CS790 – Project Milestone 1 (Team 3)

Essential Software Development Plan (SDP)

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1. Product Description

1.1 General Overview of Coursedo:

"We share knowledge with the world". In this modern world, with new technologies rising every day, Coursedo is an ecommerce application that provides all the required courses on these latest technologies.

1.2 Aim:

The main objective of Coursedo is to give the highest quality of education around the major online ecommerce websites at better and cheaper prices. Another Aim is to build to easy going website with YouTube as the video rendering software.

1.3 Scope of the project:

The scope of this project extends but is not limited to:

- Full Stack: HTML, CSS, JavaScript, ReactJS, GatsbyJS, GraphQL.
- CMS: Contentful.
- Version Management: GitHub.
- Hosting: Netlify.

The application is planned to be built on HTML, CSS with React as the JavaScript library. All the courses are uploaded to Contentful CMS which is rendered on to the web application. We plan to push all major updates to our Git repository, which can be linked to Netlify for hosting.

1.4 Current roadblocks and barriers to success:

We'll have to keep updating the application with more and more contents regularly like Angular, Vue, etc. With so many ecommerce websites on the raise lately, attracting good amount of audience will be a major task. As the technology changes, we'll need to implement the application on newer frameworks and newer languages.

1.5 Submission Requirements:

The project will be submitted as a web application.

1.6 Target Audience:

The audience is not just limited to students but also to professional employees trying to get hands on experience in newer technologies.

2. Team Description:

To build a fully-fledged e-commerce website, the competency in front end development modules such as React, Gatsby, HTML, CSS, JavaScript, Nodejs and back-end technologies such as GraphQL, Contentful is obligatory. We have categorized each module for every team member, as shown below.

Team Member	Module
Ashwin	React, Gatsby, HTML,CSS, JS, Node JS
Sindhu	React, Gatsby, HTML,CSS, JS, Node JS
Akhilanand	GraphQL, Contentful
Saketh	GraphQL, Contentful

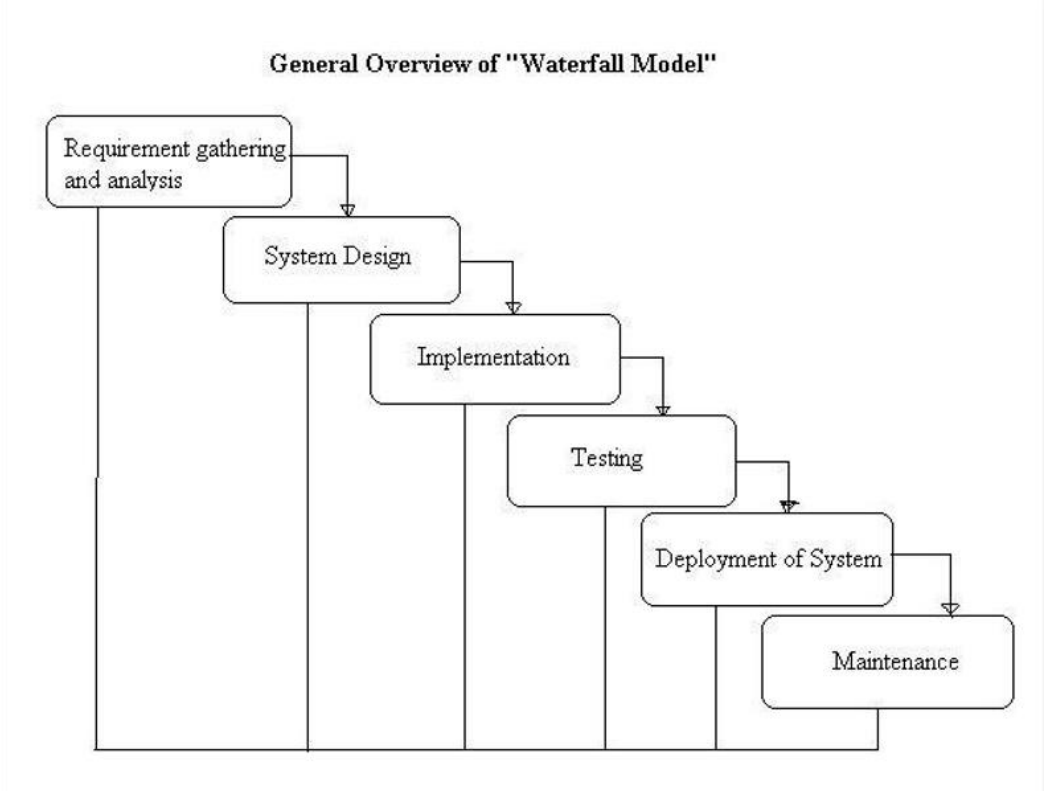
As per the degree of comprehensiveness, every member of the team is assigned a role such as Front-end developer, Back-end developer, tester, code reviewer, site reliability engineer who is responsible for their respective tasks. The roles are represented as per the below table:

Team member	Roles
Ashwin	Front-end Dev, Tester, Code reviewer, Site reliability engineer
Sindhu	Front-end Dev, Tester, Code reviewer, Site reliability engineer
Akhilanand	Back-end Dev, Tester, Code reviewer, Site reliability engineer
Saketh	Back-end Dev, Tester, Code reviewer, Site reliability engineer

3. Software Process Model Overview

For the cost-effective change in requirements in the model and flexibility, we are using an iterative waterfall model for our project. Since we knew our project's requirements beforehand, we preferred the iterative waterfall model. We use the Waterfall model for the primary functions such as requirement gathering and analysis, System Design, Implementation, Testing, Deployment of the product and maintenance and iteration for the persistent development of the product until it is made available for the final client.

The core ideology of the waterfall model is that we don't proceed to the next phase unless the previous step is completed. This prevents the overlap in the phases. Each phase has a specific set of tasks and activities. Since there could be a possibility of going back to the previous phase and making modifications such that the output of that particular phase could be improved as per our requirement, the iterative waterfall model comes into the picture.



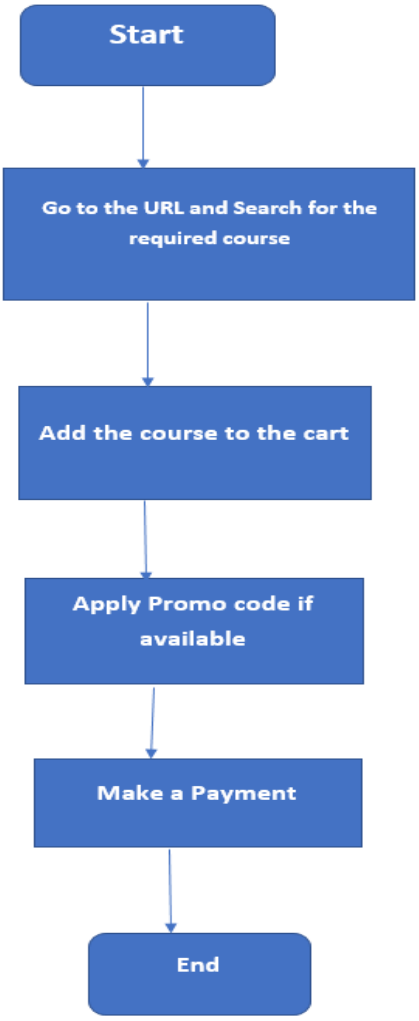
The iterative waterfall model enables the customer's feedback path to its former phases from each phase. This is helpful when we want to make the modifications, and the client changes the requirements in any of the phases. Using this model, we can complete the project earlier as it scales down the efforts and time spent identifying and correcting the errors.

4. Project Definition

4.1 User Interface:

Coursedo is an E-Commerce website that will be helpful in giving the highest quality education in this competitive world. In previous, User Interface design includes JavaScript, Angular JS, and HTML languages but now we will be using React, Gatsby, HTML, CSS, JS, and node.js for the Front-end, GraphQL, Contentful for the Back end, Git, and Netlify for hosting.

A workflow diagram of the functioning of the UI is given below.

