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
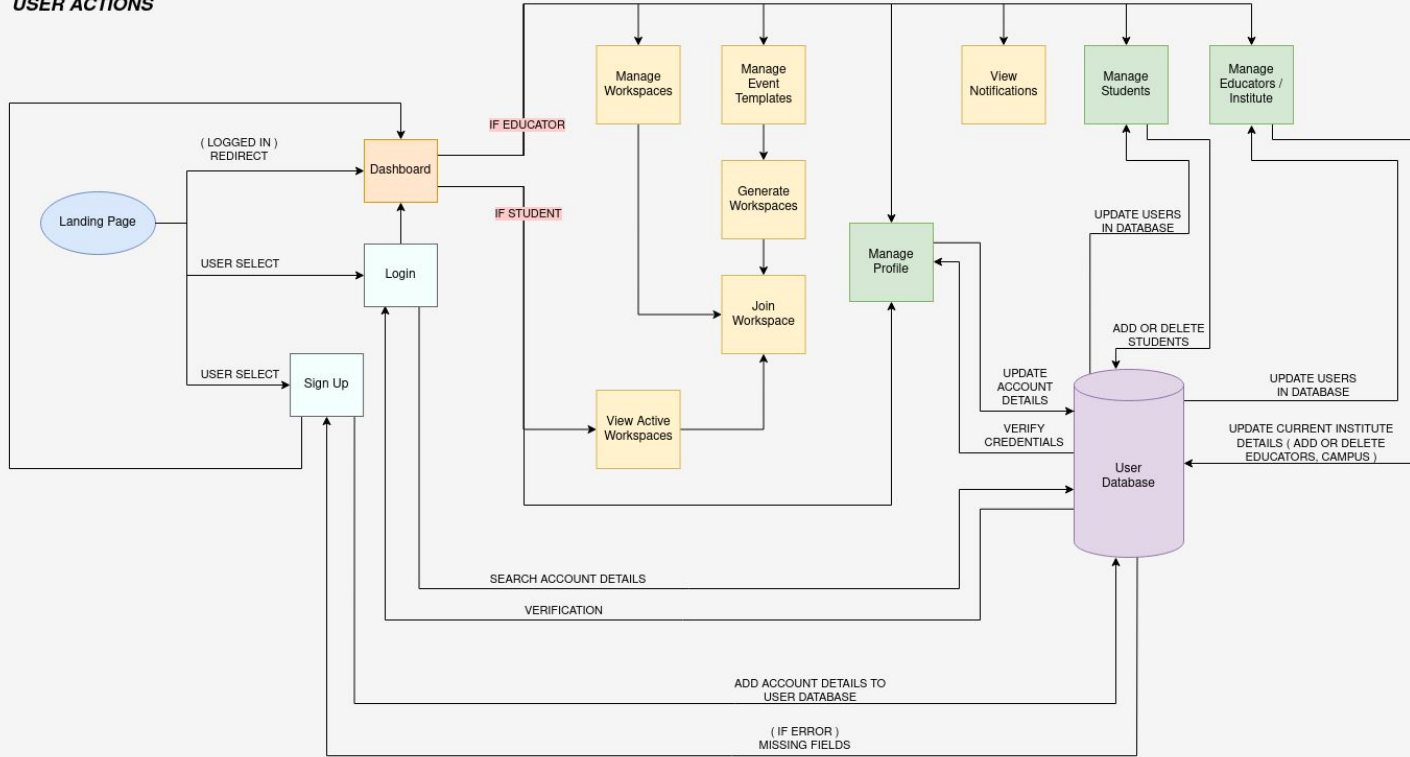- Generate / Create Workspaces

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.

