IJARSCT

ISSN (Online) 2581-9429

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal

Impact Factor: 7.301

Volume 3, Issue 6, April 2023

Budget Manager

Ashwani Kumar[1], Riya Verma[2] and Akriti Sinha[3]

Assistant Professor, Department of Computer Science and Information Technology[1]

UG Students, Department of Computer Science and Information Technology[2,3]

Dronacharya College of Engineering, Gurgaon, India

Abstract: *The Internet is nowadays an inseparable part of our lives and web development is one of the growing industries with the expansion of the internet. With the growing use of the internet and internet being the most preferred choice for improved reach, the demand for web developers is increasing. Under this project, We have developed a Budget manager that will help in tracking the expense of any group of people for any purpose including tours, etc. It will help to understand the basic client-server model and use the database to work with permanent data. To be able to use this basic website, the user only needs an active internet connection and a web browser. In the client-server model, the client sends the request to the server. Server is a remote PC which can be accessed using the internet. The frontend of the application is developed through Reactjs. Reactjs is a javascript library that enhances the performance of the application which makes the development of dynamic applications easier. For the backend we will be using Express.js and Nodejs that is also a javascript based server side framework and for the database we will be using MongoDb. For adding authentication to the application we will be using Firebase. A payment gateway is an interface between a website and payment transaction. In this project, Razorpay payment gateway is used to provide the feature of in-app payment.*

Keywords: MERN Stack, Cross Platform Application, Mathematical Analytics, Web Application, Web Development

I. INTRODUCTION

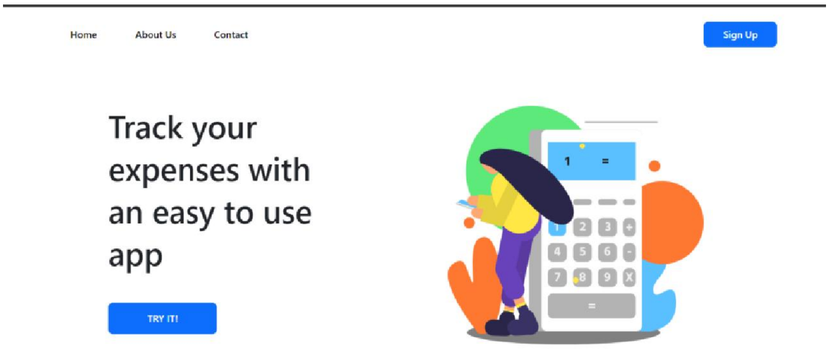
Budget Manager is a web app made for a group of people(friends/colleagues etc.) to track their expenses with the feature of in-app payment.

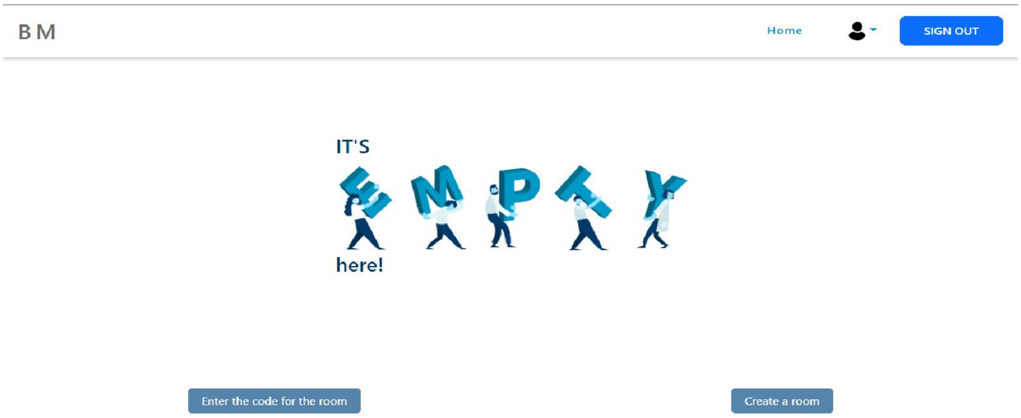
- Create a simple dynamic website which has the following specs.
- Start with creating a dummy data in database for upto 10 customers. Database options: MySql, Mongo, Postgres, etc. Customers table will have basic fields such as name, email, current balance etc. Transfers table will record all transfers happened.
- Flow: Home Page > View all Customers > Select and View one Customer > Transfer Money > Select customer to transfer to > View all Customers .
- No Login Page. No Customer Creation. Only transfer of money between multiple customers
- Create a simple website where payment gateway is integrated.
- There will be a simple donate button on the homepage. On clicking the donate button, the user will land on the payment page where user can select the amount to be paid and the payment type, e.g., credit card, Paypal, etc.
- Once the payment is done an invoice will be generated and email will be sent to the user for the payment received. The invoice will contain the amount
- On any page / email, only basic information is needed.

