T3A2-A
Pair Programmer

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Desc, Purpose, Target Audience & Tech Stack

An online **educational tool** that helps facilitate the random selection of participants into **workspaces** of pairs and groups

Providing participants and project contributors with **brainstorming utilities** to assist in the generation, conceptualization and development of ideas.

Pair Programmer also aims to assist in the development of student programmers, by providing group coding challenges to workspace participants.

Pair Programmer would be best utilised by educational institutes and organisations in the Technology industry including (but not limited to) Universities, Coding Bootcamps, Hackathon Organisers and Programming Teachers / Educators.

- ReactJS
- React Materialize - (maybe)
- React Beautiful Drag & Drop
- Node.js
- Express
- Passport.js
- MongoDB
- Mongoose

Func & Features

Students / Participants

User Onboarding - Initially signup via the email invitation received from their Educator.

- Complete the account creation process (via email link).

Workspaces Participant/Student users can enter the Workspace/s they've been assigned to. Once inside a Workspace.

- Communication via group chat.
- (Kanban Board) Create cards on the workspace board and reorganise the cards to plan project, challenge, etc

Educators / Teachers / Organisers

User Onboarding - Initially be required to create an account for the Institution / Organisation that they represent, as well as their own individual user account and their students.

- Create Institution / Organisation locations or campuses to accommodate for organisations that have multiple locations/campuses.
- Create other Organisers/Educators and Participants/Students user accounts, and send them an email invitation.
- Tag Organisers/Educators and Participants/Students as belonging to one or more locations/campuses.
- Tag Participants/Students as belonging to a particular 'Course' or 'Hackathon' name.

Func & Features

Institution / Organisation Settings

- Manage locations/campuses.
- Manage Course Names and Hackathon Events (with fixed start and end dates).
- Manage the assignment of individual Organisers/Educators to specific (or all) locations/campuses.

Manage Users

- Create user accounts and send user invitations.
- Manage the assignment of individual Organisers/Educators to specific (or all) locations/campuses.
- Manage the assignment of Participant/Student to specific (or all) locations/campuses.

Event Templates Organisers/Educators will be able to create Events 'templates'. An event/template can be titled as a 'Coding Challenge', 'Hackathon' or 'Project' and given a description and/or expected outcome or requirements. Events are created as reusable templates and can be used to generate future Workspaces.