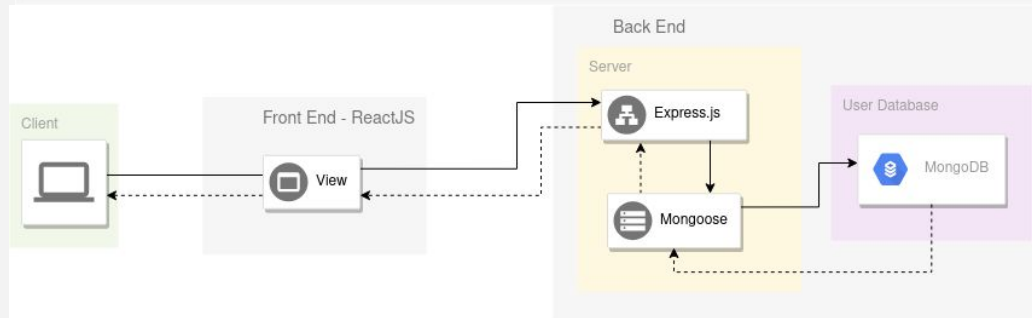- Generate / Create Workspaces
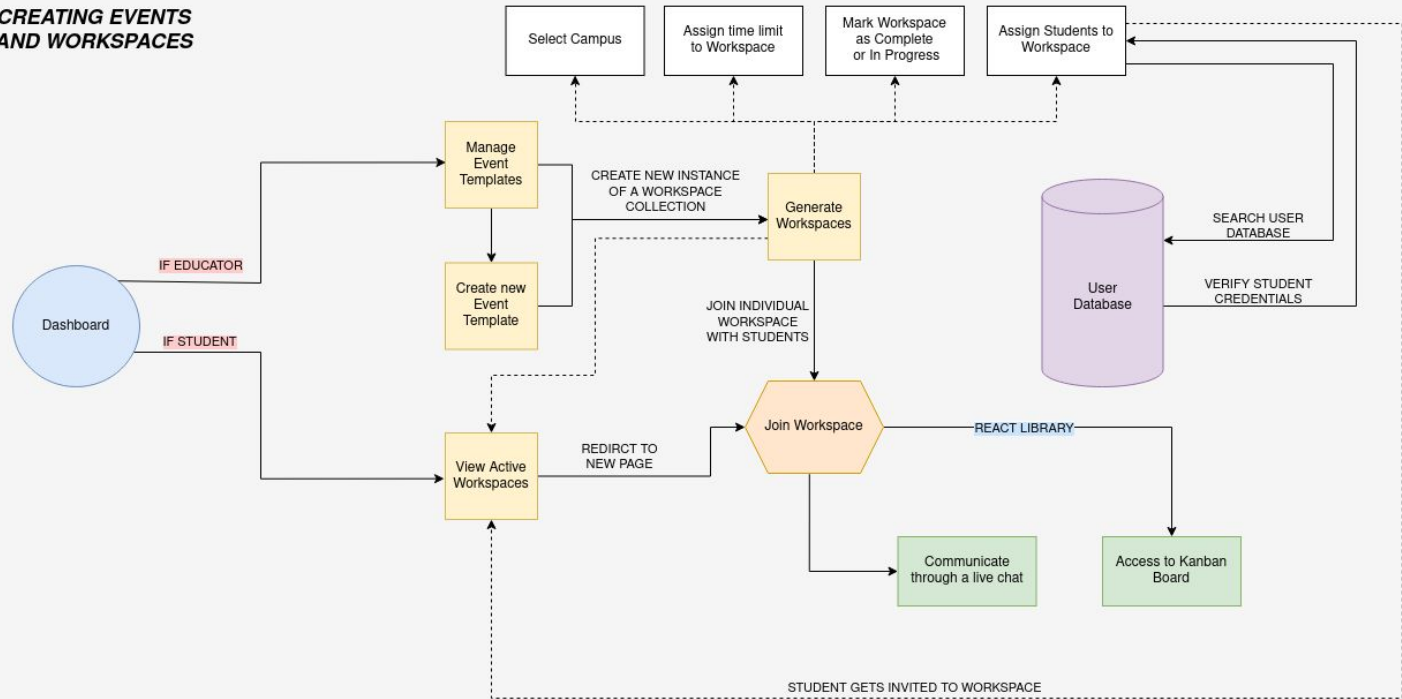