

Fitness Group Project

Homework Week 2:

A high-level report of Fitly, our group coding project



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Background: what are we building?

We are building Fitly, a new and innovative workout video generator that ensures that anyone, regardless of fitness level, experience or confidence, can achieve their fitness goals. Fitly is a web-based application that recommends a Youtube workout video for the user based on the user's exercise goals (strength, endurance or muscle growth), the muscle group that they want to target and whether they want to do a workout at home or at the gym.

Fitly offers the user a repository of over 200 of the top-recommended video workouts hosted on YouTube to date, an opportunity to try new workouts and a chance to save their workouts in a personal 'workout diary'.

What does it do and what kind of problem does it solve?

What does it do?

The Fitly web-based application generates a workout video for the user. The video that is recommended to the user is based on the user's preferences to select from two menu-style dropdowns which pose two questions:

1. What is your fitness goal (strength, endurance or muscle growth)?
2. What is your preferred target muscle group (abs, arms, back, chest, legs or shoulders) that you want to workout?

Once the user selects their answers to the questions above, a relevant video will be generated based on their selections. The user is then able to play the video from the web app as the video will be embedded in the application. If the user doesn't like the video that is initially suggested to them, the system will have a pop-up that a user can click to re-generate another video, whilst maintaining the same workout criteria that the user previously selected.

If the user is logged in, they will be offered additional functionality to 'like' and 'dislike' the videos that are recommended to them. If a video is liked, the video will be stored in the user's 'workout diary' under favourites. If a video is disliked, the system will remember this and won't re-suggest the video to that particular user. Finally, the system will have a 'random surprise' workout video option, to account for the users who want a surprise recommendation from any of the workout categories.

What problem does it solve?

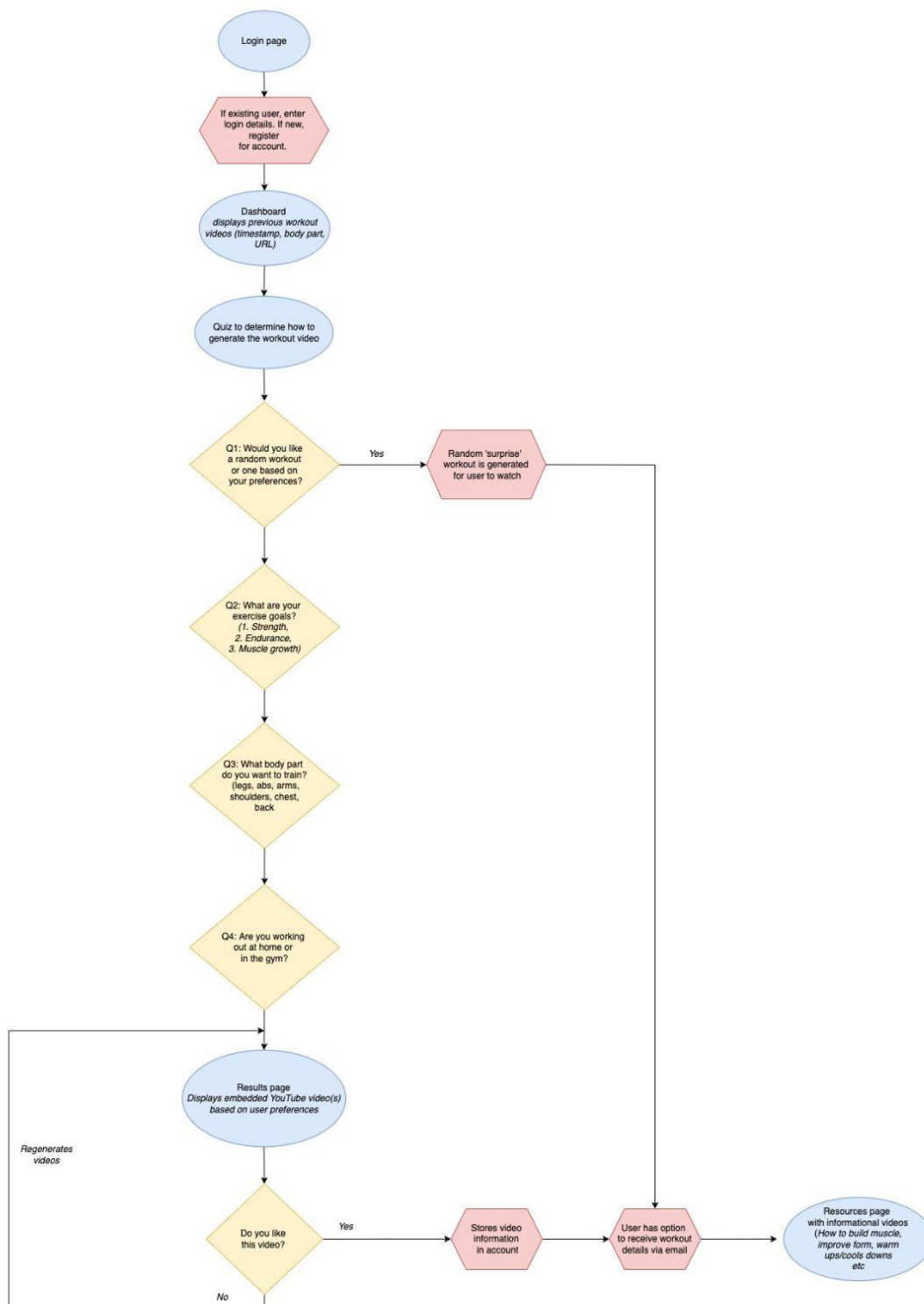
In a society overwhelmed by the sheer magnitude of fitness-based content, Fitly offers fitness-conscious users a simple solution - the ability to pinpoint their exact workout specifications for an innovative and completely personalisable workout experience. Fitly solves the "how do I get started" conundrum that often occurs when people opt to improve their health and wellness through exercise/gym.