- Create a new Event Template
- Edit an existing Event Template
- Describe an Event and outline expected outcomes or requirements
- Provide time constraints, project due dates etc ...
- Set a default number of participants/students per Event Workspace
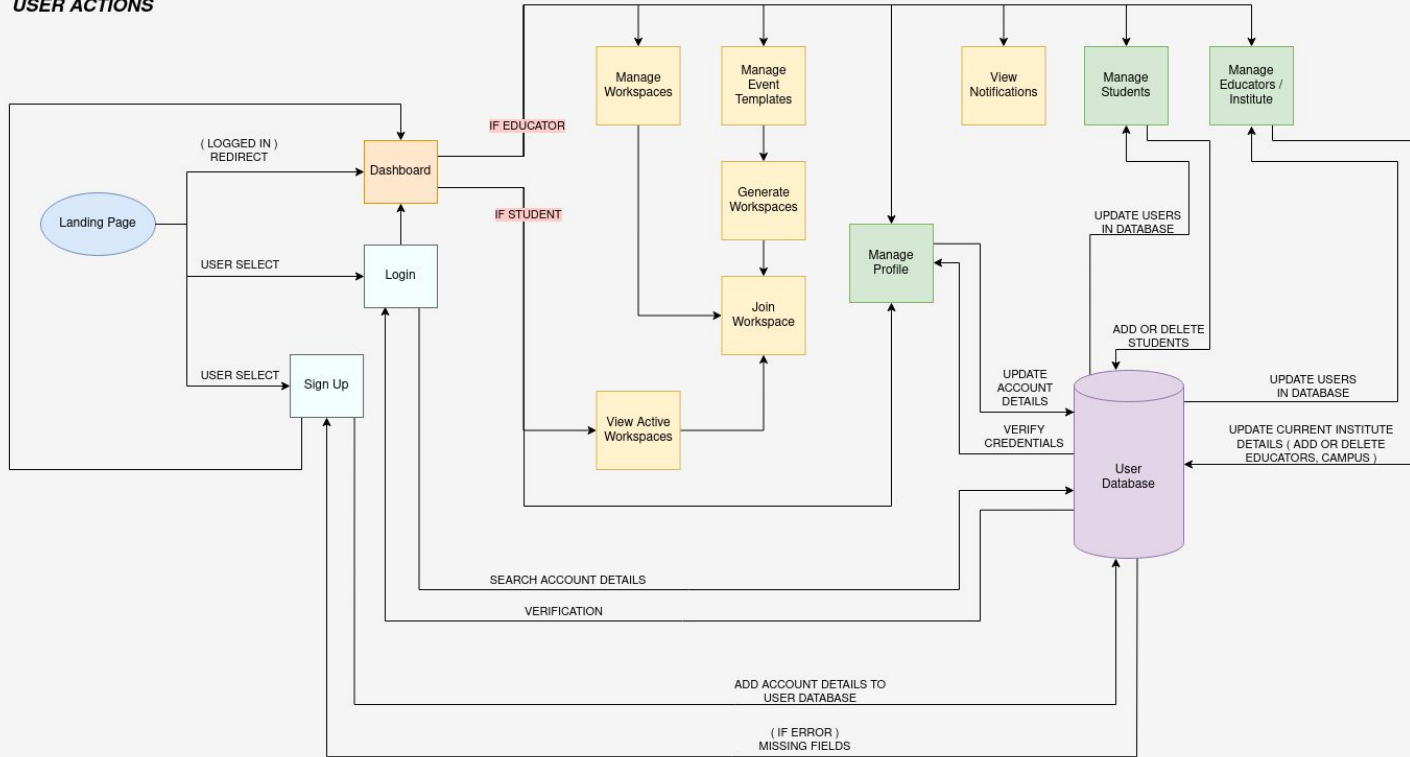- Generate / Create Workspaces

Workspaces Once an 'Event' is selected, an Organiser/Educator will be able to choose how many Participants/Students will be randomly selected and assigned to each Workspace, therefore also determining the number of Workspaces generated for each particular Event.

