



Your one-stop platform for all your rental needs

Chan Ming Han
Crystal Cheong
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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



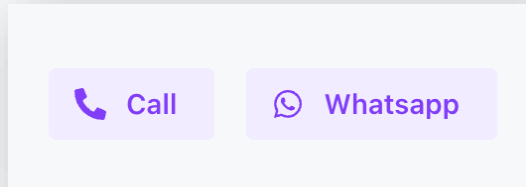
Inability to get a view of the
neighbouring area



Lack of comprehensive
info on neighbourhoods

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

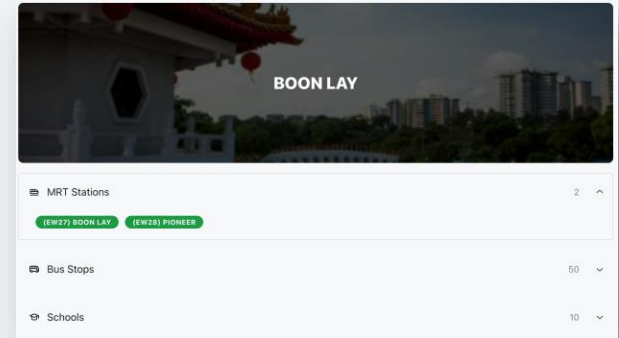
Our Solution



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



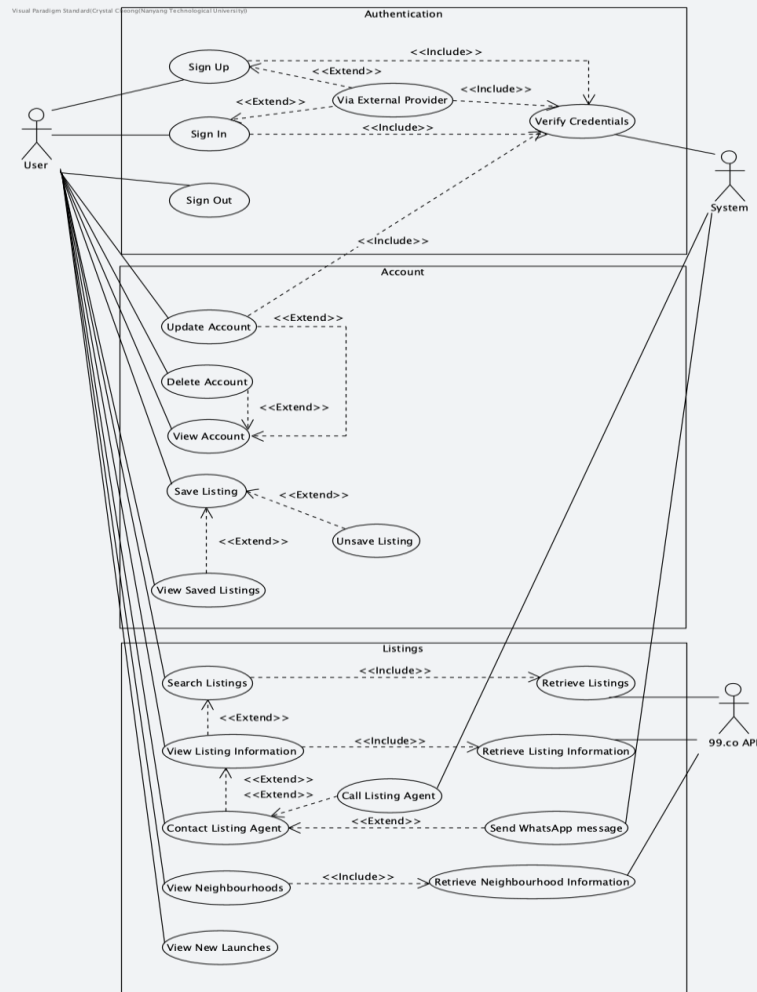
Providing interactive street view of the property on the website



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 that rentees face.

