



Your one-stop platform for all your rental needs

Chan Ming Han
Crystal Cheong
Ng Mu Rong
Cheong Chi Hian
Ang Jun Koon



Meet the Team



Ming Han

Backend Developer



Mu Rong

Database Developer



Crystal

Frontend Developer



Chi Hian

Test Developer



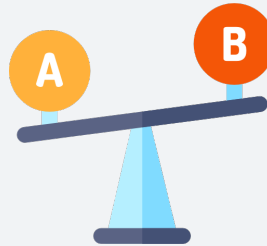
Jun Koon

Business Development

Problem



Difficulty contacting
renters and agents



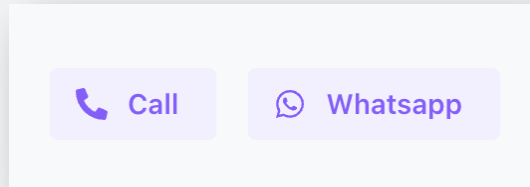
Inability to compare between
different rental platforms



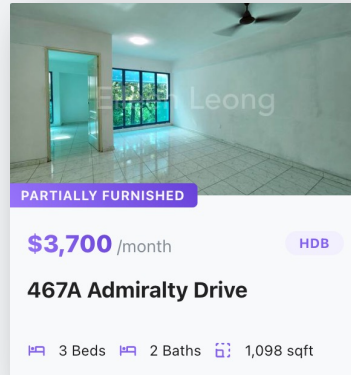
Lack of comprehensive
info on neighbourhoods

These are the main problems rentees/buyers currently face that we aim to solve through our web app

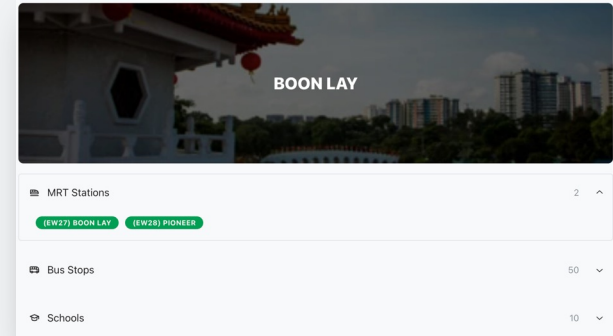
Our Solution



Allow users to **call/WhatsApp** agents and renters at the click of a button



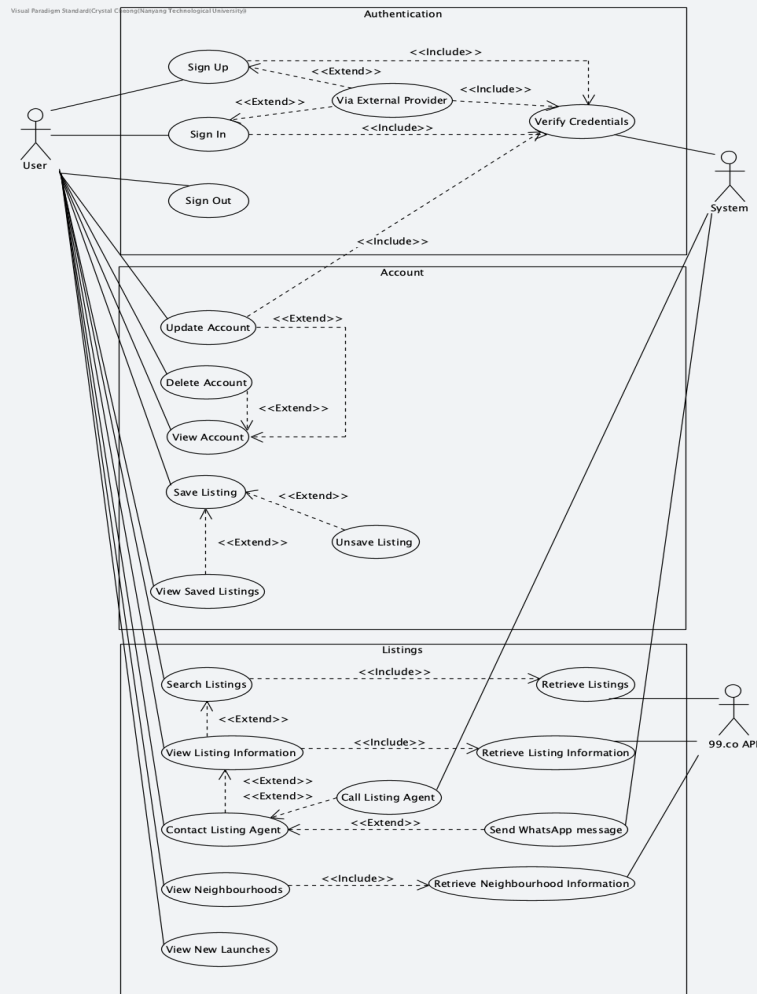
One stop platform that provides listing data from **various rental websites**



Allow users to **explore different neighborhoods** with elaborations on amenities available

Through these features and many others, we aim to solve the 3 main problems.

