

PARKWHERE.

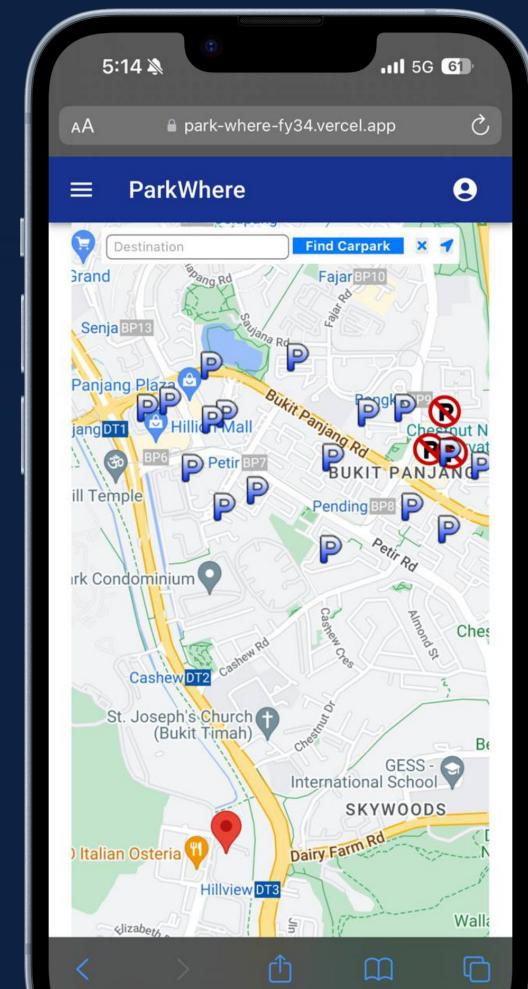
Team 2

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Goh Yi Heng

John Xie

Ong Shun Ping



What is ParkWhere?

ParkWhere is a web application that aims to supplement road users by providing real-time information of the carparks available from either the current location or the searched location.



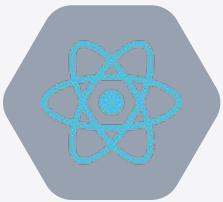


Motivation

To help aid road users with finding the most appropriate carpark near their destination, so that they can better plan ahead for their journey.

Our Tech Stack

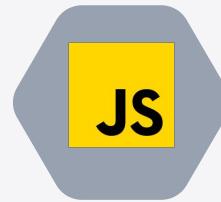
Tools in developing our application.



