Code First Girls Degree

Autumn Fullstack 2023

Maryam Asaria

Asia Estwick-Mclean

Naomi Forde

Penny Luc

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Project Report

Introduction:

Welcome to the project report for our Currency Converter/Budget Planner Website, Trip Treasury. In this report, we will provide an overview of the project's objectives, technologies used, development process, design specifications, implementation/execution and testing.

Project Objectives:

The primary goal of our project is to develop a user-friendly and intuitive website that enables holiday-goers to easily convert currencies and plan their budgets for their trips. We aimed to create a comprehensive and efficient platform that simplifies the process of managing finances whilst travelling.

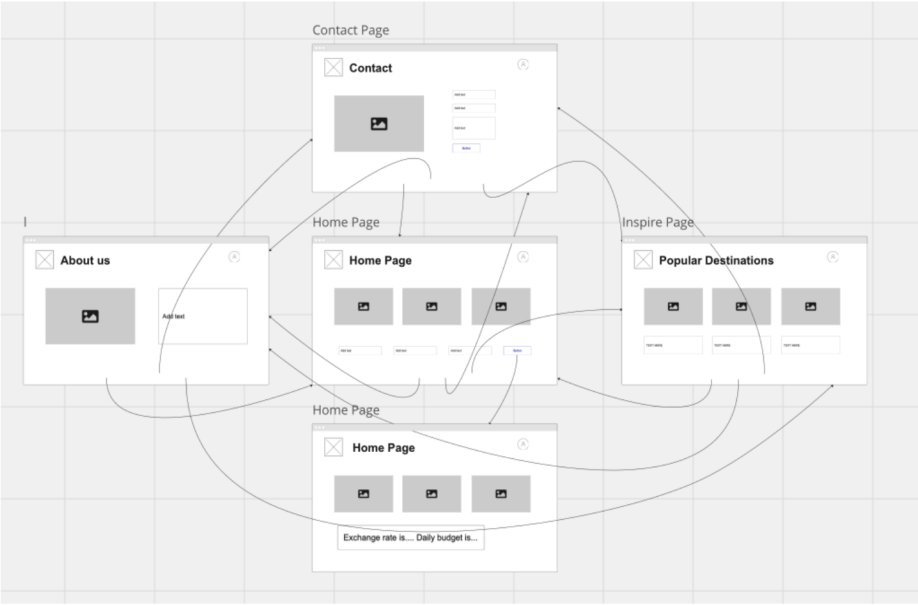
Technologies Used:

To bring this project to life, we utilised a combination of front-end and back-end technologies. For the user interface design and presentation, we utilised React and CSS to create an appealing, responsive, and user-friendly website layout. JavaScript was crucial in implementing the interactive features and functionalities, such as live currency conversion rates and budget calculations. In regards to the design aspect, we used wire frames on miro.com to plan the layout of our website to ensure it is user-friendly and appeals to our audience.

On the back-end, we used various technologies to handle data storage, server-side processing, and free API integrations. Node.js was chosen as the server-side runtime environment, providing a fast and scalable platform. Express.js, a popular web application framework for Node.js, was utilised to handle routing and server-side operations. Additionally, we integrated third-party APIs to fetch real-time currency exchange rates to ensure accurate conversions.

By utilising React.js, we were able to build a responsive and highly performant website, enabling users to convert currencies in real-time without any delays. The

component-based architecture of React.js also facilitated modular development, making the code-base easier to manage and maintain. Overall, the implementation of React.js has greatly enhanced the functionality and usability of our currency conversion website, ultimately elevating the user experience to new heights.



Implementation & Execution

Development Approach & Team Member Roles

When determining which roles each team member would undertake we had a meeting to discuss what each of our strengths and weaknesses were and which areas we would each feel comfortable working on throughout the project.

During the development process we kept up regular team communication through the use of Slack and Zoom so that we were constantly aware of how we were progressing and if there were any issues that we needed to work through together. Regular Zoom meetings were crucial in maintaining synchronisation among team members and adhering to the project schedule. These meetings provided a platform for progress updates, issue resolution, and collective decision-making. The division of tasks and collaborative styling efforts contributed to a cohesive and polished final product.

For the implementation and execution of the project, we adopted a collaborative approach to maximise efficiency. Landing pages were divided among team members, with each member responsible for a separate page. In order to manage version control

we each created separate branches from the ‘Working’ branch in our GitHub repository for our individual pages. We divided the pages up as follows:

- Homepage: Penny
- About Us: Maryam
- Inspire: Asia
- Contact Us: Naomi

To ensure consistency in styling and formatting across all pages, two team members collaborated specifically on this aspect. Concurrently, the other two members focused on compiling and refining the project report.

During the planning phase, we conducted thorough research to identify user requirements and design a user-friendly interface. Wireframes and Mock-ups were created to visualise the website's layout and functionality. The development phase involved implementing the front-end and back-end functionalities using HTML, CSS, JavaScript, and Node.js. Extensive testing and bug fixing were performed to ensure a smooth user experience and error-free performance.