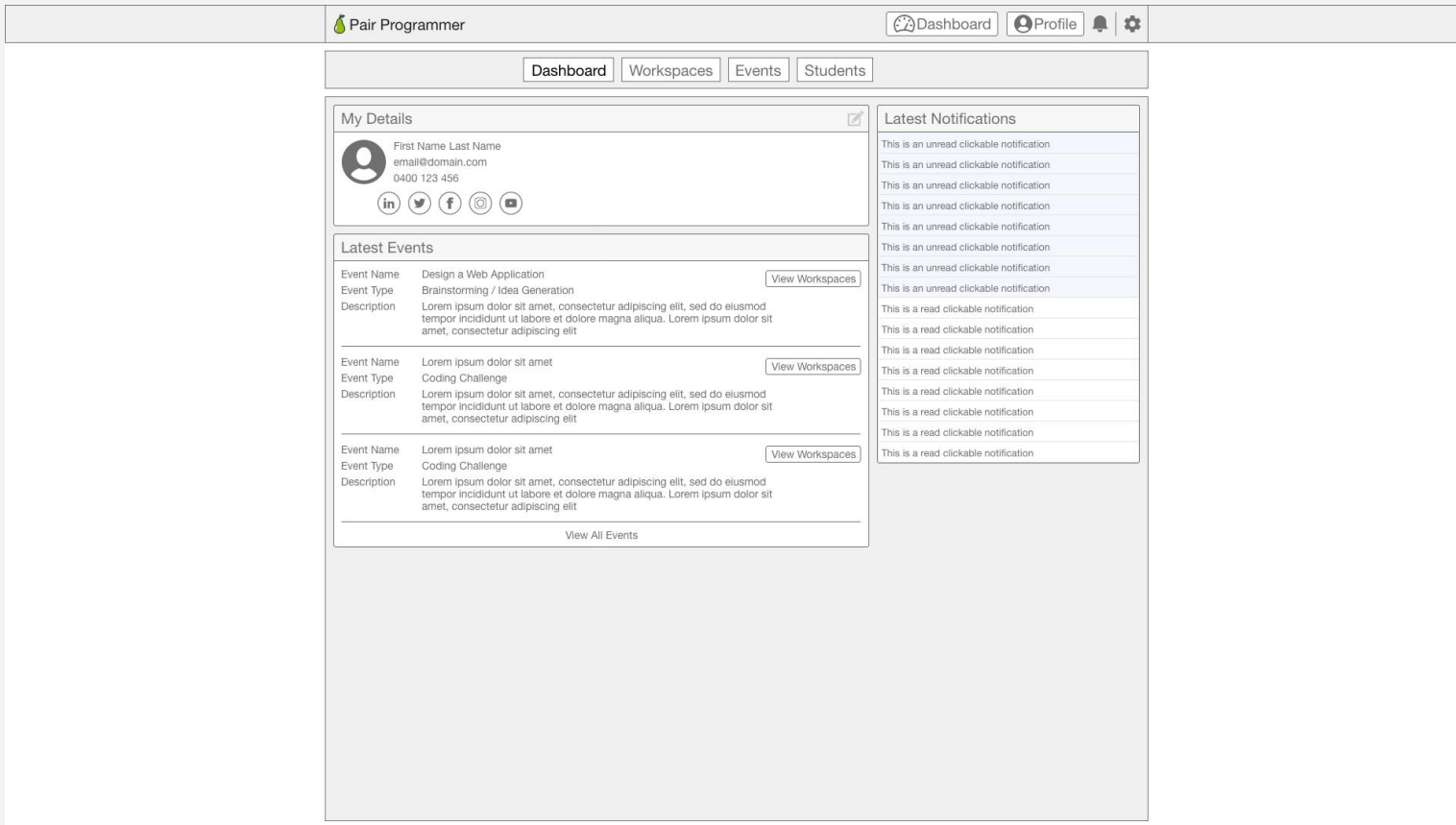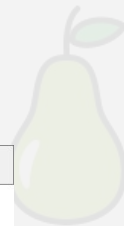- View / Enter Workspaces