React
Frontend



CSS
Frontend



Javascript
Backend



HTML 5
Frontend



Firebase
Database



Carparks API
API

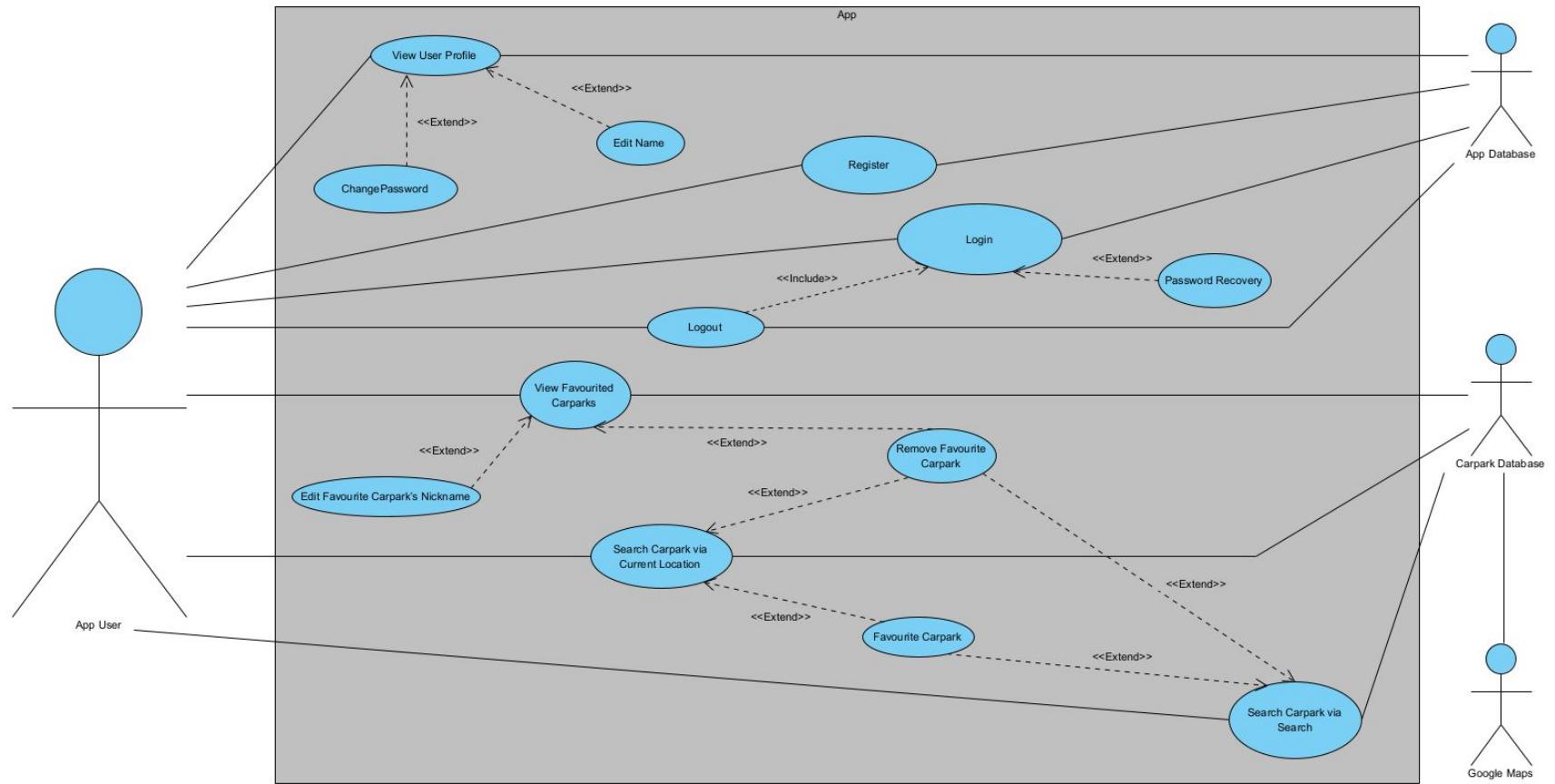


Google API
API



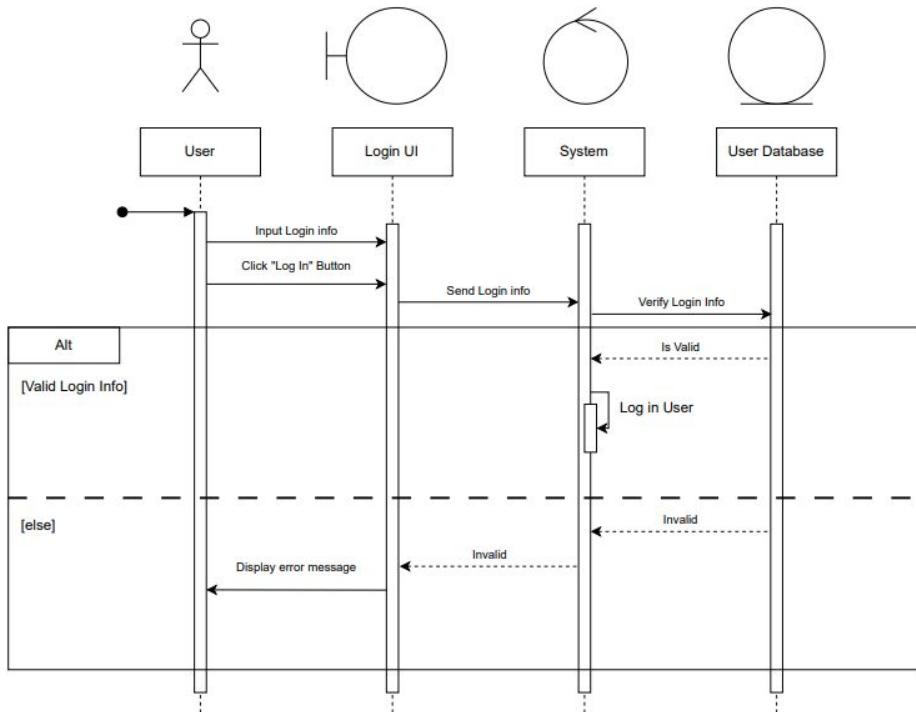