Use Case Diagram



Target Audience



Rentee

Broke college student that is looking to rent a room



Buyer

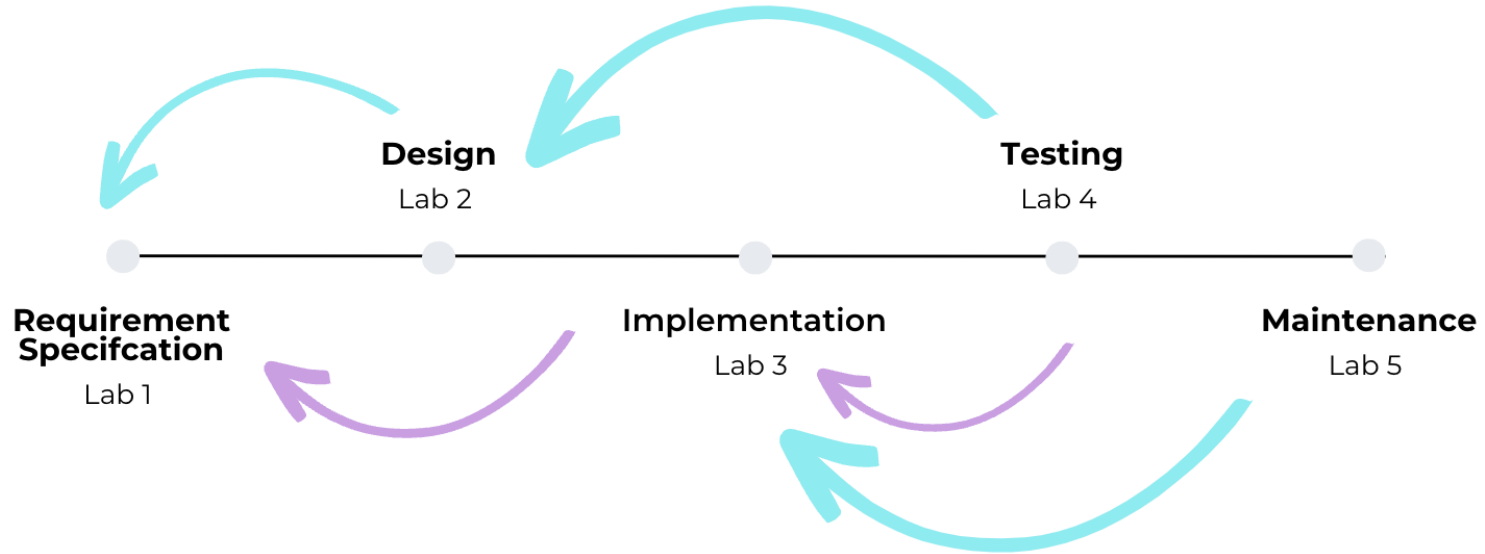
Newly wed looking to buy a house to settle down