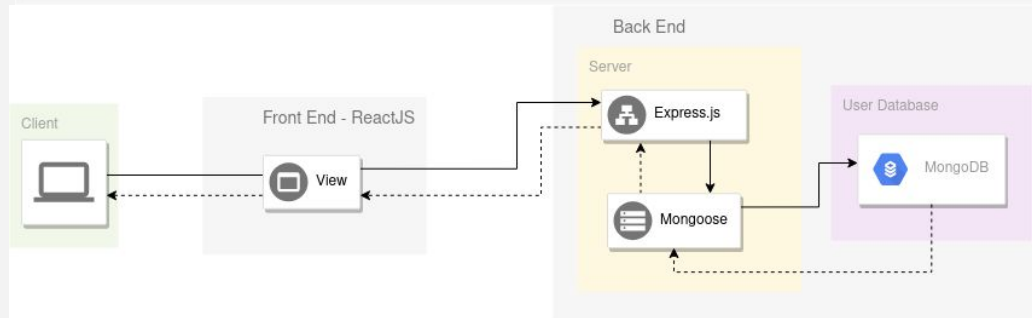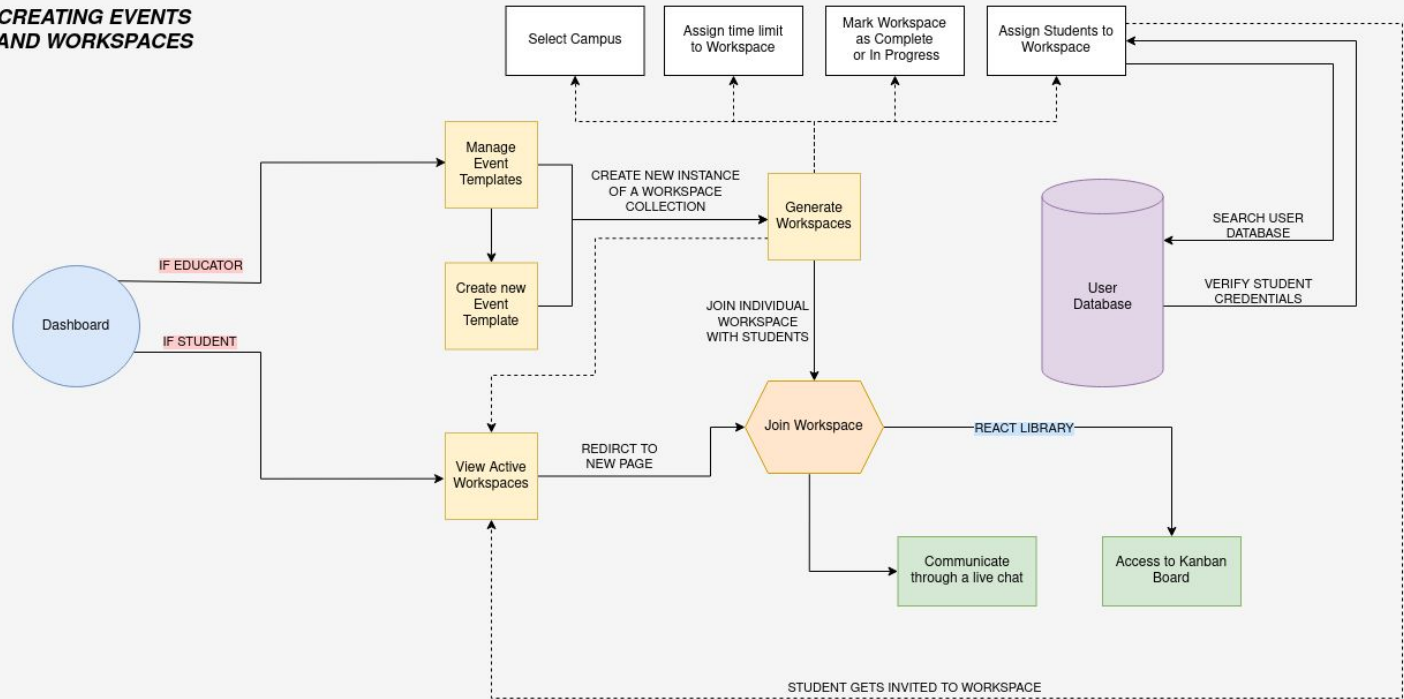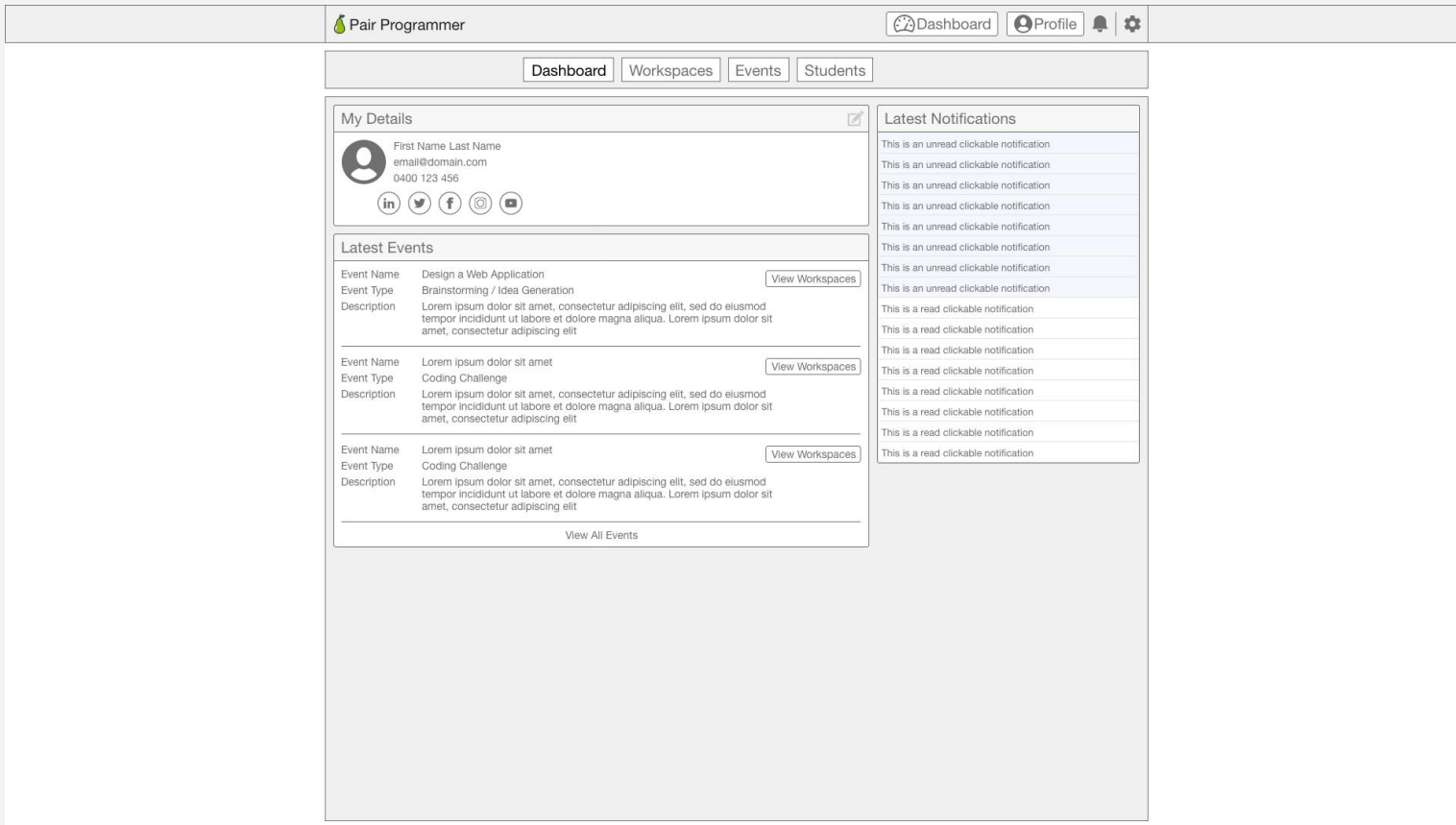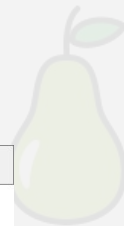- Generate / Create Workspaces
- View / Enter Workspaces