DOI: 10.48175/IJARSCT-9434

II. IMPLEMENTATION

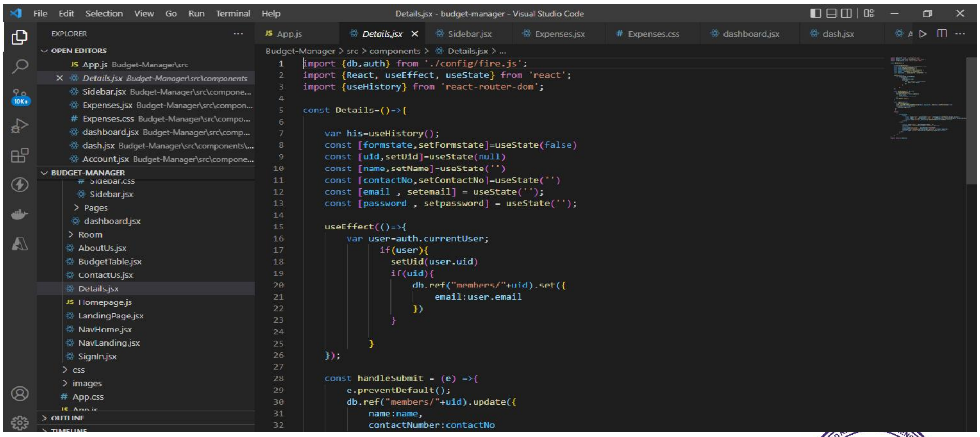
2.1 User Interface of our Application





Whenever user attempts to load a site, a GET request is sent to the server. The server identifies the request. It then verifies the URL of request and performs the operation corresponding to the URL. For example- for relative URL “/” , PHP server would display the home page which contains the buttons for other actions like View Users, View Transactions and Transfer amount, etc.

For View Users, the PHP server would establish a connection to MySQL database using “mysqli” extension of PHP language. After establishing the connection with MySQL, the PHP server would create a query to fetch the users list from the database. This query is then executed on MySQL database. The result is returned to the PHP server which then creates a HTML page for the result and sends that back to the user. Similarly, the other functionalities are achieved using the similar logics


File Edit Selection View Go Run Terminal Help
Details.jsx - budget-manager - Visual Studio Code
EXPLORER
OPEN EDITORS
BUDGET-MANAGER
App.js
Details.jsx
Sidebar.jsx
Expenses.jsx
Expenses.css
dashboard.jsx
dash.jsx
Budget-Manager > src > components > Details.jsx > ...

```
import {db,auth} from './config/fire.js';
import {React, useEffect, useState} from 'react';
import {useHistory} from 'react-router-dom';

const Details=()=>{

    var his=useHistory();
    const [formstate,setFormstate]=useState(false)
    const [uid,setUid]=useState(null)
    const [name,setName]=useState('')
    const [contactNo,setContactNo]=useState('')
    const [email , setemail] = useState('');
    const [password , setpassword] = useState('');

    useEffect(()=>{
        var user=auth.currentUser;
              if(user){
                setUid(user.uid)
                if(uid){
                    db.ref("members/"+uid).set({
                        email:user.email
                    })
                }

            }
    });

    const handleSubmit = (e) =>{
        e.preventDefault();
        db.ref("members/"+uid).update({
            name:name,
            contactNumber:contactNo
```

DOI: 10.48175/IJARSCT-9434

III. TECHNOLOG USED

REACT JS

ReactJS is one of the most popular JavaScript front-end libraries which has a strong foundation and a large community. ReactJS is a declarative, efficient, and flexible JavaScript library for building reusable UI components. It is an open-source, component-based front end library which is responsible only for the view layer of the application. It was initially developed and maintained by Facebook and later used in its products like WhatsApp & Instagram. Our ReactJS tutorial includes all the topics which help to learn ReactJS. These are ReactJS Introduction, ReactJS Features, ReactJS Installation, Pros and Cons of ReactJS, ReactJS JSX, ReactJS Components, ReactJS State, ReactJS Props, ReactJS Forms, ReactJS Events, ReactJS Animation and many more.