Nodejs
Backend

Use Case Diagram

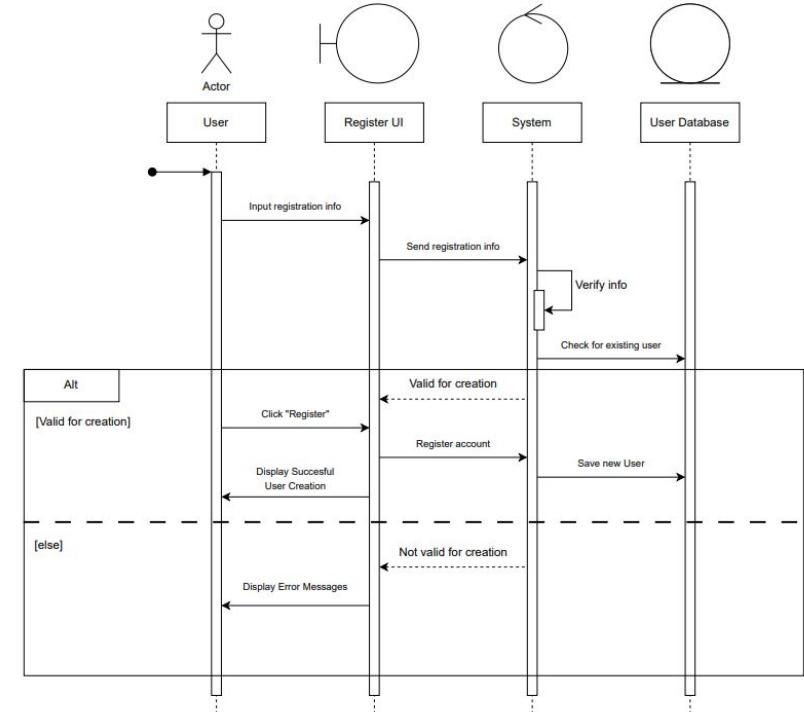


Sequence Diagram

Login



Register



Functionalities

Login & Register

- Sign up
- Login



Account Recovery

- Reset password