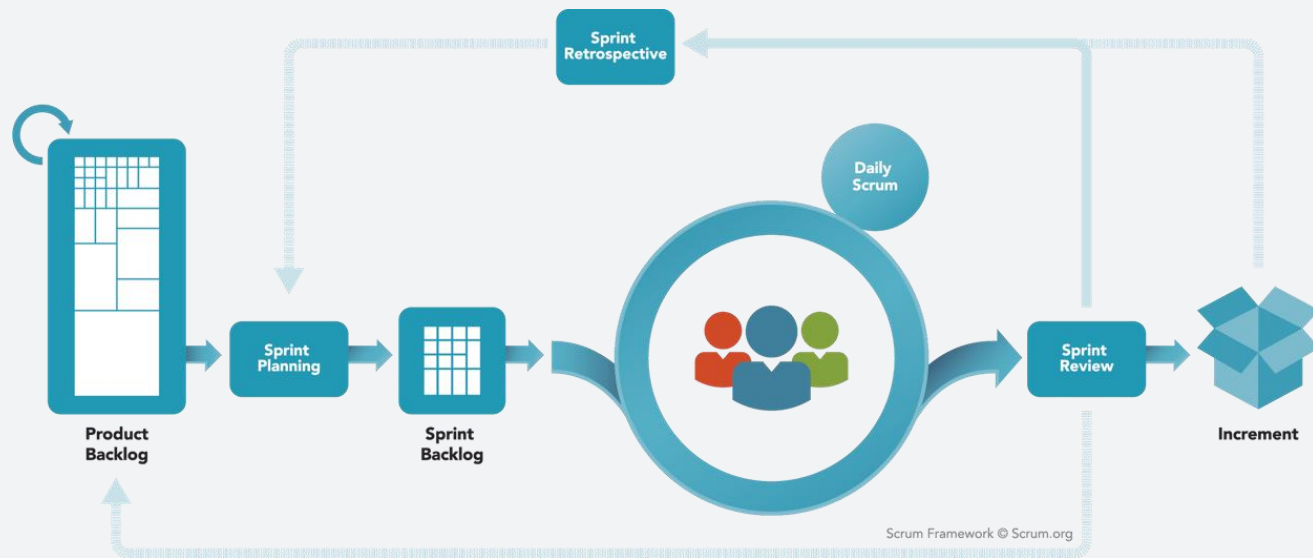
Renter

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

SDLC Activities



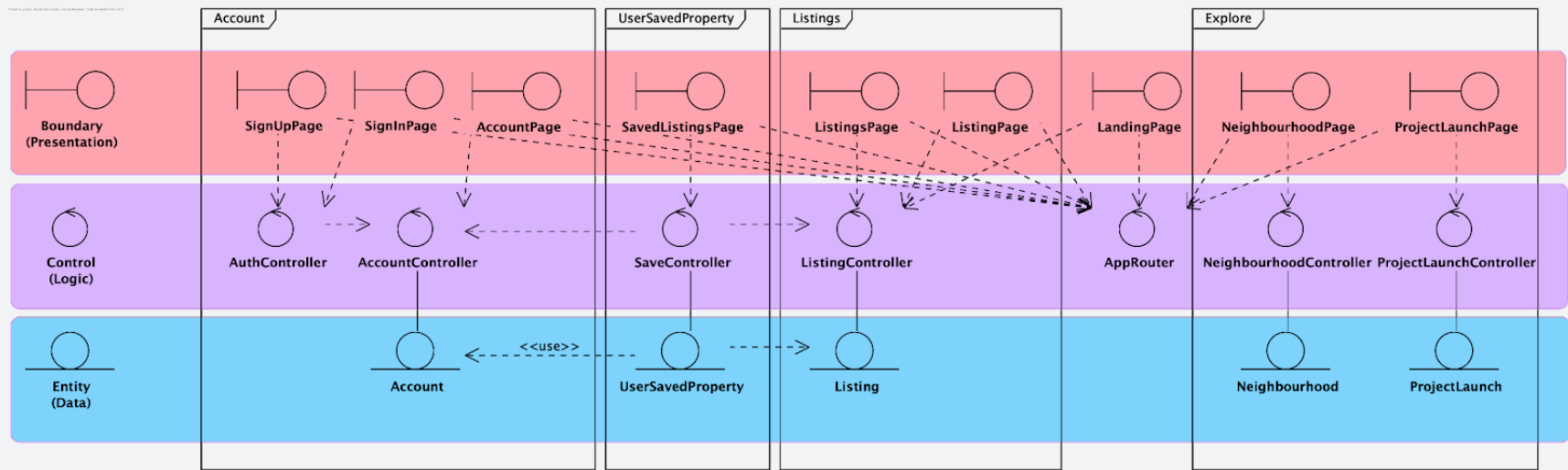
Project Management Philosophy



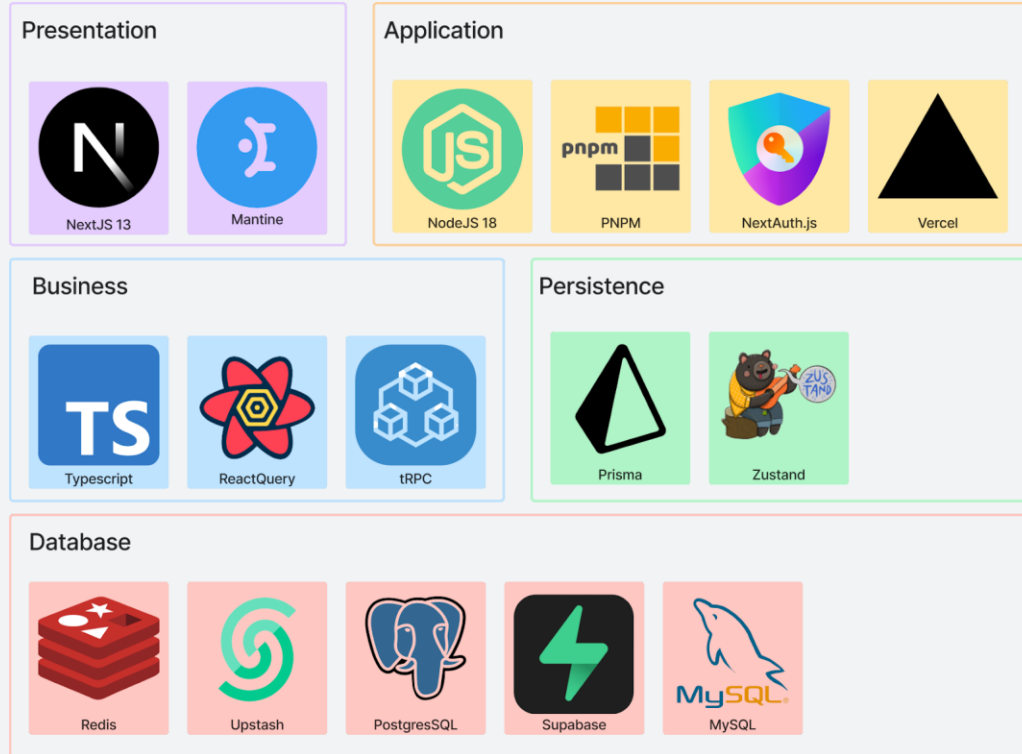
Agile Development Framework

- 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

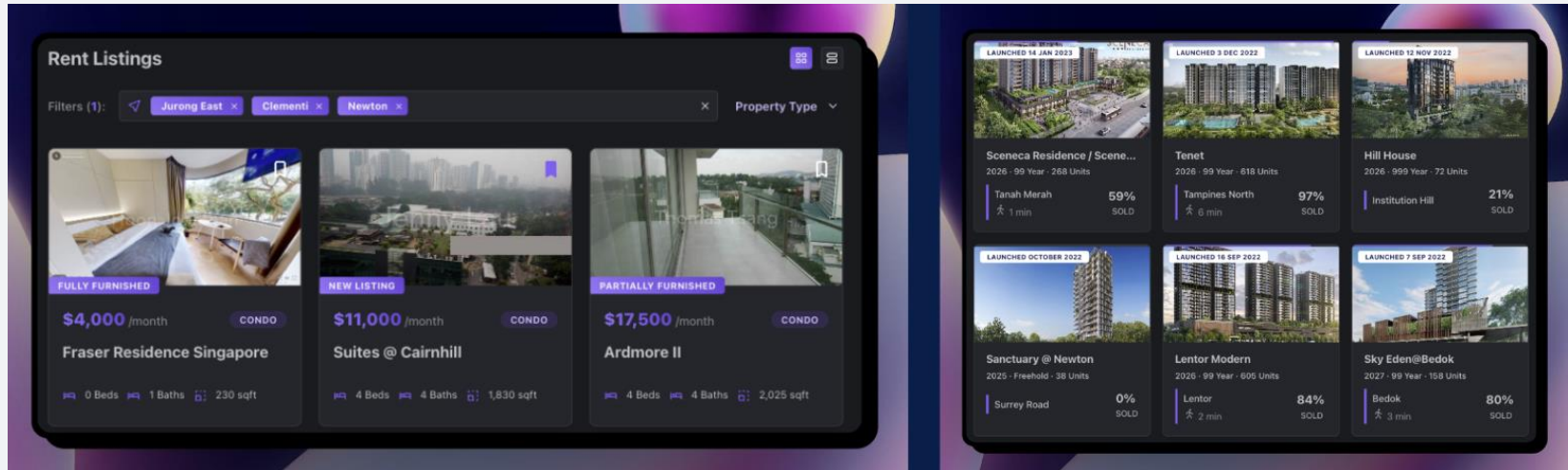