Use Case Diagram

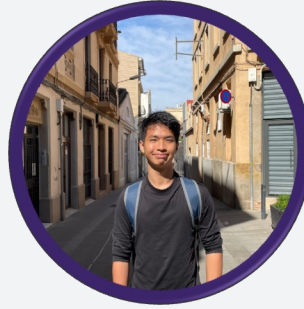


Target Audience



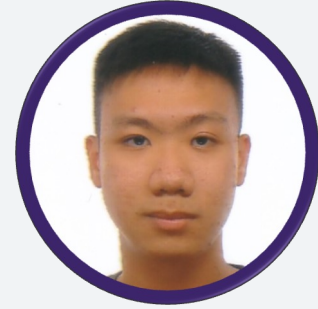
Rentee

Broke college student that
is looking to rent a room



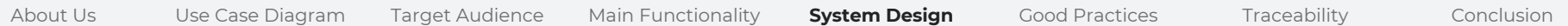
Buyer

Newly wed looking to buy
a house to settle down

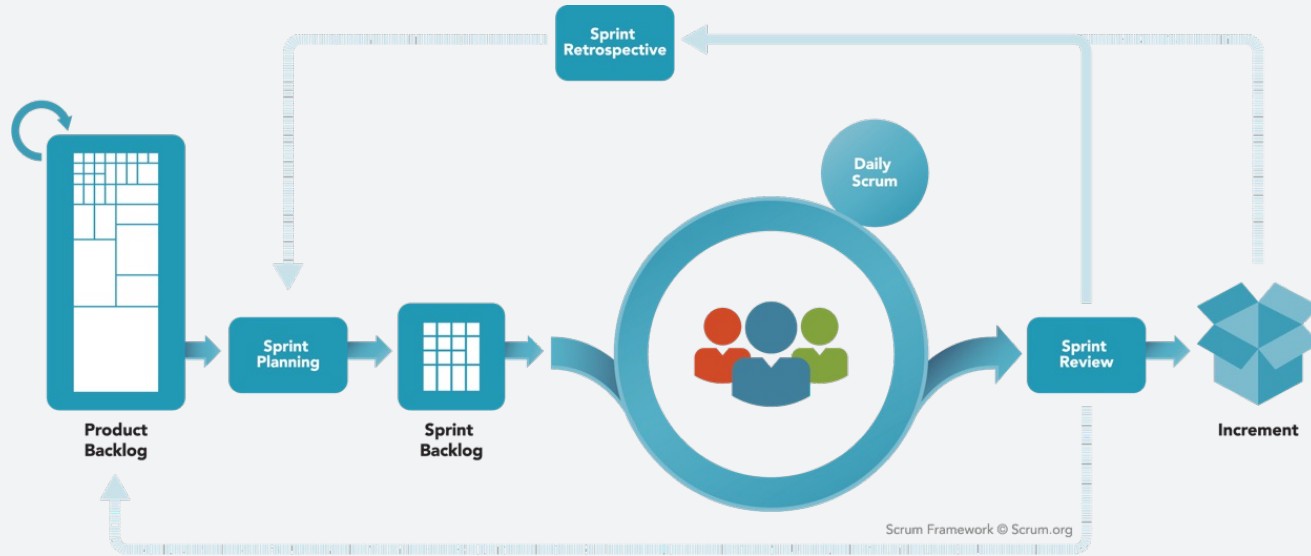


Renter

Renter that wants to
analyse the market for
homes around his area



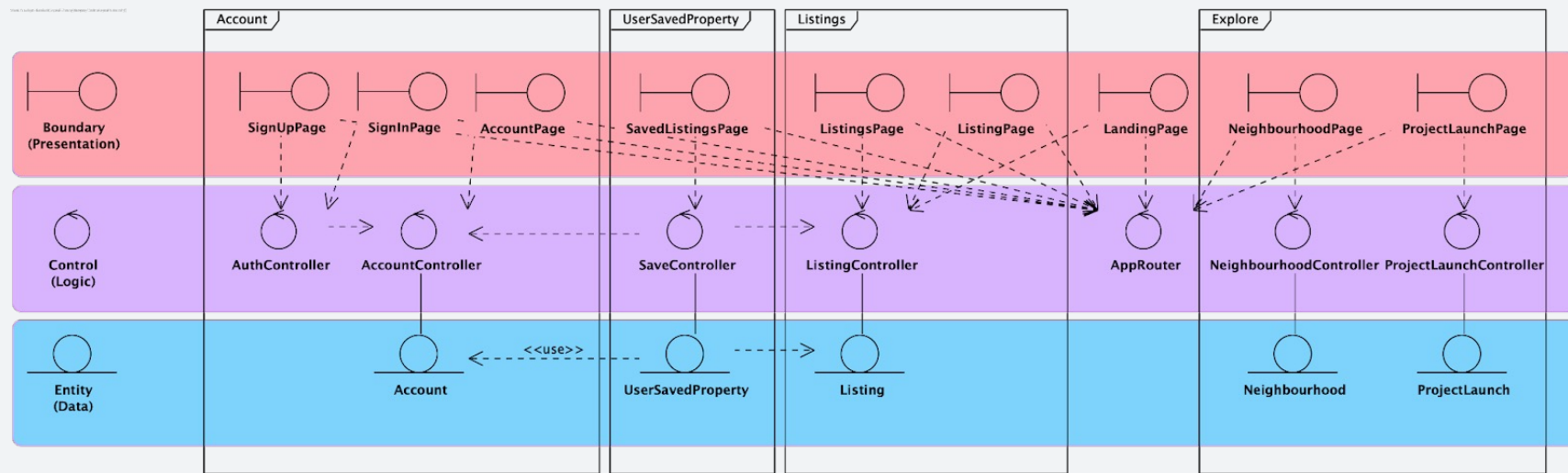
Project Management Philosophy



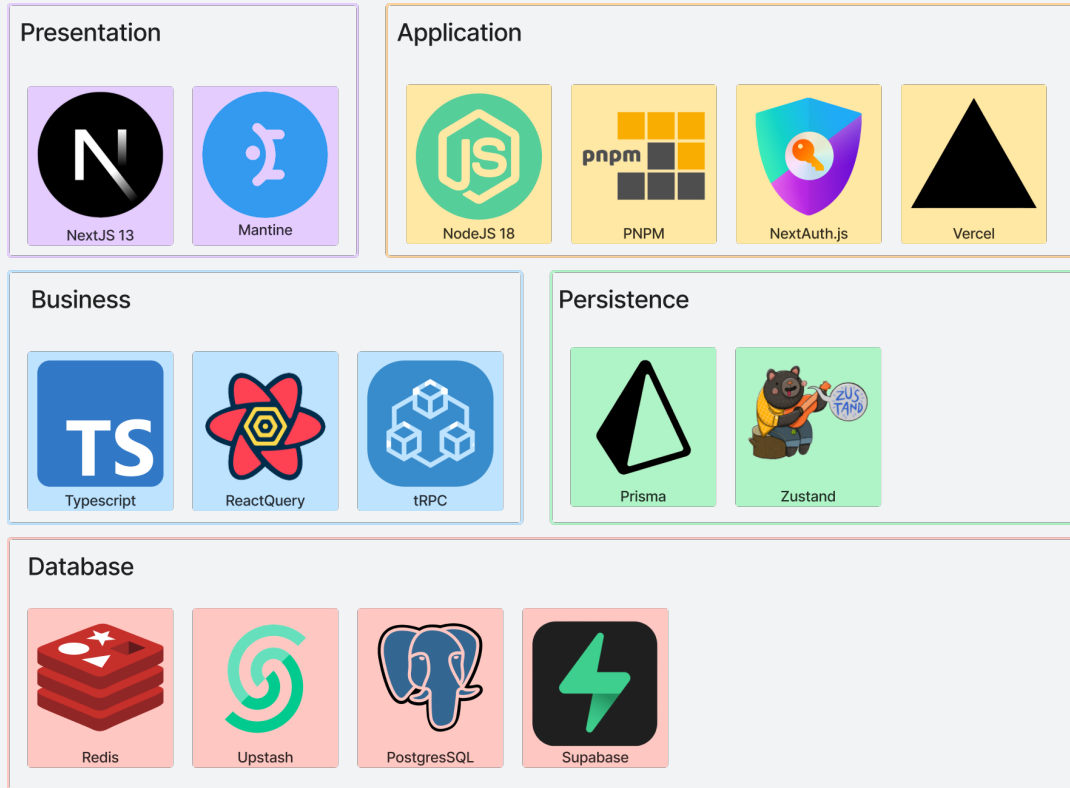