Profile Management

- Change Password
- Edit Name



Search

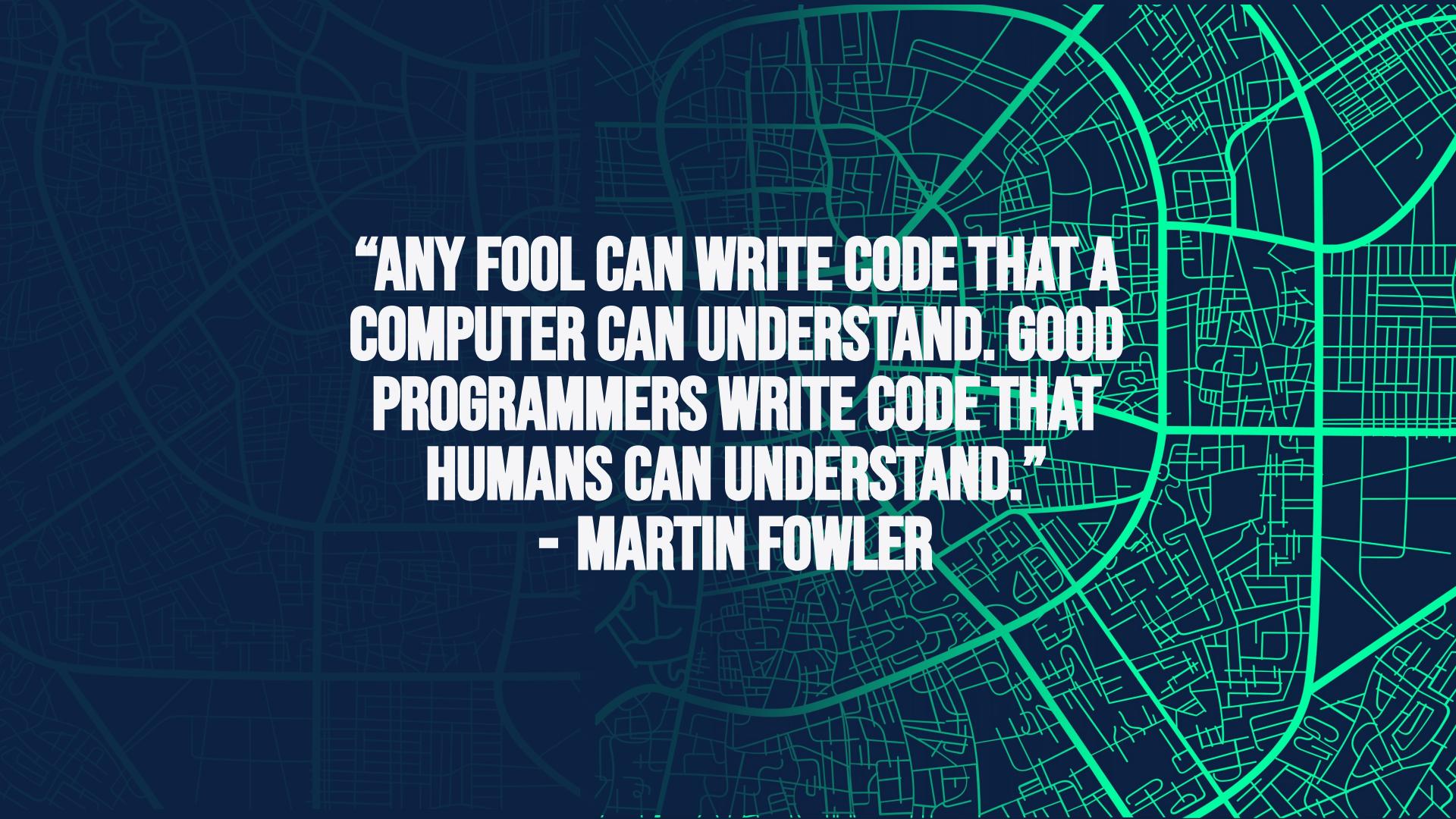
- By current location/search bar
- Within 2km range and special indicator for availability <10%



