PROJECTS

Software - Final Project Specification

Introduction

The purpose of this document is to **outline the project specification for the Software Final Project** to be completed during the final weeks of your time in the academy.

It is designed to bring together the software development and project management skills you have acquired in the academy:

Software Development:

- Agile & Project Management
- Databases
- Cloud Fundamentals
- Programming Fundamentals
- API Development
- Front-End Development
- Automated Testing
- Full Stack Development Technologies

Objective

The overall objective of the project is the following:

To create a full-stack Web application suitable for a given client specification, with utilisation of supporting tools, methodologies and technologies that encapsulate all modules covered during training

Specifically you are required to create this **Web Application** according to our clients specification:

- Our client is a well-known cinema chain, **QA Cinemas**
- Your team has been tasked with building a new website for them, which should present information about movies, listings, upcoming releases etc.
- There are various features which the client has requested, some are **essential** while others are *desirable*.
- There is time for **two 5-day Sprints** before the site *goes live*.

As with previous projects you are required to use the languages and technologies learnt during the training to complete the project.

This is a **group project** that is to be completed in teams of 4-6. Your trainer will assign these teams for you. As a result, this project is designed in part to test your ability to organise yourself in a team setting and delegate work effectively.

You are expected to follow an Agile approach to your project management, requiring you to organise your project into Sprints, assign scrum roles and produce a product backlog in the form of a Kanban board.

You will have 2 weeks to deliver this project. At the end of these two weeks, your **entire team is responsible** for presenting your completed application and project management to the cohort and trainers.

Scope

The minimum requirements for this project are as follows:

- Full commitment to an Agile Approach, including *daily stand-up meetings* and utilisation of sprints, user stories and other **sprint artifacts**.
- A fully expanded kanban board with user stories, tasks needed to complete the project.

- A fully fleshed out Risk Assesment with matrix, showing the risks and issues of the project.
- Code fully integrated into a central repository using a Version Control System. This repo should incorporate **pull and merge requests**, repo ownership, **Feature Branch Model** and any other aspects you deem appropriate.
- Fully designed back-end using **Node** and API development tool using **Express**.
- Fully designed front-end using **React** that is responsive and reactive.
- Database management system using **MySQL or MongoDB** deployed locally or using a cloud provider
- Fleshed out Test Suite covering unit and integration testing for the backend, as well as automation and user acceptance tests for the front end. Industry standard of **80%** should be strived for.

Constraints

The time constraint for this project is **2 weeks**. You must plan the work around this time constraint.

The application must also **strictly** adhere to the following technological constraints as encountered during the course of the training.

- Version Control System - **Git**
- Source Code Management - **GitHub**
- Kanban Board - **Jira**
- Full-Stack Development Technologies: **MERN Stack**
    - Database Management System - **GCP Instance of MySQL/MongoDB**
    - Back-End Programming - **Node**
    - API Development Platform - **Express**
    - Front-End Development Framework - **React**
- Unit Testing - **Mocha, Chai**

You must plan your project utilising **Agile Scrum** methodology. This should include:

- Assigning a **Scrum Master**
- Creating a **Product Backlog**
- Creating a **Kanban Board**
- Creating **User Stories**
- Organising work into **Sprints** and holding **Sprint Retrospectives**

Deliverables

The final deliverable for this project is the completed application with full documentation around utilisation of supporting tools. This will require a fully functional application.

You will be required to present your work to at least one trainer – this may be your course leader, another trainer, or several trainers. This will take the form of a presentation of work lasting **~30 minutes**, including a Q&A session.

Given the above, you will therefore be required to track your designs and workflow (e.g. through screenshots) throughout the duration of the project, with emphasis on how Agile methodology shaped the application over time.

You will be required to utilise the Feature-Branch Model, and to push a working copy of your code to the **master** branch regularly. It is recommended to use the **feature-name** naming strategy for your feature branches.

You will be required to include all supporting documentation for your project within your remote repository at close-of-business on the day of presenting your project.

Website Requirements

These requirements have been deemed by the Client as 'essential' components of the site, and therefore should be part of your MVP.

Home page

The QA Cinemas site needs a home page. The home page shall:

- Be generally attractive

- The page shall be the default for the entire site
- Starting from the home page, site users may navigate to other areas of the site
- The site should have a picture or graphic evocative of the movies or the cinema on it
- Communicate to the viewer the purpose of the site

Listings Gallery

The site should include an image gallery posters for the movies currently showing.

- The gallery is part of the overall site navigation
- At least 4 different movie images
- Each image appears on its own page
- Each image has supporting text including Title, actors, director and showing times

Opening Times

The site has a dedicated page to list the opening times.

- The page is part of the overall site navigation
- The page has details about the opening times of the cinema.

New Releases Gallery

The site should include an image gallery posters for forthcoming movies.