Example user scenario

"I am a beginner with no experience in exercises looking to strength train. Today I want to work on glutes and hamstrings. I am clueless with exercise terminology and have no idea on the correct form, so aim to use Fitly to find a workout to complete."

The Fitly workout generator will then suggest video workouts based on the body part they want to target and whether they have access to gym equipment or not. By generating a video, this gives the user the chance to watch an expert doing the exercises correctly and they can learn more about different exercises to target that muscle group.

Initial user flow diagram:



What are the key features of our system?

The key features of our system include both key functional system requirements and

non-functional requirements. Both are equally important to ensure Fitly runs efficiently and is accessible for all users.

Functional system requirements

- The system must present the user with an easy, intuitive and modern user interface
- The user will be given the option to create an account, log in or progress as a guest user
- The system must present the user with an option to select their fitness goal (strength, endurance or muscle growth)
- The system must present the user with an option to select their preferred muscle group to workout (abs, arms, back, chest, legs or shoulders)
- The system must generate a recommended workout video from Youtube based on the two user inputs (fitness goal and muscle group)
- The system must present an interactive preview of the recommended workout video that is embedded in the web application and be able to be played by the user
- If the user does not want to complete the first workout that is generated to them, the system must be equipped to re-suggest another workout video to the user
- The system will allow a user to select a completely random 'surprise' workout video from any of the categories if they are unsure which workout to choose
- The user will be able to 'like'/'dislike' a workout based on how they found the workout video
- If a user likes a video, has an account and is logged in, this video will be added to a playlist of 'liked videos' so the user can view their favourites
- If a user dislikes a video, the system will not re-suggest this video to the user

Non-functional requirements

Accessibility

- The system will use large, clear text for visually-impaired users
- The system will use best practice colours for users with visual impairments or

colour vision deficiencies, for instance using [these guidelines](#)

- The system will incorporate semantic HTML for screen readers

Documentation

- The code should be well-documented to ensure that any future development of the system can be achieved efficiently