System Architecture



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

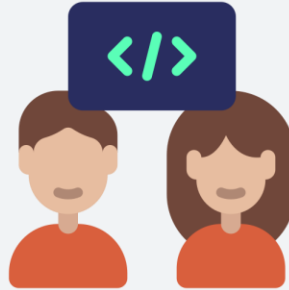


Software Practices



Small Increments

Adding functions incrementally and testing along the way



Pair Programming

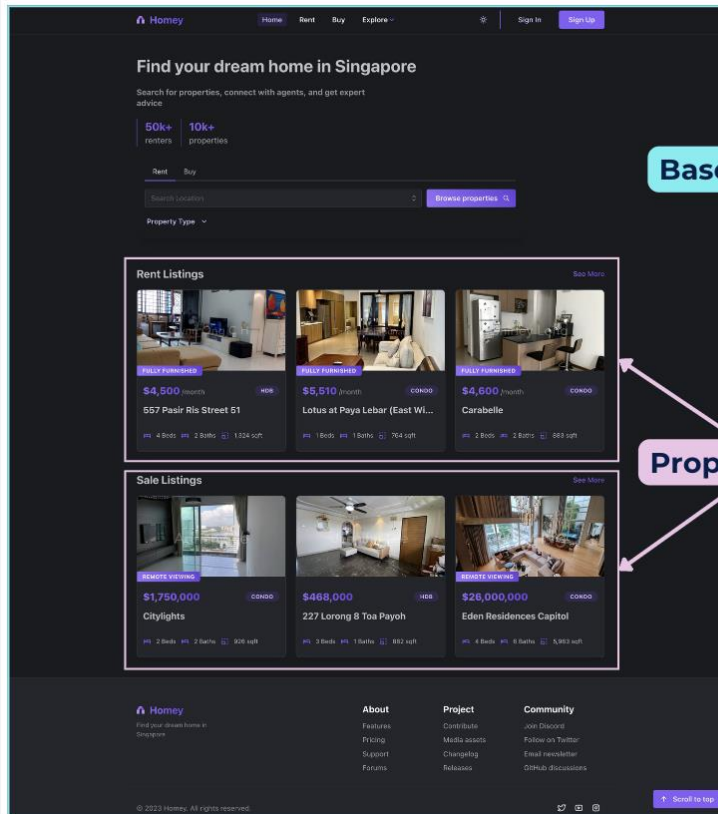
Coding together and constantly checking each other's work



