Project Specification: QA Cinemas

# Introduction

The purpose of this document is to outline the group project specification that you will be working on during the final weeks of training. This project will encapsulate concepts from your training modules, including:

* Agile & Project Management
* Databases & Cloud Fundamentals
* Programming Fundamentals
* Front-End Web Technologies
* Full-Stack Development Technologies
* Continuous Integration and Containerisation

# Objective

The overall objective of the project is:

**To create a full-stack web application for a cinema chain, 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 a client 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, as well as the ability to log in and book tickets.
* There are various features which the client has requested, some are essential while others are desirable.
* 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,** ideally between 3-6 members. Your trainer will assign these teams for you. Alongside the technical aspects of this project, this has been designed to view your ability to organise tasks within a team setting and manage 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.

Your trainer will brief you on how much time you have for this delivery. At the end of this time, your entire team is responsible for presenting your completed solution and project management to the cohort and trainers.

# Case Study

QA Cinemas is an industry-recognised cinema chain that has been in the cinema and film business for over 20 years after being founded in 2004. The cinemas specialize in both new releases and special showings of classics films from the 60’s until the 90’s and has seen large success in the Northwest of England. The business plan on branching out nationally within the next coming years, but they wish to ensure that their online presence has further investment prior to expansion; they would like their brand to be known and visited.

Currently, the online presence of QA Cinemas relies entirely on social media-driven pages that are purely for promotion and marketing. However, with the lack of dedicated social media team, their socials have been cast to the wayside and subsequently ignored for the last 7-8 months. Due to this, they have seen a downtick in interest, especially on screenings for the classic film showing they host.

Before QA Cinemas re-launch their social media strategy, they have decided that they wish to foray into the online booking world, with a custom website for their business to be developed showcasing who they are and what they do, their screenings and opening times, and of course, the ability to book tickets online.

QA Cinemas had a previous consultation with a business transformation group that suggested that a website for online booking was a key method of growth within region and has suggested the prioritisation of this project over all other business endeavours. This means that their other areas of expansion, such as the opening of a new café and indoor arcade, have paused.

The previous consultants also mentioned the need of DevOps within the infrastructure of this site; the ability to quickly automate and roll out new versions of a tested application for changes that need to be made. Whilst QA Cinemas don’t fully understand the technical aspects of this, they have had the benefits of automated builds and containers explained to them and are very keen to have this implemented alongside the site.

# 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 simple risk assessment 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 and front-end using Python, Flask, and web technologies such as HTML, CSS and JavaScript that is responsive and reactive.
* Database management system using MySQL or MongoDB deployed locally or using a cloud provider.
* The application should be built and tested via Jenkins, and subsequently containerised via a Docker application in lieu of deploying to the cloud.

**You should consider the concept of MVP (Minimum Viable Product) as you plan your project.**

**Ensure that you complete all the Client requirements before adding extra functionality that is not explicitly specified.**

# Constraints

The time constraints for this application will be discussed when this specification has been distributed to you.

The application must **strictly** adhere to the following technological constraints:

* **Version Control System:** Git
* **Source Code Management:** GitHub
* **Kanban Board:** Trello
* **Full-Stack Development Technologies:**
  + **Database Management System:** MySQL
  + **Back-End Programming Language:** Python
  + **API Development Platform:** Flask
  + **Front-End Development Framework:** HTML, CSS, JavaScript
* **Continuous Integration:** Jenkins
* **Containerization:** Docker

# Website Requirements

These requirements are regarded by the client as essential components of the QA Cinemas website; thus they should be part of your Minimum Viable Product (MVP).

**Home page**

The QA Cinemas site needs a home page:

* The home page needs to be well-designed and aesthetically pleasing/accessible. Visitors should be able to understand the purpose of the site and QA Cinemas as a brand as soon as they visit the home page.
* The home page should be the default for the entire site. From the home page, site users should be able to navigate to other areas of the site.

**Login Page**

The QA Cinemas site should allow users to sign up and log into an account.

* The login page should be navigable from the home page at a minimum, but ideally from every page.
* It should be accessible via the top right-hand side of the site’s pages.
* Upon clicking to the login page, users should either be able to login via a username and password on an already present account or sign up with a new account via an email and password.
  + The password should have basic security requirements, such as a special character, upper- and lower-case letters, and numbers.

**Listings Gallery**

The site should include a gallery of movie posters for the movies currently showing:

* The gallery is part of the overall site navigation.
* It should feature at least 4 different movie images – ideally, 2 older releases and 2 newer releases - with each image appearing on its own page.
* Each image is to have supporting text including its 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 a gallery of movie posters for forthcoming movies:

* The gallery is part of the overall site navigation.
* It should feature at least 4 brand-new releases as movie images, with each image appearing on its own page.
* Each image is to have supporting text including its title, actors, director and showing times.

**Ticket Bookings**

The site should include a page dedicated to booking tickets:

* The page is part of the overall site navigation.
* Bookings should include the following information when created:
  + Movie title, screening date and time
  + Number of seats
  + Name of booker and the Ticket type (Adult or Child)
  + Concession

**About Page**

There should be an About page on the site dedicated to who QA Cinemas are, as well as the people who made the website!

* The page is part of the overall site navigation.
* The name of team members should appear on this page, as well as a little paragraph on each member.
* It should also contain generic contact information and a small paragraph on who QA Cinemas are – feel free to use information in this brief as a starter.

**General Design Asks - Background**

* The background colour should not be white.
* None of the pages on the site have a white background.
* The colour may be any non-white colour the team chooses.

**General Design Asks - Site Navigation**

* Users should be able to navigate to various areas of the site in a uniform and predictable manner to find information I am interested in.
* The site navigation is to be present on all pages of the site and should be uniform across all pages that include it.

# Desirable Functionality

These requirements are regarded by the client as desirable components of the QA Cinemas website at this stage of development; if it can be included in the final product, this would be a great bonus. However, none of the functionality or pages below should be prioritised over the essential MVP requirements.

***The below tasks should be considered as extensions once the above has been implemented.***

**Classifications**

The site should have a page dedicated to the film classification system:

* The page is part of the overall site navigation.
* The page should answer the following questions at a minimum:
  + What are the standard film classifications and their appropriate icons?
  + What are the rules and conditions relating to each classification?
* The page can also include any other relevant facts to the film classification system.
* The page may link out to external resources with more detail on individual items.

**Screens**

The site is to have a page dedicated to the screens in the cinema:

* The page should include an image of the seating plan and décor of a standard screen.
* It should also include an image of the seating plan and décor of the deluxe screen.

**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.

**Cinema Services**

The site should include information about what the cinema offers for customers, including food/drinks and other amenities.

* The page is part of the overall site navigation.
* Should have basic prices for popcorn, hotdogs, fizzy drinks – you can make assumptions on what food and drinks are served here.
* Be sure to feature the indoor restaurant that is being built soon - QA Café – as well as the indoor arcade, QA-cade!

**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 and films that they have seen.
* Users’ posts should be moderated to ensure that inappropriate content is not displayed.

**Search**

* The site should feature a search bar that lets users search by keyword.
* Links to relevant content are returned in a list from the search term(s).

**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, and links to the Home Page, About Us page, and the Contact 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.

# Deliverable

The final deliverable for this project is the completed application with full documentation around utilisation of supporting tools. This will require a fully functioning 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 ~30-minute presentation of work, 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 utilize the Feature-Branch Model, and to push a working copy of your code to the main branch regularly. It is recommended to use the feature-<name> naming strategy for your feature branches.

All supporting documentation for your project should be included in your remote repository at the close of business on the day of presenting your project.