Bookmark Carparks

- Favourite & Unfavourite Carparks
- Edit favorites Carpark name





**“ANY FOOL CAN WRITE CODE THAT A
COMPUTER CAN UNDERSTAND. GOOD
PROGRAMMERS WRITE CODE THAT
HUMANS CAN UNDERSTAND.”**

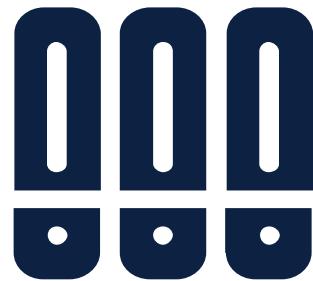
- MARTIN FOWLER

Good SE concepts and designs

Single Responsibility Principle



3 Layered Architecture

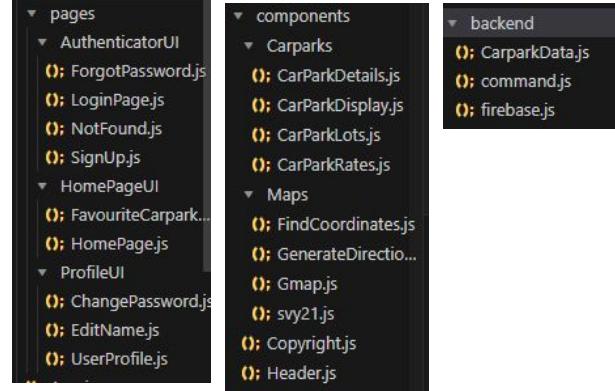


Minimalism



Single Responsibility Principle

- Every .js file is responsible for a single part of the functionality
- Allow reusability
- Reduce complexity
- Reduce coupling and reduces the risk of modifying classes we do not intend to change



```
▼ pages
  ▼ AuthenticatorUI
    ○: ForgotPassword.js
    ○: LoginPage.js
    ○: NotFound.js
    ○: SignUp.js
  ▼ HomePageUI
    ○: FavouriteCarpark...
    ○: HomePage.js
  ▼ ProfileUI
    ○: ChangePassword.js
    ○: EditName.js
    ○: UserProfile.js

  ▼ components
    ▼ Carparks
      ○: CarParkDetails.js
      ○: CarParkDisplay.js
      ○: CarParkLots.js
      ○: CarParkRates.js
    ▼ Maps
      ○: FindCoordinates.js
      ○: GenerateDirection...
      ○: Gmap.js
      ○: svy21.js
      ○: Copyright.js
      ○: Header.js

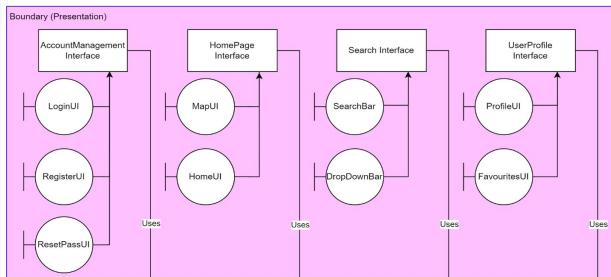
  ▼ backend
    ○: CarparkData.js
    ○: command.js
    ○: firebase.js
```

3 Layered Architecture

Boundary

Presentation

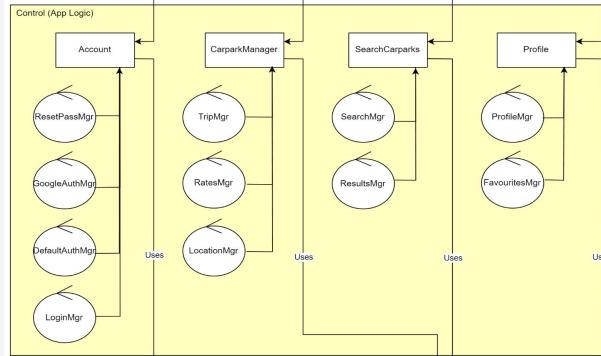
Allows users to interact with the app through user interfaces.



Control

App Logic

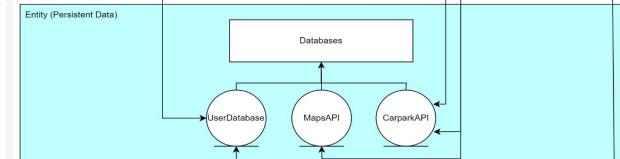
Controls how the application operates and functions.



Entity

Persistent Data

Saves all the data for the app to function and enables data persistence.



Minimalism

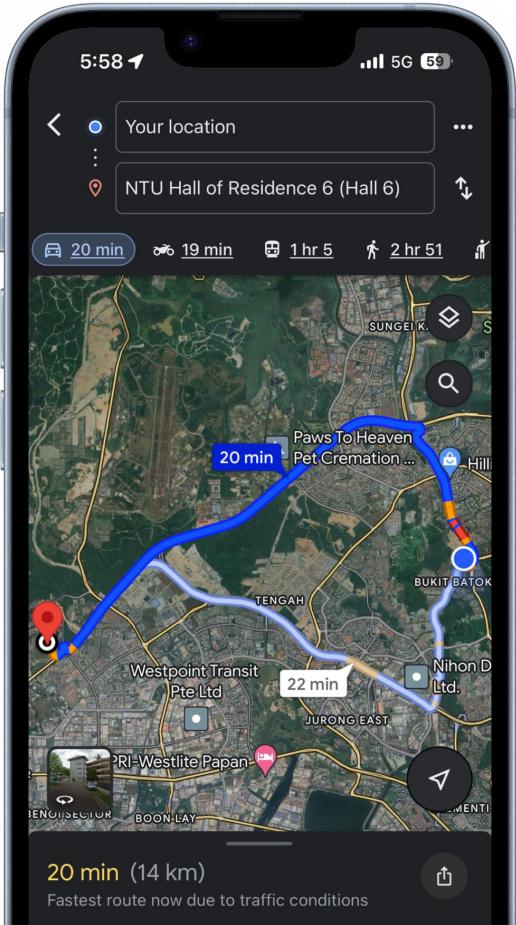
- Keep our code simple and focused to the task at hand
- Every component only include codes that are needed for that functionality
- Avoid unnecessary complexity or features



APP DEMONSTRATION

<https://park-where-fy34.vercel.app/>

Why ParkWhere?