Code Readability

Maintaining code readability to find bugs and errors easily

Reusability and Modularity



BaseLayout

PropertyGrid

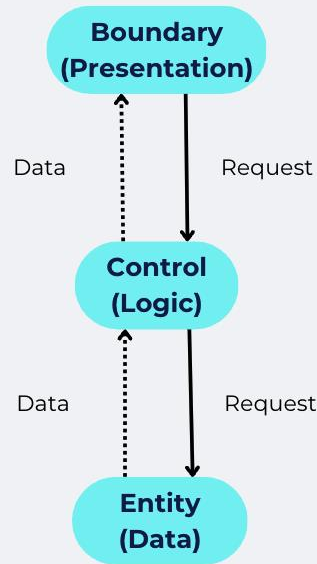
```
const IndexPage: NextPage = () => {
  return (
    <Layout.Base
      layoutStylesOverride={{
        display: 'flex',
        flexDirection: 'column',
        gap: '5vh',
      }}
    >
      <Hero
        headline="Find your dream home in Singapore"
        subHeading="Search for properties, connect 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

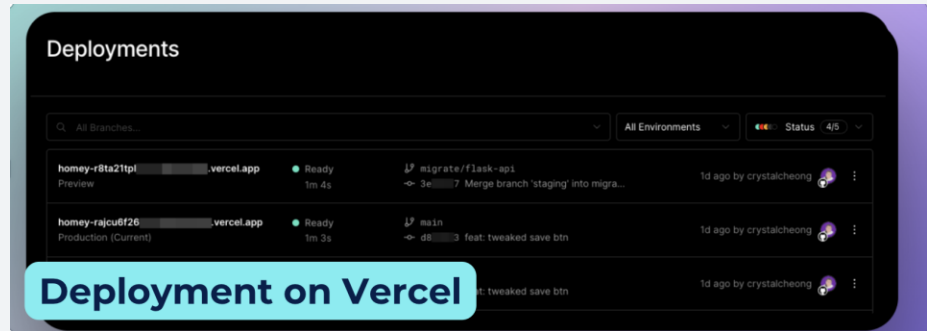
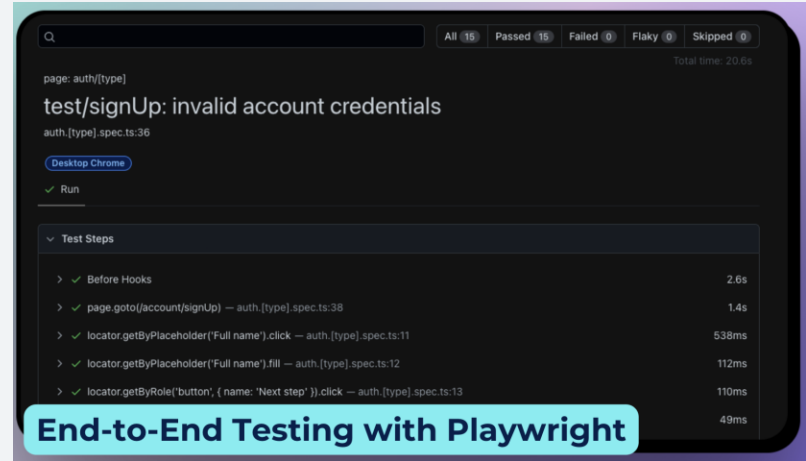


Continuous Integration

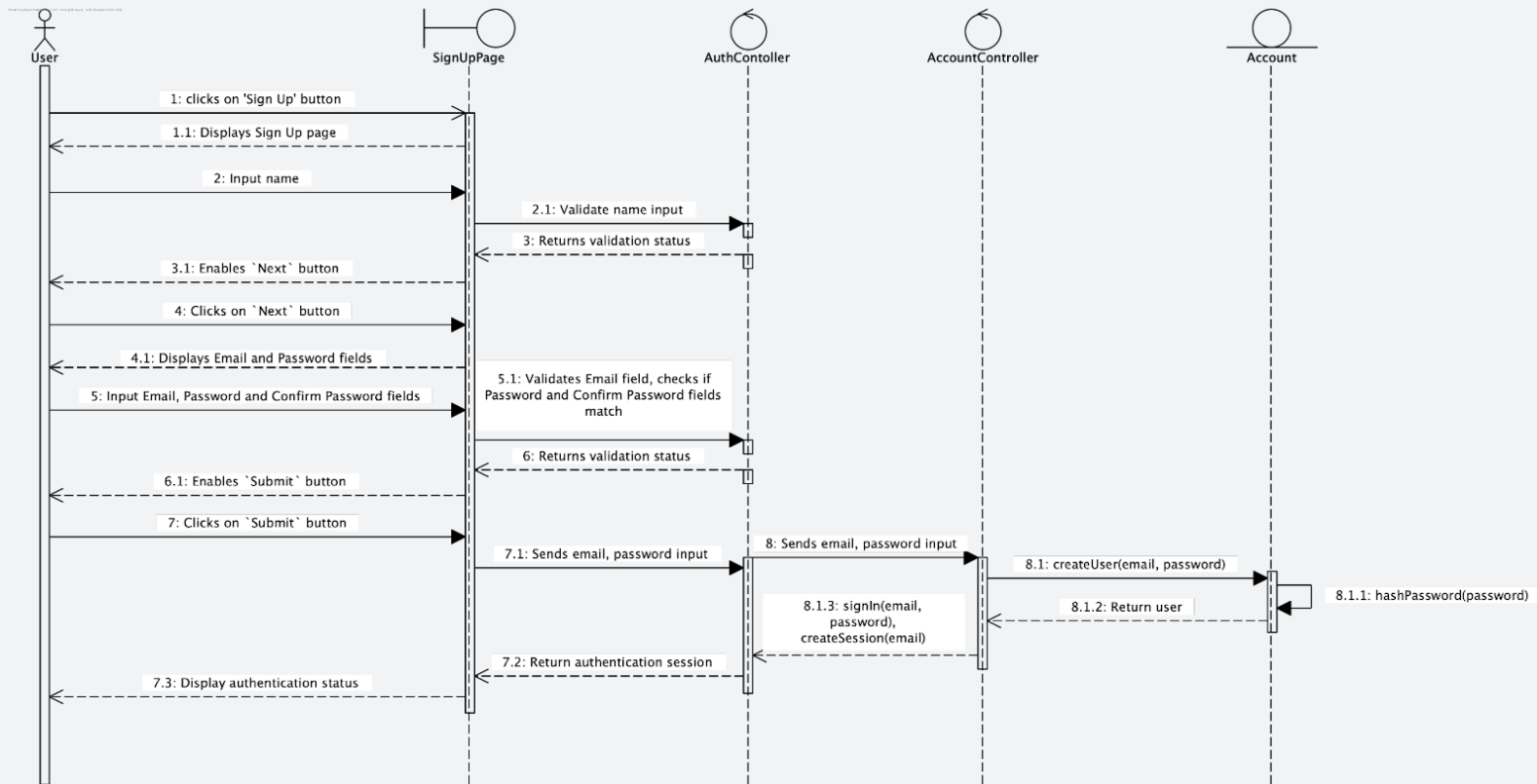
- Faster development with reduced risks
- Shorter review time