DFD

DFD & AAD

CREATING EVENTS AND WORKSPACES

Select Campus

Assign time limit to Workspace

Mark Workspace as Complete or In Progress

Assign Students to Workspace

Manage Event Templates

CREATE NEW INSTANCE OF A WORKSPACE COLLECTION

Generate Workspaces

SEARCH USER DATABASE

User Database

Dashboard

IF EDUCATOR

IF STUDENT

Create new Event Template

JOIN INDIVIDUAL WORKSPACE WITH STUDENTS

VERIFY STUDENT CREDENTIALS

View Active Workspaces

REDIRCT TO NEW PAGE

Join Workspace

REACT LIBRARY

Communicate through a live chat

Access to Kanban Board

STUDENT GETS INVITED TO WORKSPACE

Back End

Server

Client

Front End - ReactJS

Express.js

User Database

View

MongoDB

Mongoose

Wireframes

Wireframes

Wireframes

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Group Name: Group 1 [edit]   Due In: 1d : 8h : 18m [Mark As Complete]   [Exit]

Event Name	Design a Web Application ✎
Event Type	Brainstorming / Idea Generation
Description	Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Outcomes / Requirements	- List Item - List Item - List Item
Created By	👤 FirstName LastName
Due Date	Wednesday 9 December 2020 at 10:00pm

👤 FirstName LastName
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

👤 FirstName LastName

Chat with your group ...