Agile Development Framework

- Adapted the scrum methodology to facilitate the development of the project
- Weekly and iterative stand-ups to measure progress and give feedback
- Sprint Planning and review

System Architecture

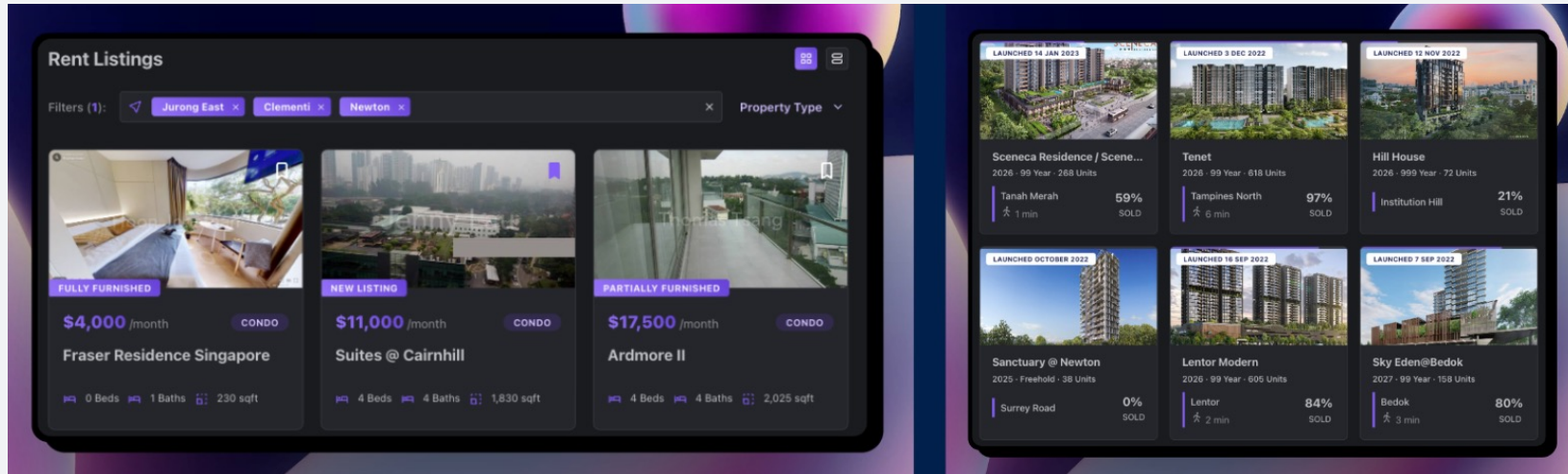


System Architecture

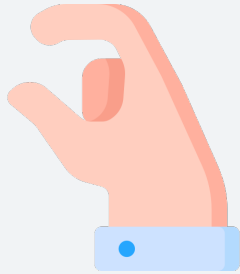


Features Overview

- Search listings by property type and location
- Save your favourite listings and view them at a glance
- Explore neighbourhoods and latest condo launches