- Version control and branching
- Better code quality & faster bug fixes

Tools Used

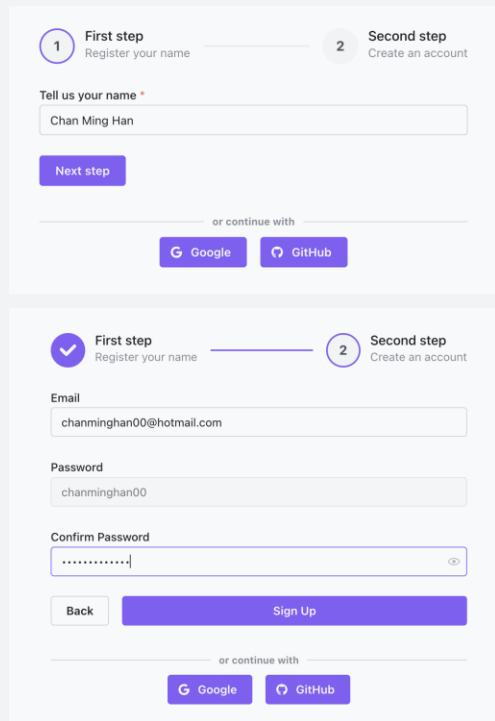
- Automated E2E Testing: Playwright
- Deployment: Vercel
- Code Formatter: ESLint, Prettier
- Version Control: Git, Github



Traceability and Testing (Create User)



Traceability and Testing (Create User)



First step Register your name

Tell us your name *

Chan Ming Han

Next step

or continue with

Google GitHub

Second step Create an account

First step Register your name

Email

chanminghan00@hotmail.com

Password

chanminghan00

Confirm Password

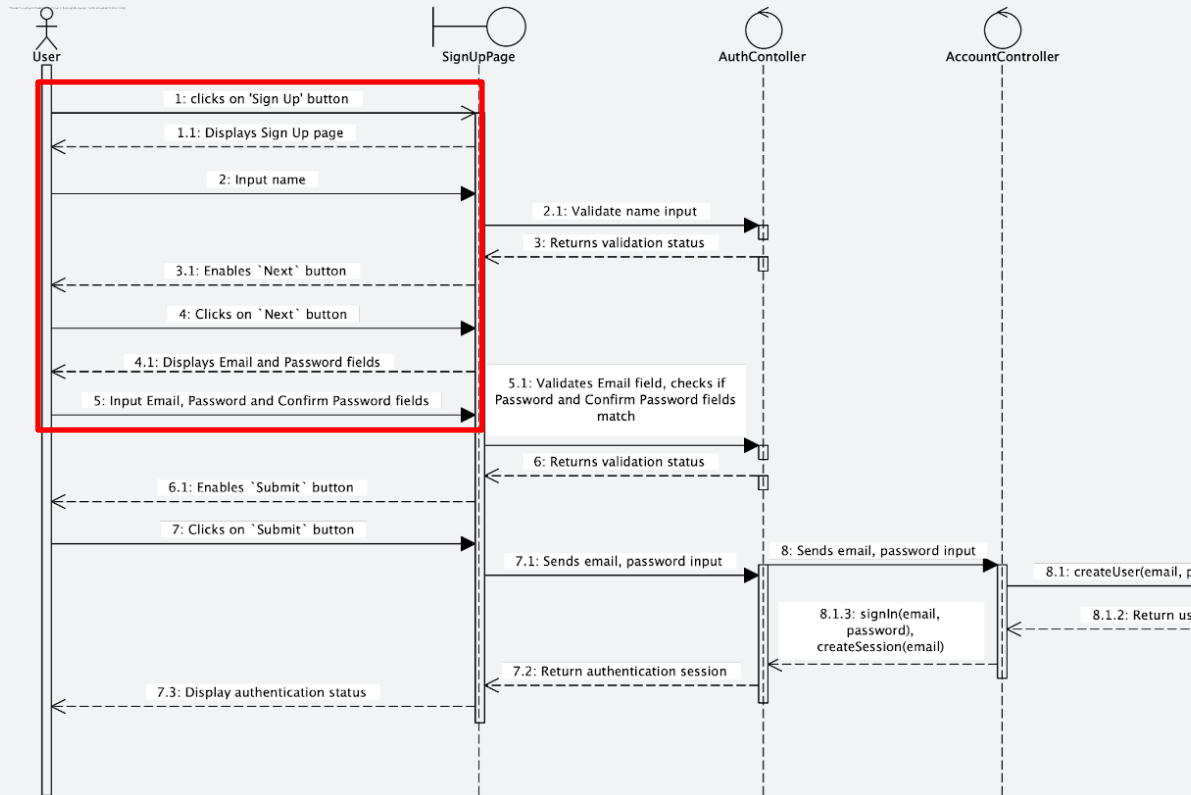
.....

Back Sign Up

or continue with

Google GitHub

Frontend Form



Traceability and Testing (Create User)