Roles	Person(s)	Tasks
Presenter	Naomi Asia	- Prepare a presentation to present the project and work behind it. - Lead the product demonstration.
Report writer	Naomi Asia	- Prepare a report documenting the project and the processes followed guided by the project document requirements issued by CFG.
Testers	Penny	- Create a tests file and design tests for every function and class. - Exception handling, test design, automated unittests, mock user testing expected to be used. - Use of regression tests (end to end process test) if appropriate
Code reviewers	Everyone Review as we go along	- Make sure the code runs correctly and works as expected. - Ensure code is efficient and applies the most recent and/or appropriate knowledge learned through the course - Ensures appropriate class, method, and variable naming. - Refactor code as necessary to allow for better testing
Front end engineers	Maryam Penny	- Writing front end code - Making sure the app is as user-friendly as possible as the app will run from the command window. - Researching APIs and implementing the best one to solve our problem. - Work together to try and make sure the code needs limited refactoring.
APIs & Backend logic	Maryam	- Building the API and connecting to front end - Integration with front end
Project Manager	Maryam	- Project management and ensuring delivery on time. - Completing the CFG project log. - Ensuring minutes are taken for group meetings. - Organising regular standups. - In the event of absence, appoint someone to be project manager.

Implementation Approach

We made use of a number of project management tools for communication, task management and file management including but not limited to Slack, GitHub, Google Docs and Google Drive.
At the beginning of the project we created a shared Google Drive where we kept our Project Ideas, Project Log, Meeting minutes, Gantt Chart and Workload Distribution Table. This shared drive served as a centralised location for any documents that we needed to keep updated as a team and so that we could upload any documents for review by the wider team like the Project Report and Project Slides.

We also used a Shared GitHub repository where we created a ‘Working’ brand that acted as the base for the individual branches we created for the pages that we each worked on. Once we had each finished our pages, we had a group Zoom call where we reviewed each page as a team and then created pull requests one-by-one and then merged our individual pages into the ‘Working’ branch. During this session we were also able to work through resolving any merge conflicts as a team as we merged our branches.

PROJECT GANTT CHART

PROJECT TITLE	Currency Converter	DATE	15/11/23
TEAM NAME	London		

TASK TITLE	TASK OWNER	START DATE	DUE DATE	PCT OF TASK COMPLETE	PHASE ONE											PHASE TWO											
					WEEK 1				WEEK 2				WEEK 3				WEEK 4				WEEK 5				WEEK 6			
					M	T	W	T	M	T	W	T	M	T	W	T	M	T	W	T	M	T	W	T	M	T	W	T
Project Planning	Whole Team	13/11/23	15/11/23	100%																							
API Sourcing	Maryam	13/11/23	14/11/23	100%																							
Front-End Coding	Penny, Asia, Naomi			0%																							
Back-End Coding	Whole Team			0%																							
API Connetion	Maryam			0%																							
Code Testing	Mun Wei			0%																							
Report Writing	Asia & Naomi			0%																							
Report Review & Edits	Whole Team			0%																							
Slides & Script Writing	Asia & Naomi			0%																							

Agile Methodology

Thanks to our use of the Agile Project Management methodology we were able to manage working on this project alongside our regular day-to-day working schedule in a way that allowed us to maximise our time whilst being able to remain on schedule with each of our tasks. It also meant that where any of us had any spare time we could work on additional areas of the project, which enabled us to progress quicker in some areas than we initially planned, allowing for a comfortable and efficient development process.

Implementation Challenges

The biggest challenge we faced was at the beginning of our project when we lost a team member very early on after we had already determined roles and responsibilities and arranged our project timeline, workload and meetings around any team member holidays, appointments and personal events. This meant that we had to use additional time to rework our original plan around our new smaller team.

We were also concerned around how we would manage our time during the six week project to ensure that we were able to include all of the elements that we wanted as well as finding time to align the styling of our pages and conduct testing of the relevant elements. We were able to overcome this perceived challenge thanks to effective planning from the outset and our use of the Agile Project Management Methodology.

We also faced a challenge with the free API we selected in that it did not provide currency conversion for Bali for Dubai however, we were able to provide currency conversion for Thailand which we have demonstrated.

Testing

Given the time constraints, testing was conducted within the limits of the available time frame. Simple testing procedures were employed to identify and rectify any immediate bugs or issues in the functionality of the website. Due to the project's nature, user testing played a significant role, allowing us to gather valuable feedback on the website's usability and performance.

While comprehensive testing might be limited due to time constraints, user testing involved a diverse group to ensure the website meets the needs of its target audience. Feedback from user testing was considered and implemented to enhance the overall user experience. Continuous monitoring and feedback mechanisms post-deployment will be crucial in addressing any unforeseen issues and improving the website's functionality based on user interactions.

Conclusion

Our primary objective was to develop a user-friendly and reliable platform that assists travellers in seamlessly converting currencies during their trips.

Throughout the development process, we focused on three key aspects: functionality, usability, and performance. Firstly, we aimed to ensure that our website accurately retrieves real-time exchange rates from reliable sources, guaranteeing precise currency conversions. Secondly, we prioritised creating an intuitive and visually appealing user interface, allowing holiday goers to effortlessly navigate the website and convert currencies with ease. Lastly, we optimised the performance of our platform, ensuring quick response times and minimal downtime for an uninterrupted user experience.

Through testing, clear communication and an agile methodology, we have accomplished our main goals regarding this project.

In conclusion, our project has resulted in the creation of a robust and user-friendly currency conversion website. This platform will undoubtedly enhance the travel experience of holiday goers by simplifying currency conversions and empowering them to make informed financial decisions during their trips.