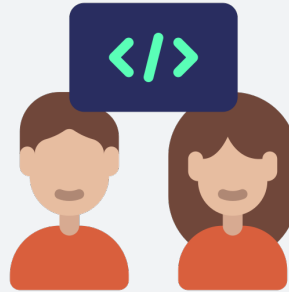


Software Practices



Small Increments

Adding functions incrementally and testing along the way



Pair Programming

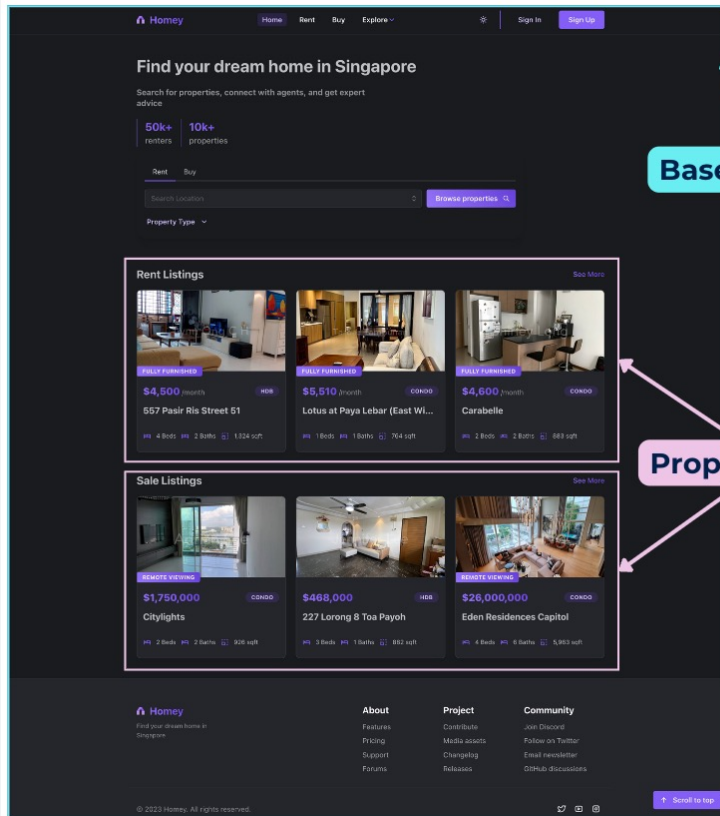
Coding together and constantly checking each other's work



Code Readability

Maintaining code readability to find bugs and errors easily

Reusability and Modularity



BaseLayout

PropertyGrid

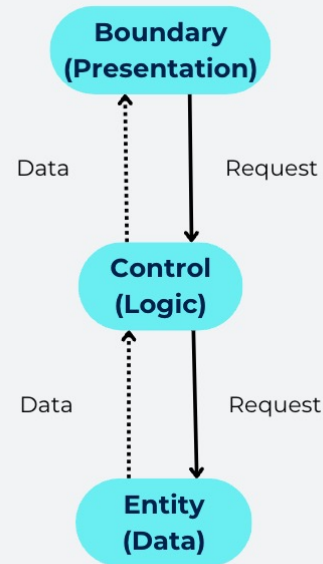
```
const IndexPage: NextPage = () => {
  return (
    <Layout.Base
      layoutStylesOverride={{
        display: 'flex',
        flexDirection: 'column',
        gap: '5vh',
      }}
    >
      <Hero
        headline="Find your dream home in Singapore"
        subHeading="Search for properties, connect with agents, and get expert advice"
      >
      <Box
        component="section"
        sx={{
          display: 'flex',
          flexDirection: 'column',
          gap: theme.spacing.xl,
        }}
      >
        {ListingTypes.map((type, idx) => {
          const isTypeLoading =
            type === 'rent' ? isFetchingRentListings : isFetchingSaleListings

          return (
            <Property.Grid
              key={`grid-${type}-${idx}`}
              listings={allListings.get(type) ?? []}
              isLoading={isTypeLoading}
              maxViewableCount={isTablet ? 4 : 3}
              placeholderCount={isTablet ? 4 : 3}
              allowSaveListing={isAuth}
              showMoreCTA
            >
            </Property.Grid>
          )
        })}
      </Box>
    </Layout.Base>
  )
}
```

Extensibility



- Designed to be scalable and robust
- Flow of dependencies trend downwards
- Logic layer at the core of the application

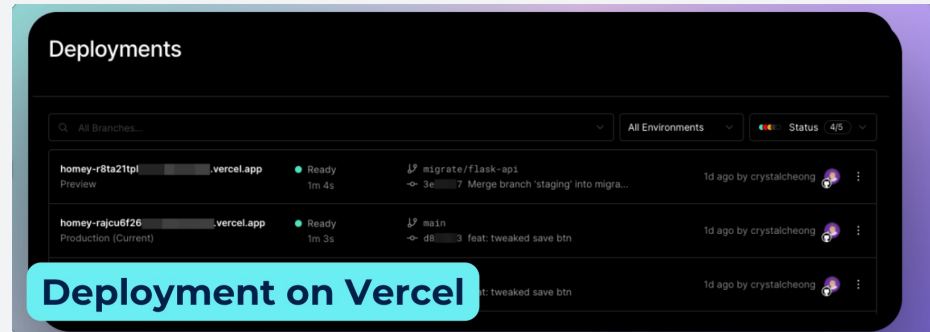
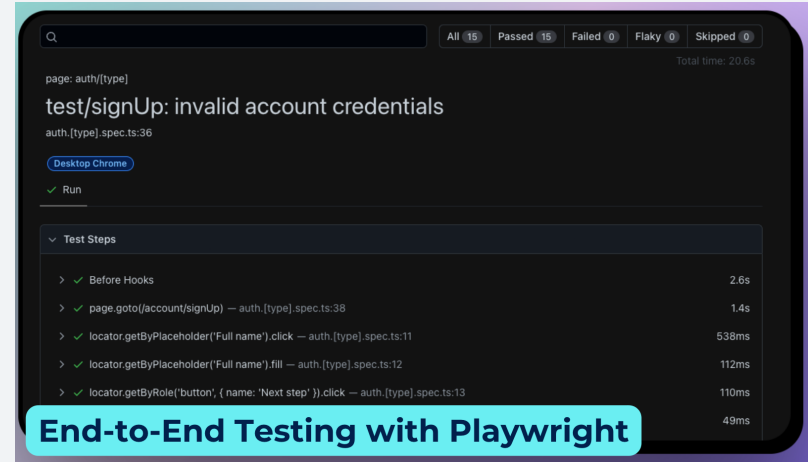