DFD

USER ACTIONS

Landing Page → (LOGGED IN) REDIRECT → Dashboard

Landing Page → USER SELECT → Login

Landing Page → USER SELECT → Sign Up

Dashboard → IF EDUCATOR

Dashboard → IF STUDENT

Manage Workspaces

Manage Event Templates → Generate Workspaces → Join Workspace

View Notifications

Manage Students

Manage Educators / Institute

Manage Profile

View Active Workspaces

User Database

UPDATE USERS IN DATABASE

ADD OR DELETE STUDENTS

UPDATE ACCOUNT DETAILS

VERIFY CREDENTIALS

UPDATE USERS IN DATABASE

UPDATE CURRENT INSTITUTE DETAILS (ADD OR DELETE EDUCATORS, CAMPUS)

SEARCH ACCOUNT DETAILS

VERIFICATION

ADD ACCOUNT DETAILS TO USER DATABASE

(IF ERROR) MISSING FIELDS

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

VERIFY STUDENT CREDENTIALS

Dashboard

IF EDUCATOR

Create new Event Template

JOIN INDIVIDUAL WORKSPACE WITH STUDENTS

IF STUDENT

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

Express.js

User Database

Client

Front End - ReactJS

View

Mongoose

MongoDB

Wireframes

Wireframes

Wireframes

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 / Requirements   - 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
  - 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

🍐 Pair Programmer   [🎛 Dashboard] [👤 Profile] 🔔 | ⚙️

| Dashboard | Workspaces | Events | **Students** |

Create New Student

Page Sorting / Filters
Page Sorting / Filters

Student cards (repeated grid):

First Name Last Name
email@domain.com
0400 123 456
Campus   Melbourne
in 🐦 f ⊙ ▶

Add Student

Add Student Photo ID

First Name   [_____]

Last Name   [_____]

Email Address   [_____]

Contact Number   [_____]

Campus   [_____] [X]

           [_____] [X]

           [+]

[Cancel]   [Add Student]

Wireframes

🍐 Pair Programmer   [🎛️ Dashboard] [👤 Profile] 🔔 | ⚙️

| Institute Settings | Educators |

Institute Details

Institute Name	Coder Academy	✏️
Email Address	email@domain.com	
Contact Number	1800 123 456	
Social Channels	(in) (🐦) (f) (ⓘ) (▶️)	

Campus Locations   [New Campus]

Location Name	Melbourne		✏️ 🗑️
Educators	👤 FirstName LastName	👤 FirstName LastName	
	👤 FirstName LastName	👤 FirstName LastName	

Location Name	Sydney		✏️ 🗑️
Educators	👤 FirstName LastName	👤 FirstName LastName	
	👤 FirstName LastName	👤 FirstName LastName	

Location Name	Brisbane		✏️ 🗑️
Educators	👤 FirstName LastName	👤 FirstName LastName	
	👤 FirstName LastName	👤 FirstName LastName	

Add Location

Location Name	[_____]
Email Address	[_____]
Contact Number	[_____]
Assign Educators	[_____] [x]
	[_____] [x]
	[+]

[Cancel]   [Add Location]