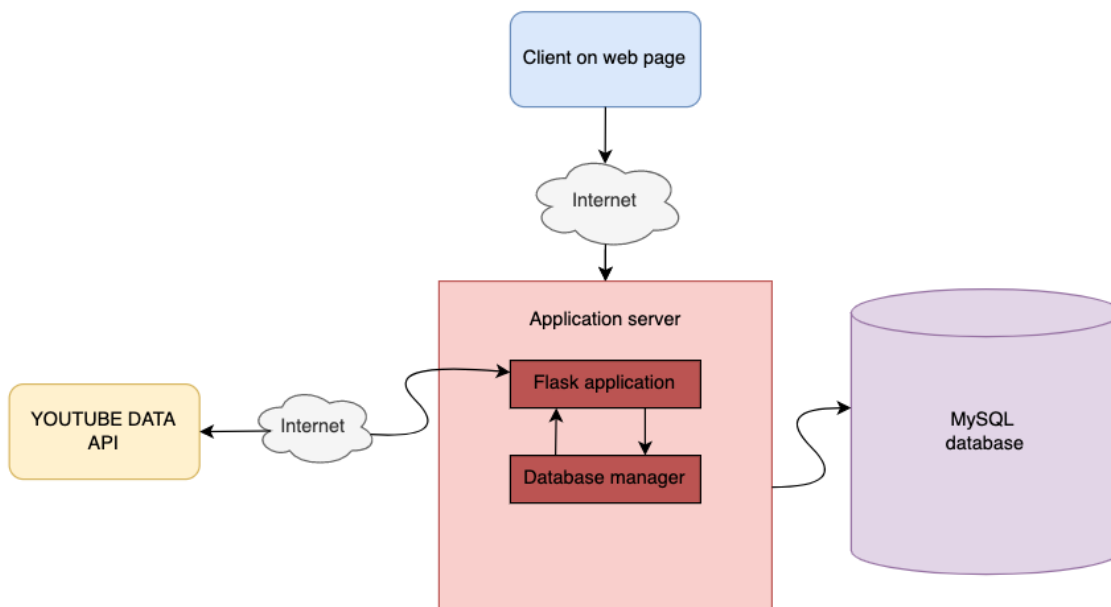
Testability

- The system should be extensively unit-tested to ensure output code is high-quality
- The system is able to handle unexpected errors

Portability

- The system will be responsive based on the user's device, including mobile and laptop devices

Sample architecture system diagram



Team approach to project work

The team decided to follow Agile Methodology principles.

Sprint planning

We held an initial kick-off sprint planning meeting in which we discussed the plan going forward, assigned initial tasks, decided on the project name, main purpose and objectives, features of the website and its functionality. The team also assigned a Scrum Master. We drew up the main user stories; based on them, going forward we assign coding tasks between the members.

Scrums

Due to the short project timescales, we decided to hold a scrum one every two days. This would include a mix of both video meetings via Zoom and written updates on Slack to ensure the entire team has visibility of the progress we have made so far.