Continuous Integration

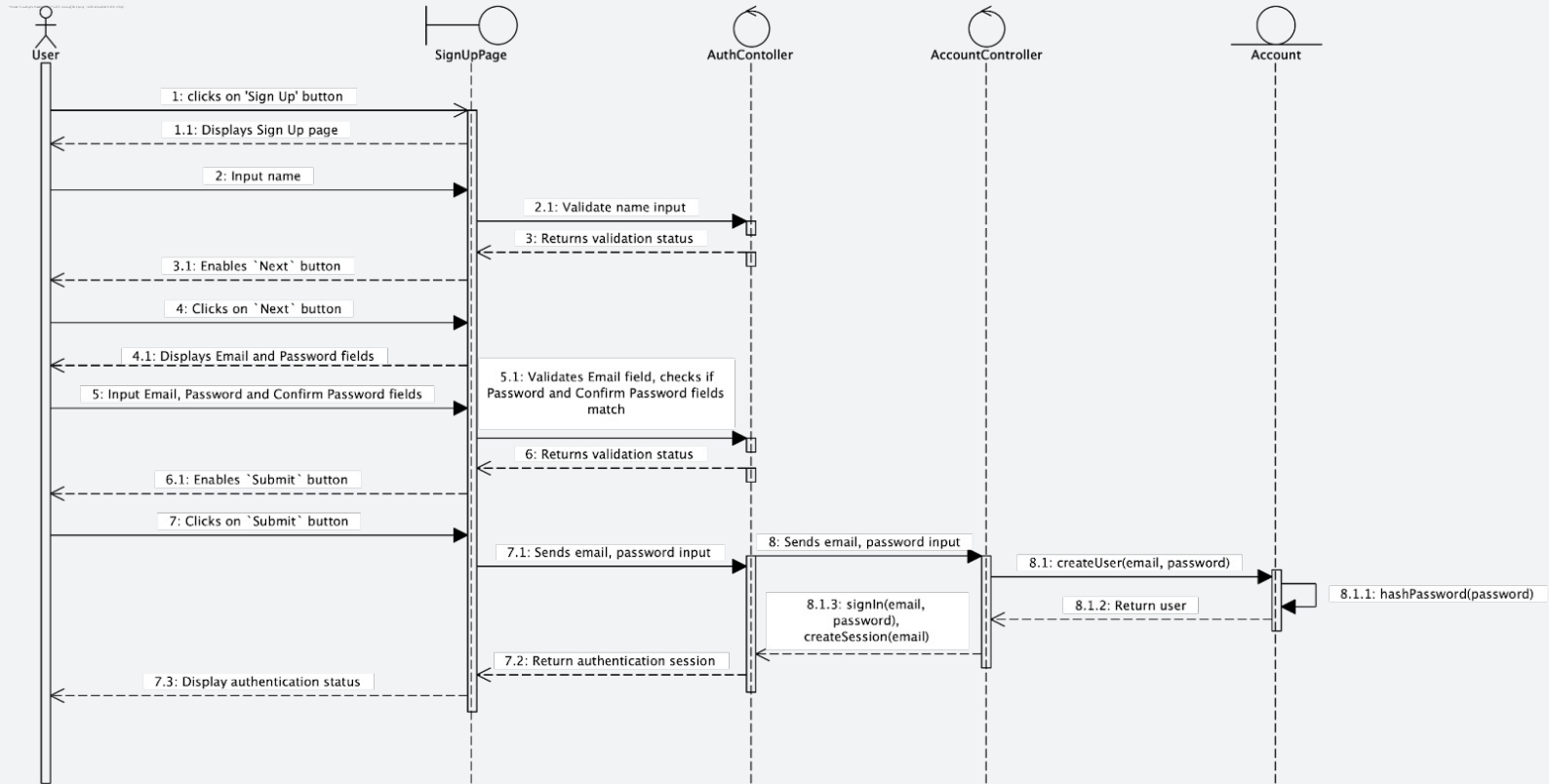
- Faster development with reduced risks
- Shorter review time
- Version control and branching
- Better code quality & faster bug fixes