The main objective of ReactJS is to develop User Interfaces (UI) that improves the speed of the apps. It uses virtual DOM (JavaScript object), which improves the performance of the app. The JavaScript virtual DOM is faster than the regular DOM. We can use ReactJS on the client and server-side as well as with other frameworks. It uses component and data patterns that improve readability and helps to maintain larger apps

NODE JS

Node.js is an open-source and cross-platform runtime environment for executing JavaScript code outside a browser. You need to remember that NodeJS is not a framework and it’s not a programming language. Most people are confused and understand it’s a framework or a programming language. We often use Node.js for building back-end services like APIs like Web App or Mobile App. It’s used in production by large companies such as Paypal, Uber, Netflix, Walmart, and so on.

MONGO DB

MongoDB is a document-oriented NoSQL database used for high volume data storage. Instead of using tables and rows as in the traditional relational databases, MongoDB makes use of collections and documents. Documents consist of key-value pairs which are the basic unit of data in MongoDB. Collections contain sets of documents and function which is the equivalent of relational database tables. MongoDB is a database which came into light around the mid-2000s.

EXPRESS JS

Express.js tutorial provides basic and advanced concepts of Express.js. Our Express.js tutorial is designed for beginners and professionals both. Express.js is a web framework for Node.js. It is a fast, robust and asynchronous in nature.Our Express.js tutorial includes all topics of Express.js such as Express.js installation on windows and linux, request object, response object, get method, post method, cookie management, scaffolding, file upload, template etc. Express is a fast, assertive, essential and moderate web framework of Node.js. You can assume express as a layer built on the top of the Node.js that helps manage a server and routes. It provides a robust set of features to develop web and mobile applications.

IV. TOOLS USED

GITHUB

GitHub is a code hosting platform for version control and collaboration. It lets you and others work together on projects from anywhere. .Version control helps developers track and manage changes to a software project’s code. As a software project grows, version control becomes essential. Github is just like any other platforms that uses Git services. Git is a specific open-source version control system created by Linus Torvalds in 2005.Specifically, Git is a distributed version control system, which means that the entire codebase and history is available on every developer’s computer, which allows for easy branching and merging.

MICROSOFT AZURE

Microsoft Azure, formerly known as Windows Azure, is Microsoft's public cloud computing platform. It provides a broad range of cloud services, including compute, analytics, storage and networking. Users can pick and choose from these services to develop and scale new applications or run existing applications in the public cloud. It offers tools that support all industries -- including e-commerce, finance and a variety of Fortune 500 companies -- and is compatible with open source technologies. This gives users the flexibility to use their preferred tools and technologies.

V. CONCLUSION AND FUTURE SCOPE

Web development is mainly concerned with providing software or functionalities over the internet remotely. In this project we have used MERN. MERN Stack is an umbrella term used for MongoDB, Express, React and Node.js. MERN stack is an open-source full-stack JavaScript solution used for faster and easier development and deployment of full-stack applications. MERN is designed to make the process of application development swift and simple. MongoDB, Node.js and Express are dedicated to developing the back-end of web applications. This corresponds to database management, scripts, html documents, HTTP requests, etc. React's role is to execute HTTP requests. With React, developers make Ajax calls. This allows them to set up dynamic data downloads without the need for reloading the page. As a result, the web application is made to be much faster than average. The client receives the result of executing the script without knowing the underlying code. Any website can require a variety of data or information to display and to retrieve them from the database. This can include the display of a simple list to the running of the website based on data stored in the database like MongoDB. Also, the tasks given are working as expected and development using Express and Nodejs is easy and reliable. The newer updates in Express are making it a competitor as a backend language.

In future, the application can be enhanced with the functionality of user creation, user data updation, user addition, user authentication, user authorization & role-based access control. In the future, continuous updates in JavaScript would be required in future also to keep up with the advancement in the computer hardware chips and networking speed.

REFERENCES

[1]. https://reactjs.org/
[2]. https://www.mongodb.com/home
[3]. https://expressjs.com/
[4]. https://nodejs.org/en/docs/
[5]. https://code.visualstudio.com/docs
[6]. https://www.integratepayments.com/payment-gateway/direct-post-payment-gateway-api
[7]. https://learn.microsoft.com/en-us/azure/?product=popular
[8]. 8.https://learn.microsoft.com/en-us/azure/cloud-services/cloud-services-nodejs-chat-app-socketio
[9]. https://auth0.com/blog/node-js-and-express-tutorial-building-and-securing-restful-apis/
[10]. https://www.codementor.io/blog/react-optimization-5wiwjnf9hj

BIOGRAPHY

Hello Readers, This is Riya Verma and Akriti Sinha. An, undergraduate students of Computer Science and Information Technology Background having deep interest in the Web Application Development.

DOI: 10.48175/IJARSCT-9434