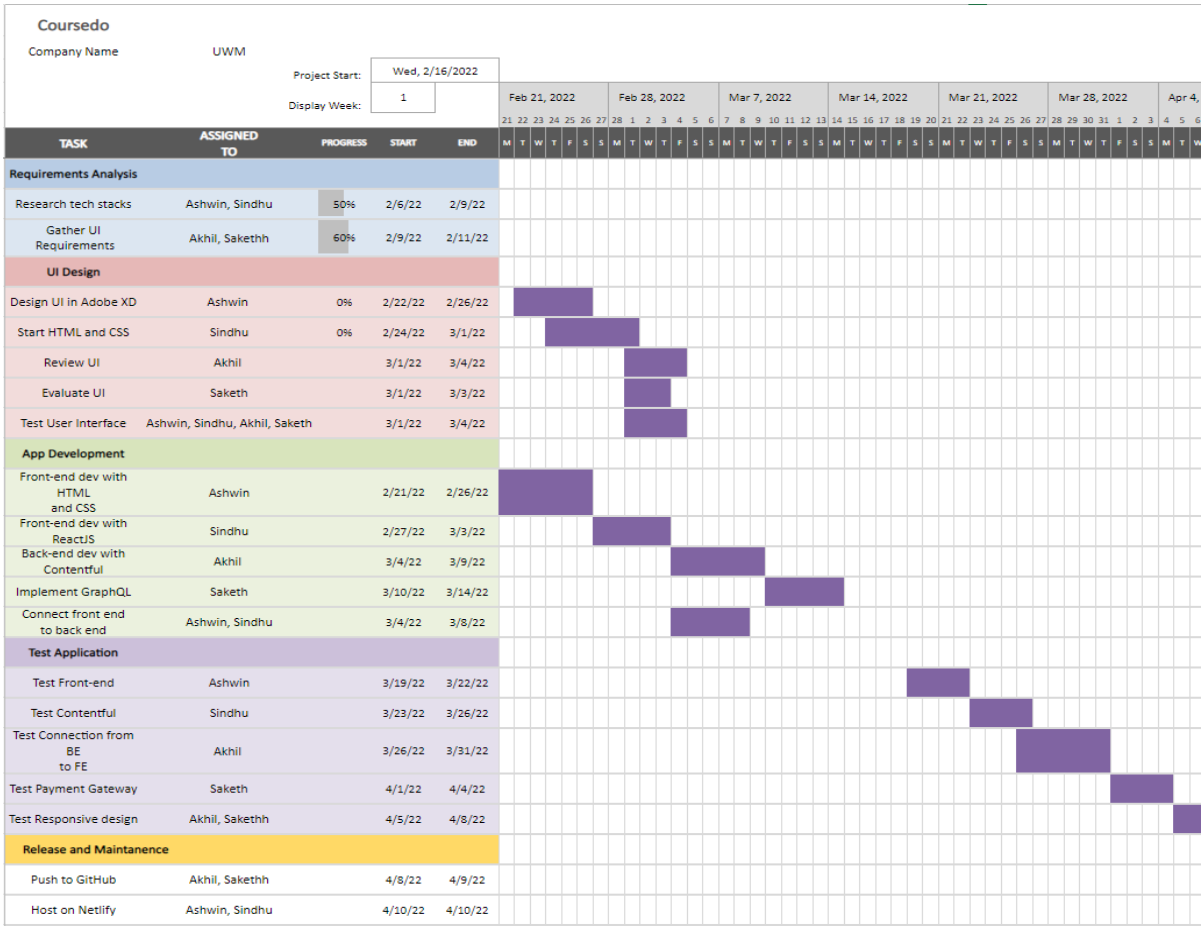


4.2 Product Implementation:

This is an E-Commerce website with an elementary interface. It is easily accessible to the end-users of different age groups. We used all the latest technologies that help us to load the contents very faster. Keeping in mind about space constraints some users may face, we are planning to design this website instead of an application in such a way that it saves storage on your device yet provides you with efficient content.

5. Project Organization:

The following is the Gantt chart of the organization with the project members' responsibilities with timelines.



Coursedo

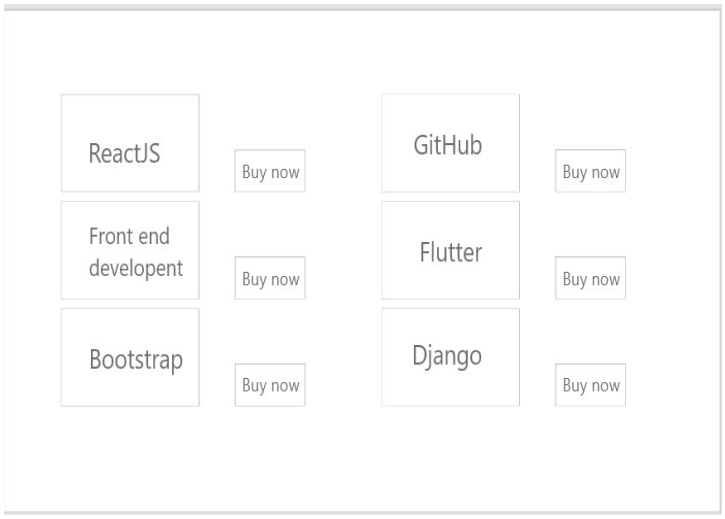
Company Name	UWM	Project Start:	Wed, 2/16/2022	
		Display Week:	1	