Tools Used

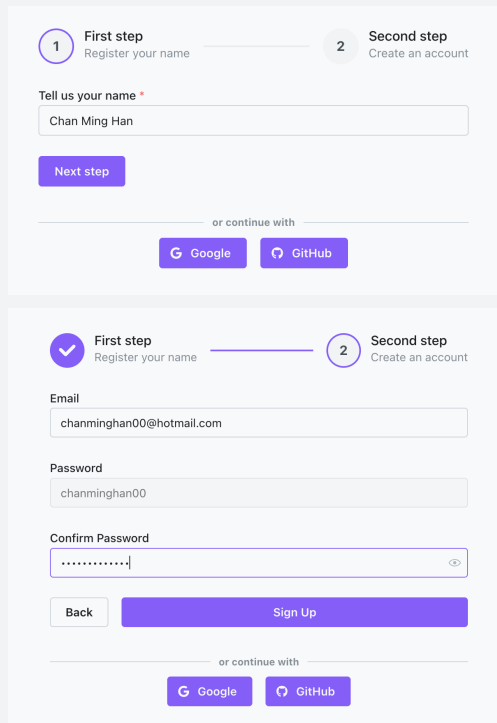
- Automated E2E Testing: Playwright
- Deployment: Vercel
- Code Formatter: ESLint, Prettier
- Version Control: Git, Github



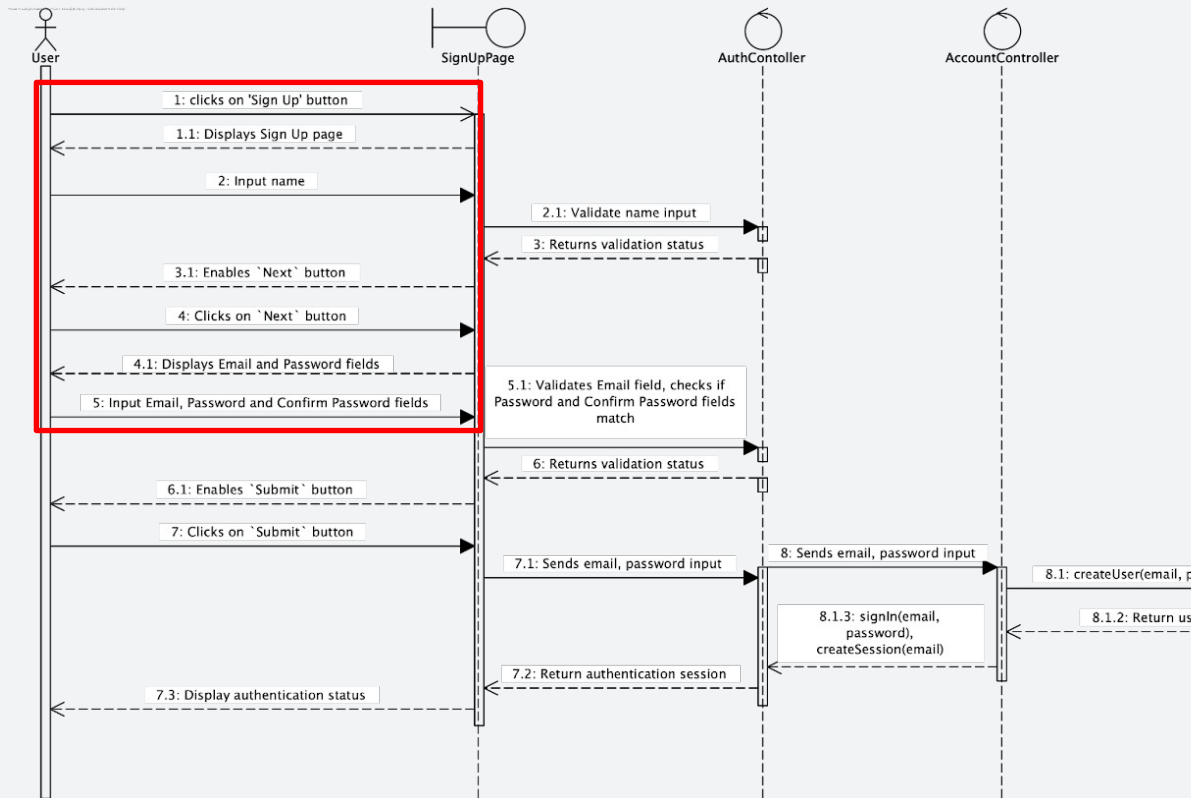
Traceability and Testing (Create User)



Traceability and Testing (Create User)