```

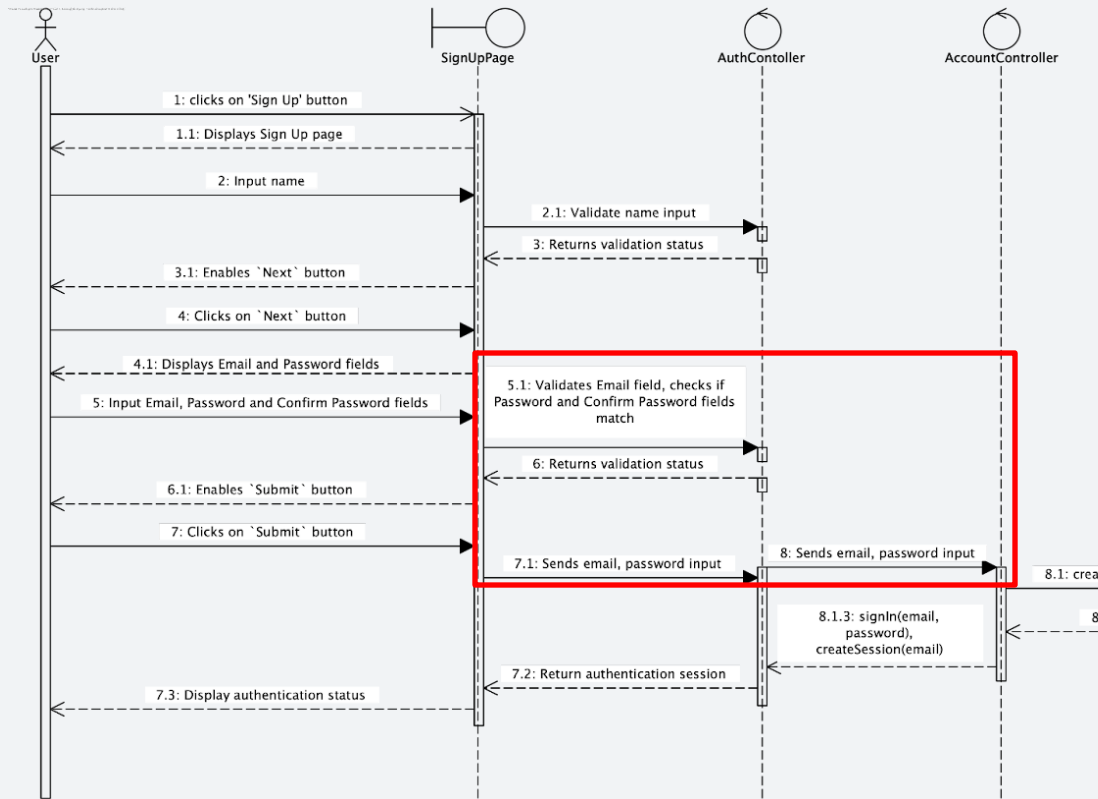
{
  "name": "Chan Ming Han",
  "email": "chanminghan00@gmail.com",
  "password": "1234"
}

```

json-ified Output

- Password salt-hashing with Argon2

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

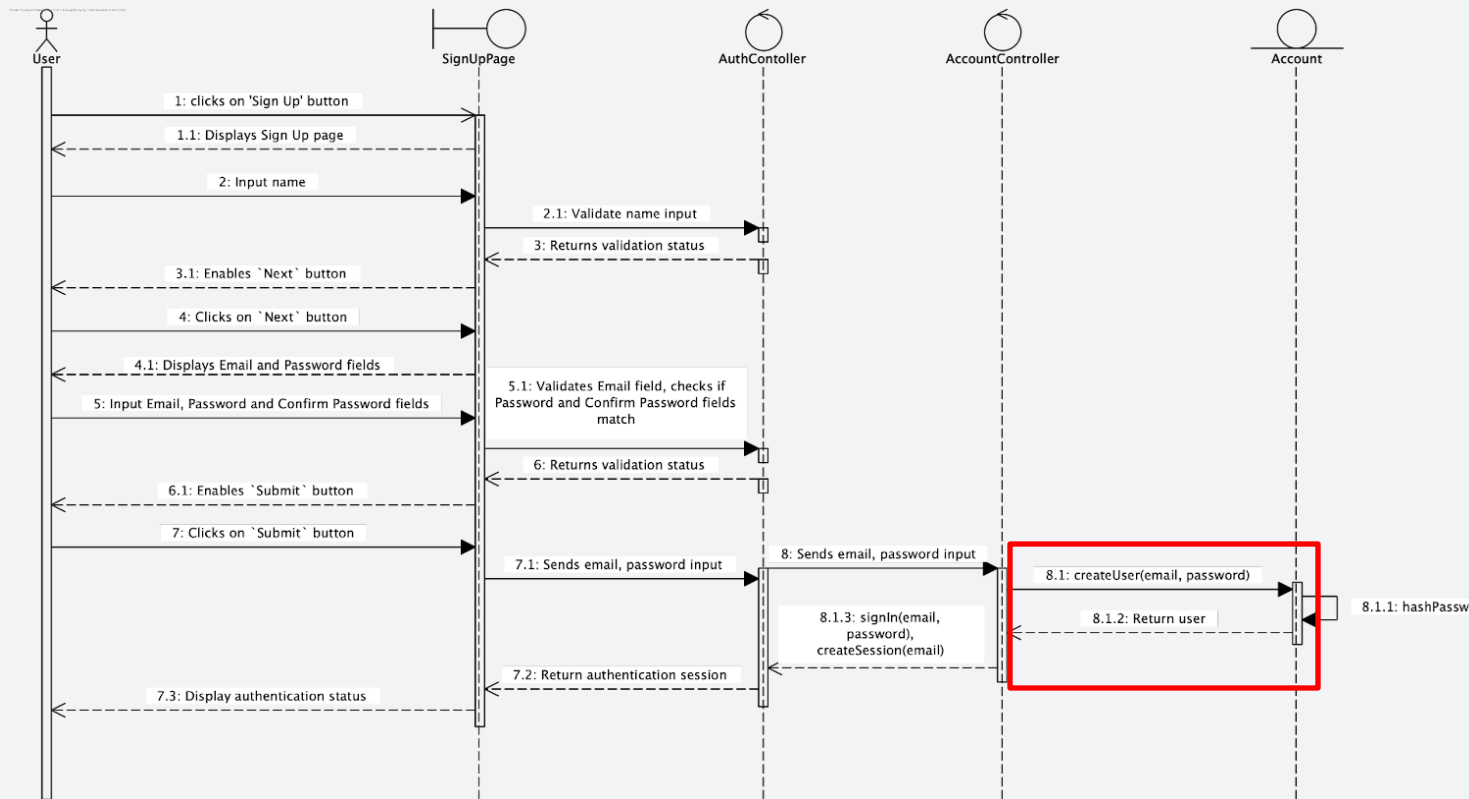


Traceability and Testing (Create User)