[Send]

Ideas / Proposals

In Progress

Complete

Wireframes

🍐 Pair Programmer | 🎛Dashboard 👤Profile 🔔 ⚙

Dashboard | Workspaces | **Events** | Students

New Event Template

Page Sorting / Filters

Page Sorting / Filters

Event Name   Design a Web Application
Event Type   Brainstorming / Idea Generation
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Outcomes   - List Item
             - List Item
             - List Item
Created By   👤 FirstName LastName

Create Workspaces

Event Name   Design a Web Application
Event Type   Brainstorming / Idea Generation
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Outcomes /   - List Item
Requirements - List Item
             - List Item
Created By   👤 FirstName LastName

Create Workspaces

Event Name   Design a Web Application
Event Type   Brainstorming / Idea Generation
Description Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.
Outcomes   - List Item
             - List Item
             - List Item
Created By   👤 FirstName LastName

Create Workspaces

Create Event Template

Event Name

Event Type

Description

Outcomes /
Requirements   X

                                        X

                                        +

Cancel   Create Event

Wireframes

Wireframes

Wireframes

Wireframes

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Dashboard | 👤 Profile | 🔔 | ⚙️

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Edit My Profile

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email@domain.com
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About Me
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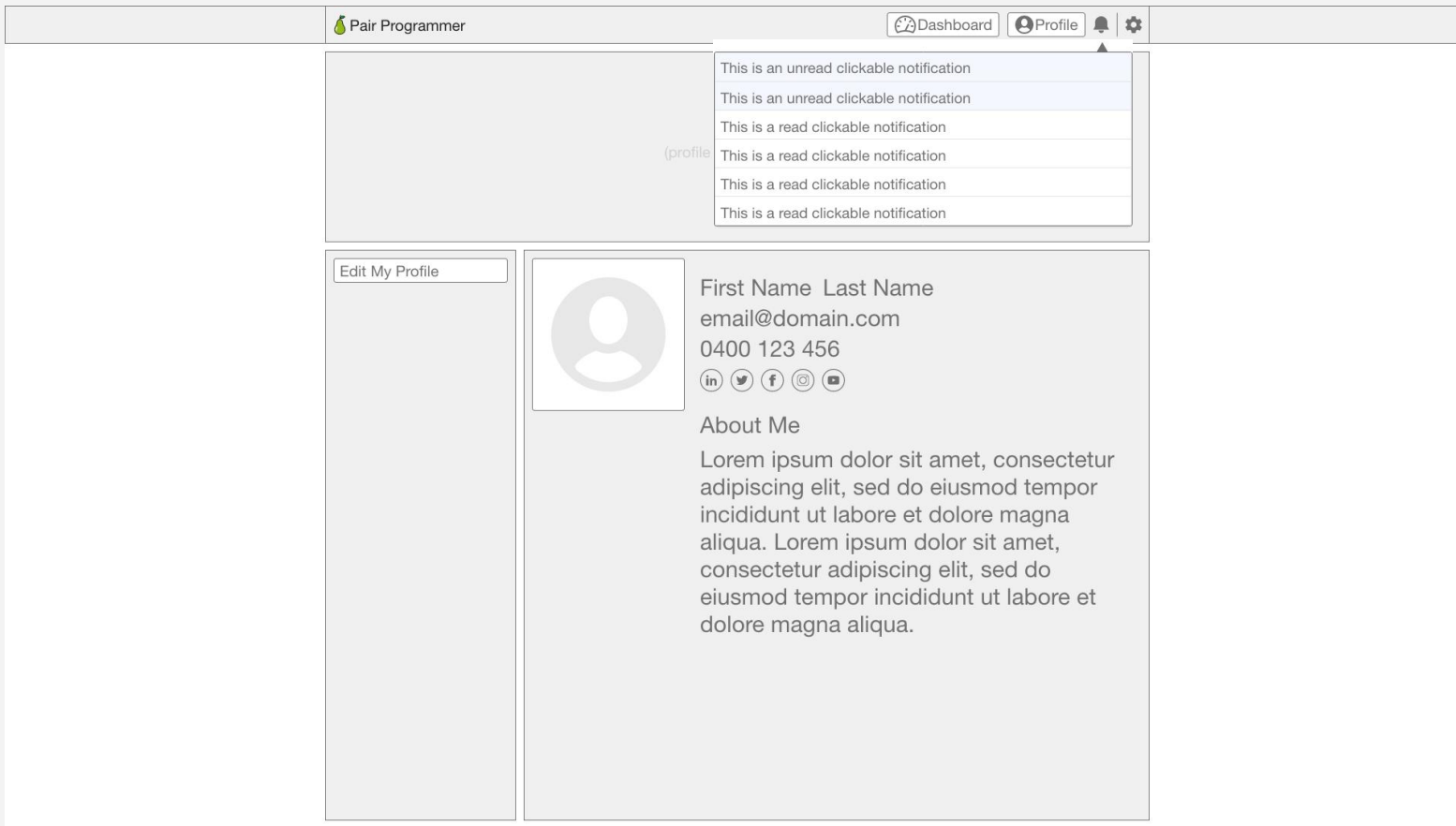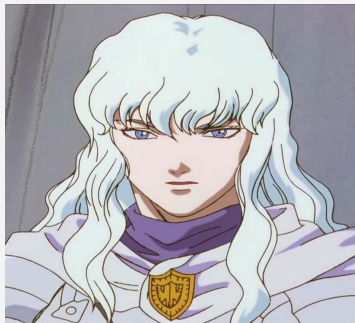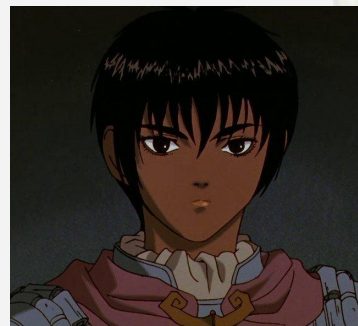
User Stories