Frontend Form



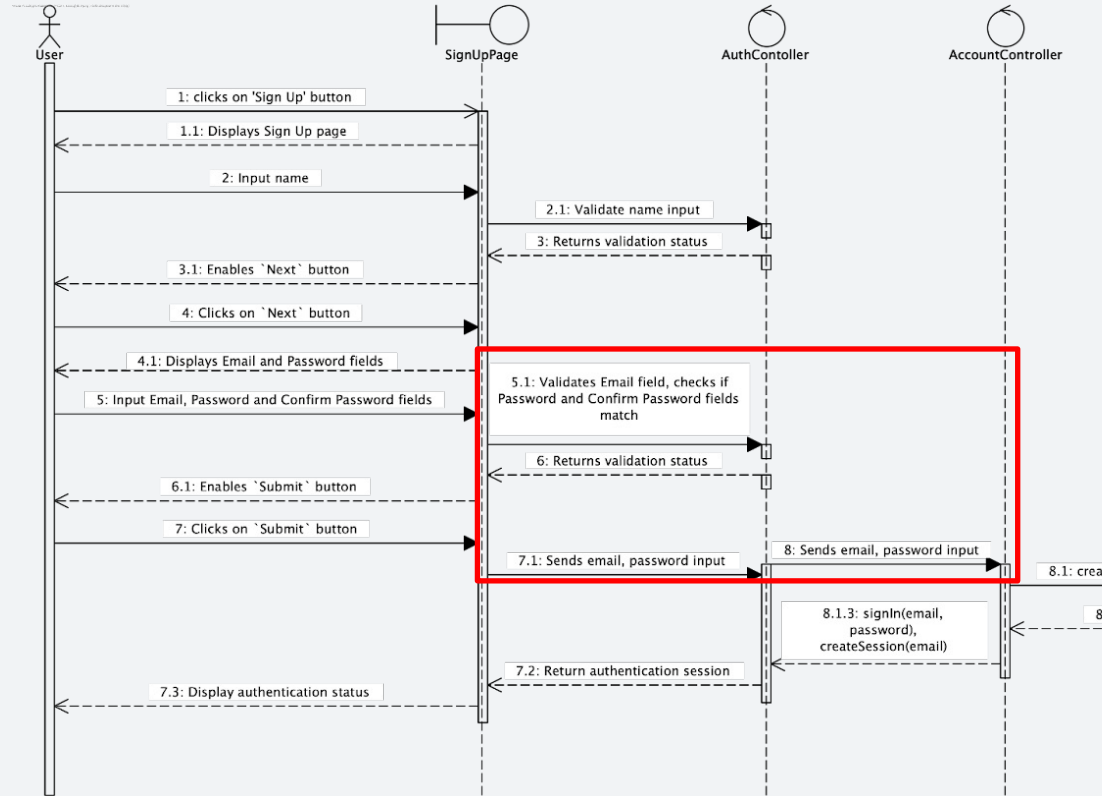
Traceability and Testing (Create User)

```
{
  "name": "Chan Ming Han",
  "email": "chanminghan00@gmail.com",
  "password": "1234"
}
```

json-ified Output

- Password salt-hashing with Argon2

User				
id	name	email	password	image
c1fto07fk000cv56yqqc3...	Test	test@gmail.com	\$argon2id\$v=19\$m=6553...	null

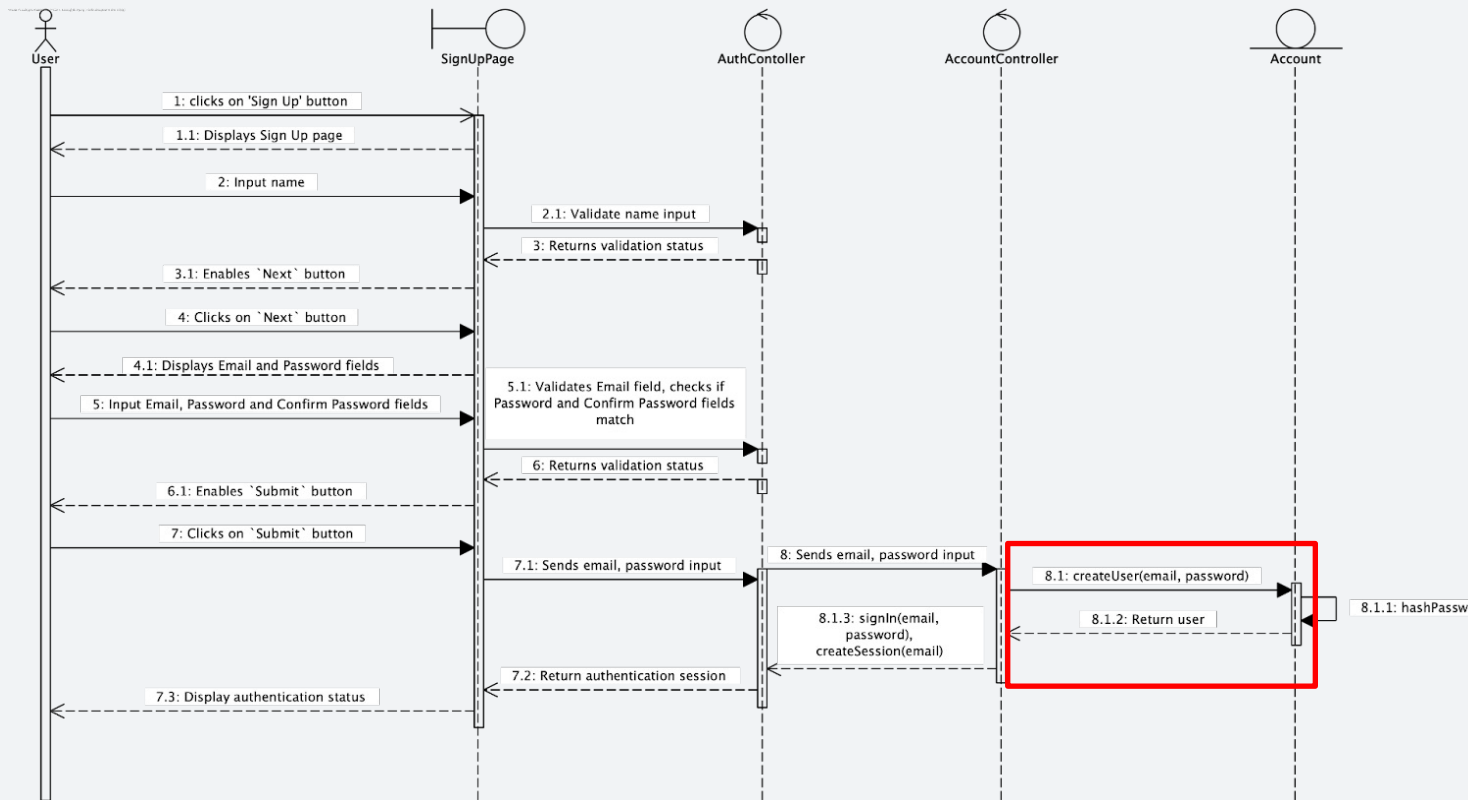


Traceability and Testing (Create User)