- The gallery is part of the overall site navigation
- At least 4 different movie images
- Each image appears on its own page
- Each image has supporting text including Title, actors and director

Classifications

The site has a page dedicated to the film classification system

- The page is part of the overall site navigation
- The site answers the following questions and includes any other relevant facts:
- What are the standard film classifications?
- What are the rules and conditions relating to each classification?
- The page may link out to external resources with more detail on individual items

Screens

The site has a page dedicated to the screens

- Include image of the seating plan of the standard screen
- Include an image showing the décor for the standard screen
- Include image of the seating plan of the deluxe "Directors Box" screen
- Include an image showing the décor for the deluxe screen

Ticket Bookings

The site should include a page dedicated to booking tickets.
The page is part of the overall site navigation

- Booking should include the following information:
- Movie title
- Screening date and time
- Name of booker
- Number of seats
- Adult
- Child
- Concession

Payment

The site should include a page dedicated to paying for tickets that are booked in advance.

- Payment page should gather the following information:
- Card holder's name
- Card number
- Expiry date
- Security code/CVC
  Details should be saved and passed onto an external merchant for processing

Places to Go

The site should include information about local venues where customers can visit before or after the movie.

- The page is part of the overall site navigation
- Venues can include bars and restaurants
- Each venue should include the following information:

- Image of the venue (inside or out)
- Description
- Details of any offers relating to the cinema
- Contact details

Getting There

The site should include a page dedicated to the location of the cinema.

- The page is part of the overall site navigation
- Include information on the following, as well as any other interesting and relevant facts
- External image of the cinema
- Address
- Directions from bus/train stations
- Parking
- Google/Bing map

Discussion Board

This page provides customers with the means to discuss movies and their experiences at the cinema.

- Page appears in the primary navigation
- Users can comment on movie related topics
- Users can rate films that they have seen
- Users' posts should be moderated to ensure that inappropriate content is not displayed

Background

The background color should not be white.

- None of the pages on the site have a white background
- The color may be any non-white color the team chooses

Site Navigation

As a site visitor unfamiliar with the site
I want to navigate to various areas of the site in a uniform and predictable manner
So that I can find information I am interested in:

- Availability: The site navigation is present on all pages of the site.
- Uniformity: The site navigation appears identically on all pages that include it

Search

As a movie fan with specific knowledge of what I am looking for. I want a site feature that lets me search by keyword so that I can find the exact content I am interested in.

- Initial Search Text: Given the search box is rendered
  Then it has the words "Search Term" in it
  And the words are rendered in light gray
- Enter Search Term: Given the user clicks the search term box; When the mouse cursor is positioned inside the box
  Then the words "Search Term" go away and are replaced by whatever the user types
- Results are Returned: Given I enter a search term in the search box. When I click the Search button. Then links to relevant content are returned in a list.

Email Form

As a site owner I want an email form for visitors to use so that I do not expose my email address on the internet.

- Mandatory Subject: Given the subject is not filled in when the Submit button is clicked, then the user gets a message indicating that the subject is required.
- Email Format: Given the form is completely filled out when the Submit button is clicked, then each field from the email form is included in the resulting email sent to the recipient
- Valid Email Format: Given the user's email is not in standard email address format when the Submit button is clicked, then the user gets a message indicating the email must be in a valid format.

About Page

There shall be an About page on the site. This page is about the team that created the site and is an area to provide credits and a way for the team to sign its work.

- The page is part of the overall site navigation
- The name of team member appears on this page

- Include any accompanying information the team member would like to share.
- Twitter handle
- Email address
- Blog, company website, etc.
- The About Page must have a link to the Contact Page

Contact Page

The contact page provides a way for a site visitor to contact the site owner.

- The page is part of the overall site navigation
- Must include a way to contact the site owner electronically.
- Use the email address of the Product Owner for any email addresses
- Use the location of the training facility as the physical contact address

Website Wishlist

These requirements have been deemed by the Client as 'desirable' components of the site, and therefore should not be part of your MVP.

Page Header & Footer

Each page of the site contains a uniform header and footer, both with links to commonly accessed pages.

- The footer appears identically on all pages of the site.
- The footer links to the Home Page
- The footer links to the About Us
- The footer links to the Contact Page

Scrum Description

The About Page should include a description of the Scrum process used by the Team to develop the site.

- The page should link to Scrum.org
- The page should describe Scrum at a high level
- The page should explain how the Team used Scrum and how it affected the creation of the site
- The section of the page dedicated to this content should be visibly distinct and separate from the other content on the page

Custom Logo

The site has a custom logo on the front page that depicts the site's name and a picture of a movie reel.

- The logo must be custom-made in the classroom
- The logo may contain elements borrowed from other images
- The logo must appear on the front page
- The logo should fit with the overall aesthetic design of the site

404 Not Found