Guts is a young man in his 20s who spends most of his time playing video games, and has no real motivation to study by myself, he wants to ...

- Have an educator pair him up with someone with greater skill so that he may learn from them
- Be given coding challenges and projects that he must complete in a time frame
- Work with someone who is fun and engaging, and can explain concepts that I'm not comfortable with easily, enabling me to understand the content better

Griffith was recently employed full-time in the same industry for over 15 years and looking for a quick career change, he wants to ...

- Have a lot of collaboration in an environment similar to some tech companies in the real world
- Work on coding projects and have the ability to plan that days structure on a kanban board
- Be able to use a Kanban style board because I find it easier to work on something when I can clearly write down each step

Casca is a mother of two small children who works part-time. She is very independent and prefers working by herself. With this app she wants to ...

- Have the option to work on coding challenges by herself, or with a partner of her choosing
- Communicate with her educators to receive assistance

User Stories

Ryan has recently completed a University degree, yet hasn't been able to find work in her field. He is interested in a coding career, and with this app wants to ...

- Be able to work in a comfortable and quiet environment that enables her to work proactively
- Work with another student on challenges, exercises and projects, who is more skilled than her so that she may learn first hand from someone else
- Be able to communicate with the Educators and ask for assistance

Lrac is an Educator at an online University in the software development sector, he is very lenient in allowing his students to decide who they want to work with on coding challenges. With this app he wants to...

- Allow students to decide if they want to work by themselves or pair up with a friend
- Allow students to reach out to the educators if they need assistance
- Manage his Universities' campuses, teachers and students

Bez is an Educator at an online Coding Bootcamp, who prefers to delegate students into pairs when working on coding challenges. With this app he wants to ...

- Be able to manage his students into pairs or groups
- Monitor each group of students in their respective workspace and give assistance if needed
- Add each of his students to his institute

TY 🙂