Wireframes

Institute Settings | Educators

Create New Educator

Page Sorting / Filters

Page Sorting / Filters

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

First Name Last Name
email@domain.com
0400 123 456

Campus   Melbourne
          Sydney
          Brisbane

Add Educator

Add Educator Photo ID

First Name

Last Name

Email Address
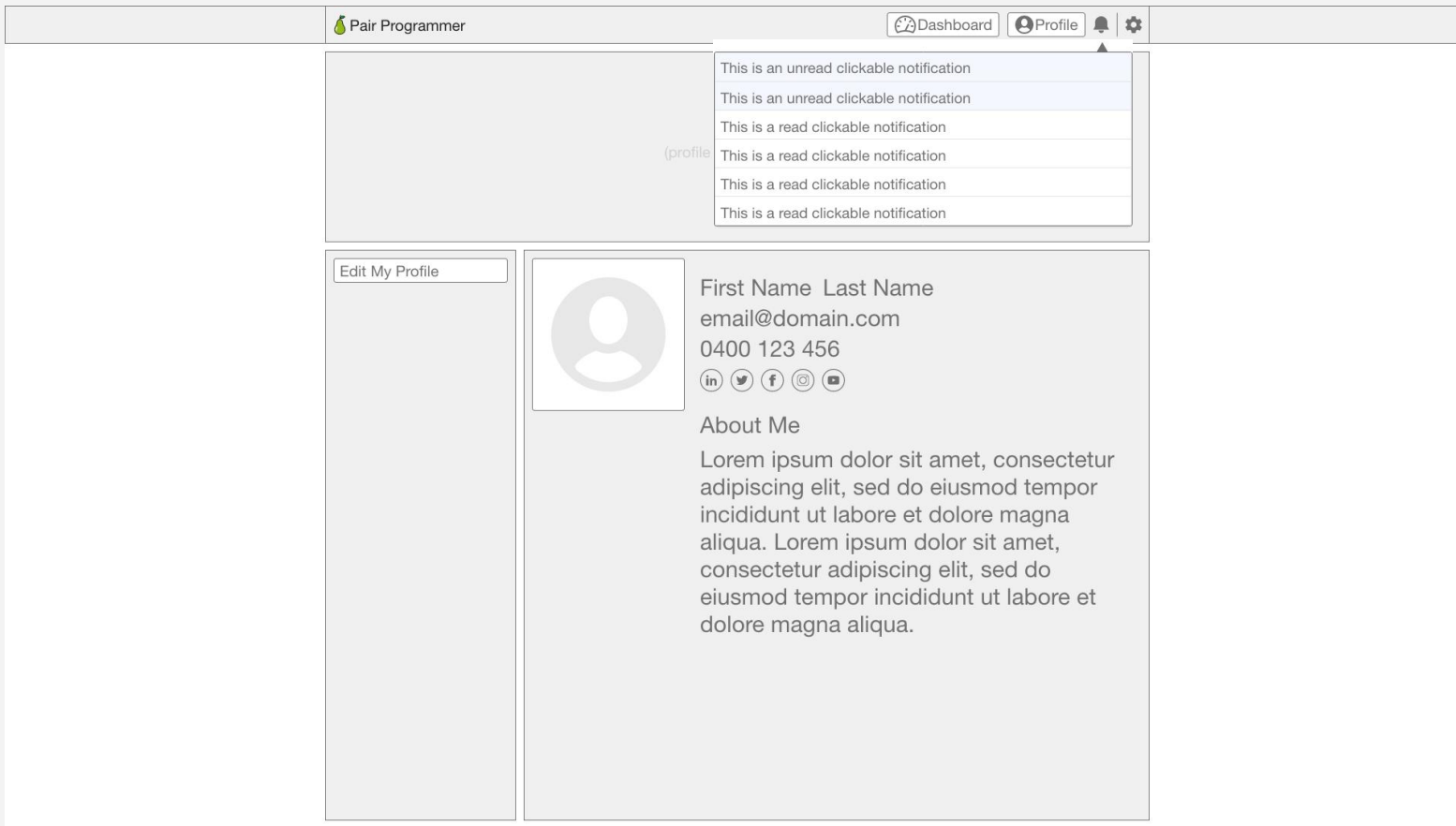
Contact Number

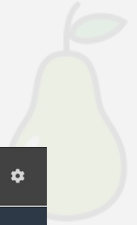Campus   X

                    X

                    +

Cancel   Add Educator

Wireframes

🍐 Pair Programmer

This is an unread clickable notification

This is an unread clickable notification

This is a read clickable notification

This is a read clickable notification

This is a read clickable notification

This is a read clickable notification

(profile

Edit My Profile

First Name Last Name
email@domain.com
0400 123 456

in 🐦 f 📷 ▶

About Me

Lorem ipsum dolor sit amet, consectetur
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incididunt ut labore et dolore magna
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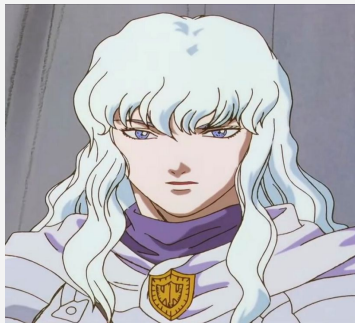eiusmod tempor incididunt ut labore et
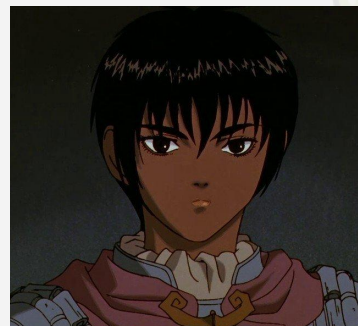dolore magna aliqua.

Wireframes

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 🙂