Backend Handler

- Create new user at the backend



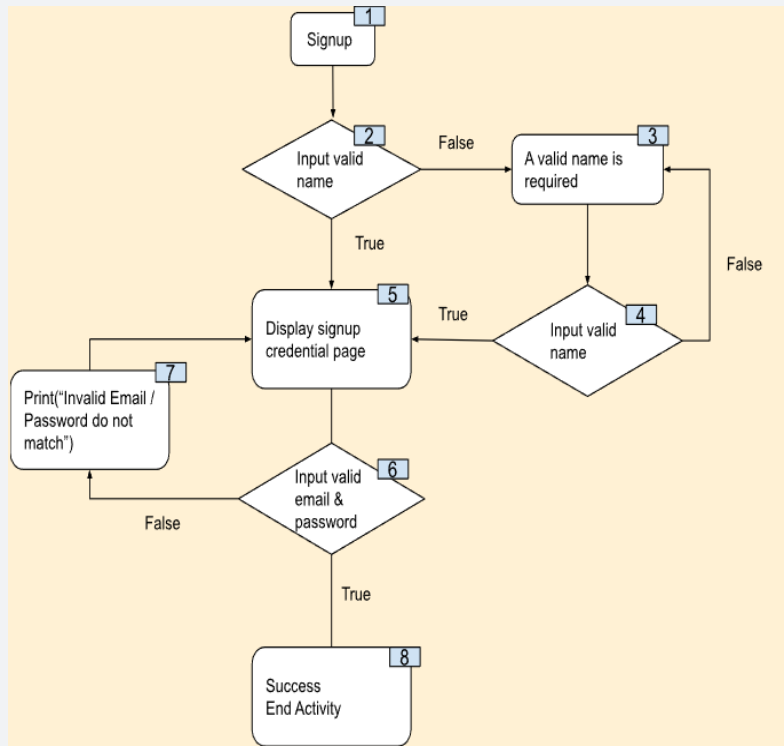
Traceability and Testing (Create User)

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
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Ng Mu Rong
Cheong Chi Hian
Ang Jun Koon



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

