on the user's choice
            int selectedPolicy = 0;
            switch (choice)
            {
                case 1:
                    selectedPolicy = policy1;
                    break;
                case 2:
                    selectedPolicy = policy2;
                    break;
                default:
                    Console.WriteLine("Invalid choice. Please choose option 1 or 2.");
                    break;
            }

            // Display the selected policy to the user
            if (selectedPolicy != 0)
            {
                Console.WriteLine($"You have selected Policy {choice}: {selectedPolicy:C}");

            }

            Console.ReadLine();
        }
    }
}
```

It also deals with health insurance software updation.
We worked on:

1. Enabling the user to know premium paid and pending.
2. Fixing software bugs that are causing miscalculations and delay in process
3. Providing feature for effective comparison across other insurance policies.



As shown in the above image, various details have to be taken over from an individual who is buying an insurance.

Various types of insurance include:

1. Health insurance
2. Life insurance
3. Auto insurance
4. Homeowners insurance
5. Disability insurance
6. Long term care insurance
7. Business insurance etc

Are various types of insurances.

LEARNINGS AND EXPERIENCE

TECHNOLOGY

1. Improved my skills of basic web development to advanced and industrial level.
2. Learnt new technologies such as react Xamarin-dot net in mobiles etc.
3. Getting good at dot net framework which has huge potential.
4. Currently learning nuances of making web applications using that framework

LEARNINGS:

1. In-depth understanding of the insurance domain—gained strong understanding of insurance industry
2. Proficiency in .NET framework—Developed strong skills in .NET framework, including ASP.NET, C# and other related technologies.
3. Expertise in front-end development—with experience in react and jQuery, I honed my skills in front end development including UI design, web layout, and user experience.
4. Problem-solving and debugging skills: I learned to identify and fix software bugs and other technical issues in timely manner and also gained expertise in trouble shooting complex technical problems
5. Collaboration and teamwork: The work involved a lot of collaboration with various stakeholders, including product owners, business analysts, and other developers.

PERSONALITY:

1. Refined my English communication skills
2. Learnt effective and persuasive social skills
3. Holistic development in every area of my life.

WORK EXPERIENCE

1. Work is quite burdensome in reaching targets and learning various new things in short span of time
2. Learnt how to handle the pressure of dead lines, reach expectations.
3. By far a fulfilling experience intellectually and professionally.

WAY FORWARD

As an intern with sills in React, jQuery, .NET framework and experience in working on an insurance project, I believe I can make significant contributions to the company. With my knowledge of React, I can assist in development and maintenance of web applications and making the more interactive and user friendly.

Additionally, my proficiency in.NET framework enables me to develop robust and scalable software applications, which are essential where data security and integrity are crucial. I can utilize my knowledge to improve the existing software systems by fixing bugs, implement new features and enhancing the overall user experience.

My experience in working on an insurance project has also given me an understanding of industry and challenges it faces, allowing me to contribute to solutions that address those issues.

In summary, my skills in React, jQuery, .NET framework, and experience in insurance projects enable me to make valuable contributions to the company. I am eager to learn more and work collaboratively with the team to achieve our objectives.

CONCLUSION

In conclusion, my internship experience at AppGo Solutions has been a valuable opportunity for me to apply my skills in real-world scenarios. During the internship, I worked on two projects, one of which involved updating a website using React and jQuery, and the other involved developing an insurance policy management system using .NET Framework. Through these projects, I gained hands-on experience in software development and learned about the insurance industry's challenges and requirements.

During my time at AppGo Solutions, I had the opportunity to work with a team of skilled professionals who provided guidance and support, helping me develop my skills further. I also learned about the company's culture and values, which emphasize collaboration, innovation, and customer satisfaction.

Overall, my internship at AppGo Solutions has been a rewarding experience that has prepared me for a career in software development. I am grateful for the opportunity and look forward to applying the knowledge and skills I have gained in my future endeavors.

REFERENCES

Official React documentation: https://reactjs.org/docs/getting-started.html

Official jQuery documentation: https://api.jquery.com/

Official .NET documentation: https://docs.microsoft.com/en-us/dotnet/

THANK YOU