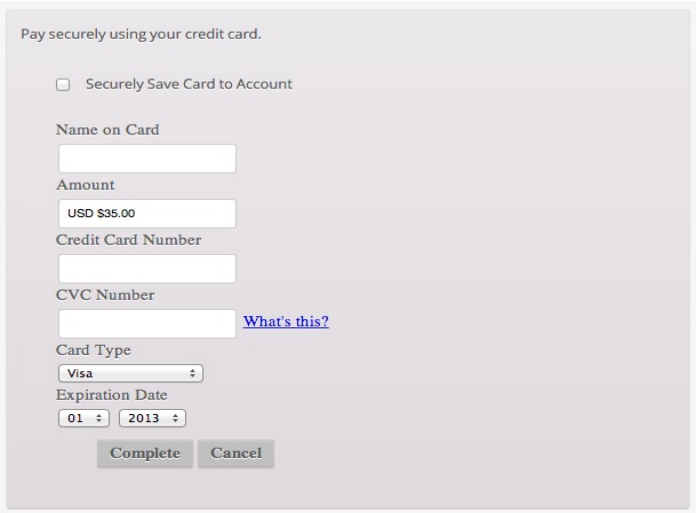
TASK	ASSIGNED TO	PROGRESS	START	END
Requirements Analysis				
Research tech stacks	Ashwin, Sindhu	50%	2/6/22	2/9/22
Gather UI Requirements	Akhil, Sakethh	60%	2/9/22	2/11/22
UI Design				
Design UI in Adobe XD	Ashwin	0%	2/22/22	2/26/22
Start HTML and CSS	Sindhu	0%	2/24/22	3/1/22
Review UI	Akhil		3/1/22	3/4/22
Evaluate UI	Saketh		3/1/22	3/3/22
Test User Interface	Ashwin, Sindhu, Akhil, Saketh		3/1/22	3/4/22
App Development				
Front-end dev with HTML and CSS	Ashwin		2/21/22	2/26/22
Front-end dev with ReactJS	Sindhu		2/27/22	3/3/22
Back-end dev with Contentful	Akhil		3/4/22	3/9/22
Implement GraphQL	Saketh		3/10/22	3/14/22
Connect front end to back end	Ashwin, Sindhu		3/4/22	3/8/22
Test Application				
Test Front-end	Ashwin		3/19/22	3/22/22
Test Contentful	Sindhu		3/23/22	3/26/22
Test Connection from BE to FE	Akhil		3/26/22	3/31/22
Test Payment Gateway	Saketh		4/1/22	4/4/22
Test Responsive design	Akhil, Sakethh		4/5/22	4/8/22
Release and Maintanence				
Push to GitHub	Akhil, Sakethh		4/8/22	4/9/22
Host on Netlify	Ashwin, Sindhu		4/10/22	4/10/22

6. Validation Plan

Sample UI

Coursedo User Interface follows the structure shown below. We will have an URL hosted on Netlify, through which users can search for the required courses. Users can add courses to the cart and can apply a promo code if available and then followed the payment page to purchase a course.





7. Configuration/Version Control

This project can be created using minimalistic components. It can broadly be categorized into software components and documentation.

7.1 GitHub: Link to our repository: https://github.com/akhr1997/Coursedo

The GitHub platform will be used for all software development communication. Every team member will be able to clone the project and begin developing using the git repository URL. They can commit the code after making several essential changes, and the changes are automatically mirrored in the master branch. By allowing us to observe past commits, GitHub enables automatic version control.

7.2 Google Docs:

Documentation will be handled through Google Docs, with each team member having the ability to make changes to the pages at the same time. This uses automated version control, which means that any changes to the document are automatically logged, and prior versions of the content may be easily accessed.

8. Tools:

- Front-End: HTML, CSS, JavaScript, ReactJS, GatsbyJS, GraphQL.
- CMS: Contentful.
- Version Management: GitHub.
- Hosting: Netlify.
- Developer Tools: Visual Studio Code, Adobe XD, Gantt Chart.