Backend Handler

- Create new user at the backend



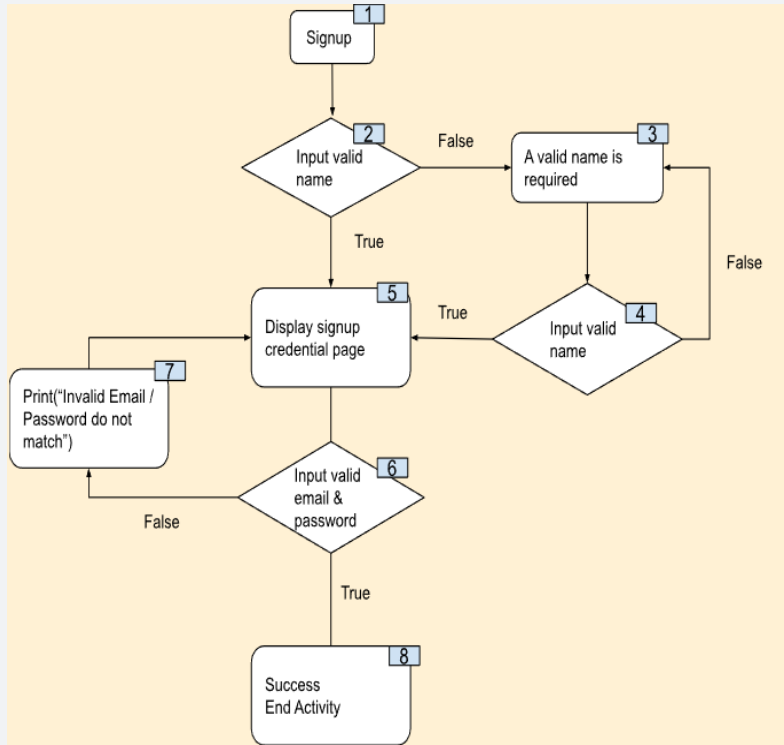
Traceability and Testing (Create User)

Test Id	Scenario	Expected Output	Actual Output
1	Name field is empty or invalid	System prevents moving on to the next step	System prevents moving on to the next step
2	Register with valid name, email and password	The system displays the main page for user to continue the operation	The system displays the main page for user to continue the operation
3	Register with existing account email	The system prompts the user that user already exists	The system prompts the user that user already exists
4	Register with invalid name	The system prompts the user of invalid credentials	The system prompts the user of invalid credentials
5	Register with mismatch password	The system prompts the user of mismatch credentials	The system prompts the user of mismatch credentials
6	Register with invalid email	The system prompts the user of invalid credentials	The system prompts the user of invalid credentials
7	Email or password field is empty	System does not allow clicking of 'Sign Up' button	System does not allow clicking of 'Sign Up' button

Traceability and Testing (Create User)

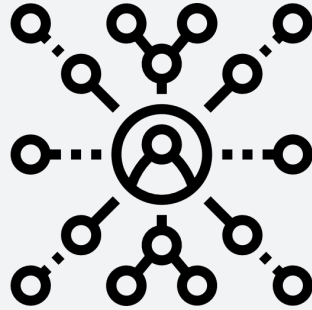
Name	Email	Password	Confirm Password	Expected Output	Actual Output
123	-	-	-	Error: Invalid Name	Error: Invalid Name
(Empty)	-	-	-	Unable to click on object 'Next step'	Unable to click on object 'Next step'
testtwo	test2@gmail.com	test	test	The system displays the main page for user to continue the operation	The system displays the main page for user to continue the operation
test	test@gmail.com	test	test	Error: Sign Up Failed User already exists	Error: Sign Up Failed User already exists
testfour	test4@gmail.com	test	testing	Error: Passwords do not match	Error: Passwords do not match
testfive	test5@.com	(Empty)	(Empty)	Error: Invalid Email	Error: Invalid Email
testfive	(Empty)	test	test	Unable to click on object 'Sign Up'	Unable to click on object 'Sign Up'
testfive	test5@gmail.com	(Empty)	(Empty)	Unable to click on object 'Sign Up'	Unable to click on object 'Sign Up'

Traceability and Testing (Create User)



Test Cases	Expected Basis Path	Actual Basis Path
testtwo -> test2@gmail.com	1, 2, 5, 6, 8	1, 2, 5, 6, 8
123 -> testthree -> test3@gmail.com	1, 2, 3, 4, 5, 6, 8	1, 2, 3, 4, 5, 6, 8
123 -> 456 -> testfour -> test4@gmail.com	1, 2, 3, 4, 3, 4, 5, 6, 8	1, 2, 3, 4, 3, 4, 5, 6, 8
testfive -> test5@.com -> test5@gmail.com	1, 2, 5, 6, 7, 5, 6, 8	1, 2, 5, 6, 7, 5, 6, 8

Cyclomatic Complexity = 4



Expansion into SEA

- Concrete plans to proliferate the Singapore homeowner and rental market
- Further expansion into the APAC and SEA region



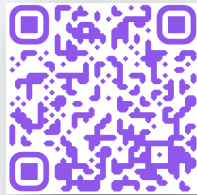
Increasing partnerships

- Collaboration with local rental companies such as ERA, with plans to include fringe firms in future

Homey aims to become the one-stop solution for all property needs

Thank you!

Chan Ming Han
Crystal Cheong
Ng Mu Rong
Cheong Chi Hian
Ang Jun Koon



<https://homey-sg.vercel.app/>