Scrum Master

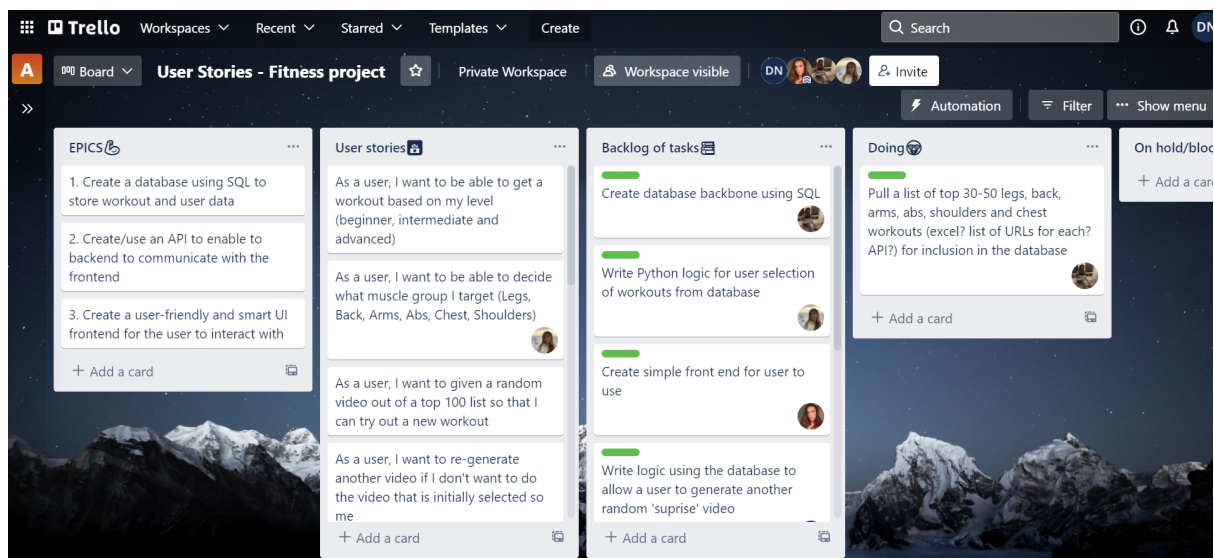
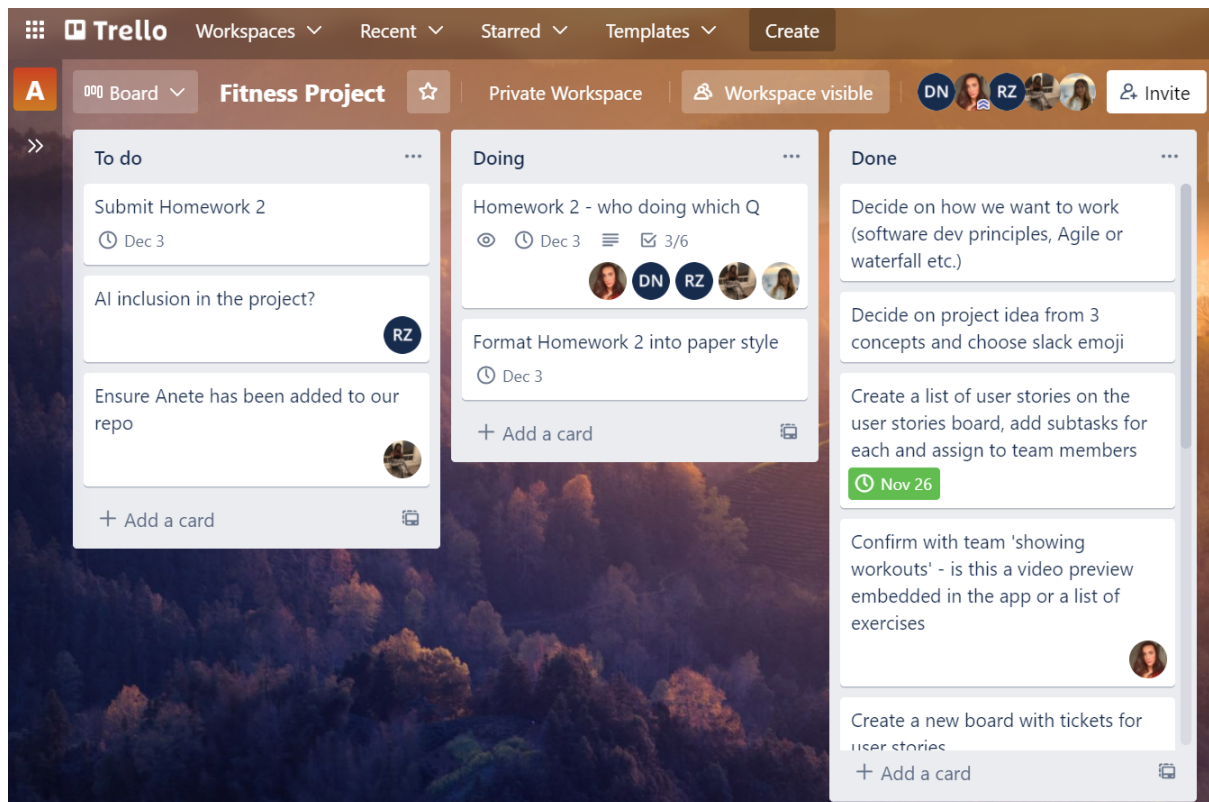
We nominated Alexandra Cook as Scrum Master (in addition to her usual roles in the team) to oversee the running of the project and organise the team to meet deadlines.

Sprint review meeting

Organised for post-project completion.

Code management

To manage the code, we use Trello to track our tasks (picture below), a shared Google Drive to manage the project documentation and a shared GitHub repository where each member has their own branch on which they will work on the coding files (independently or collaboratively, depending on the task).



To distribute the workload, the scrum master initiated a SWOT analysis, which each member completed; as a result, tasks (both coding and project management related) will be assigned based on our strengths/preferences and we will collaborate on the coding tasks which are more difficult/require more than one person's expertise.

Testing the system

We aim to use unit testing, system testing and user acceptance testing.