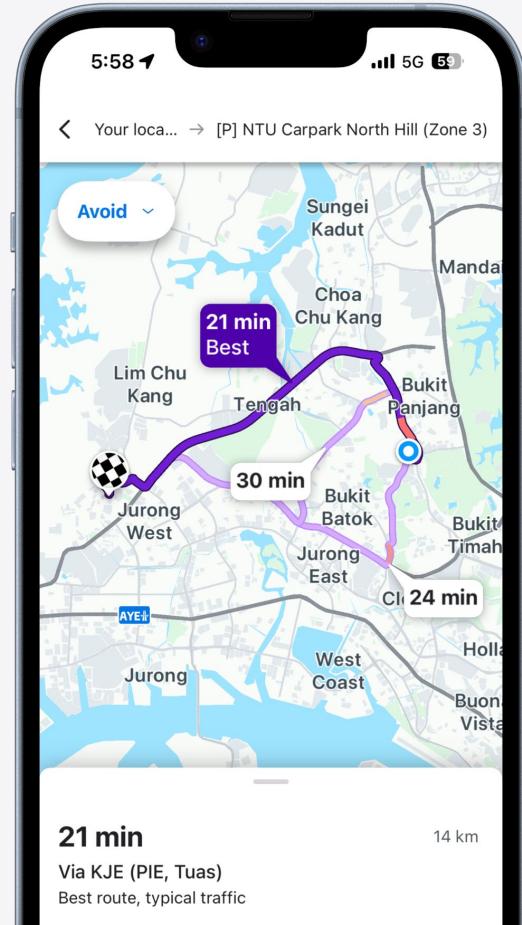
Google Maps

- Only provides directions to a location
- Does not provide car park information, only the location
- Not all car parks are registered in the system



Waze

- Provides directions with car parks nearby
- Does not have parking rates, making it difficult to gauge costs
- Does not have car park availability, so you can not tell if it is already full
- Does not have a favourite function



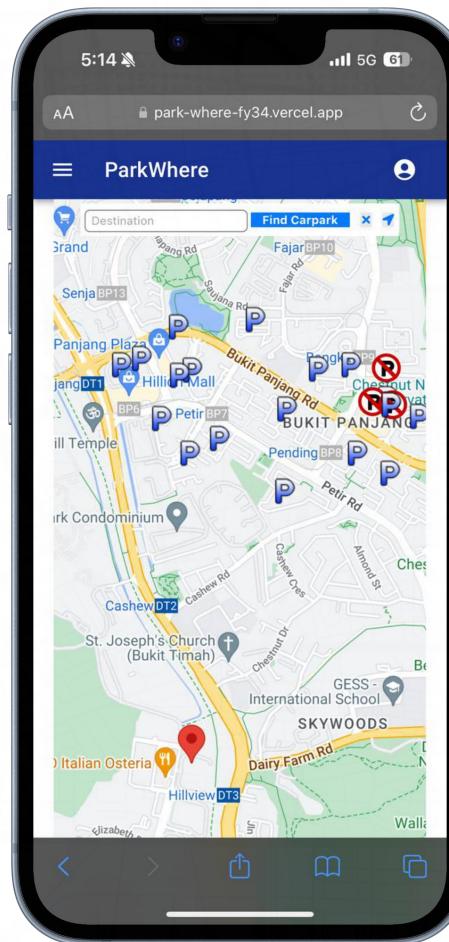
21 min

Via KJE (PIE, Tuas)
Best route, typical traffic

14 km

Potential Enhancements

- Real time road conditions (traffic jam, road blockages)
- Real time weather conditions using NEA API
- Carpark reviews
- EV charger availability car parks
- Include non-HDB carparks





PARKWHERE



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THANK



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YOU!



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PARKWHERE

...and our sets of editable icons

You can **resize** these icons without losing quality.

You can **change the stroke and fill color**; just select the icon and click on the **paint bucket/pen**.

In Google Slides, you can also use **Flaticon's extension**, allowing you to customize and add even more icons.



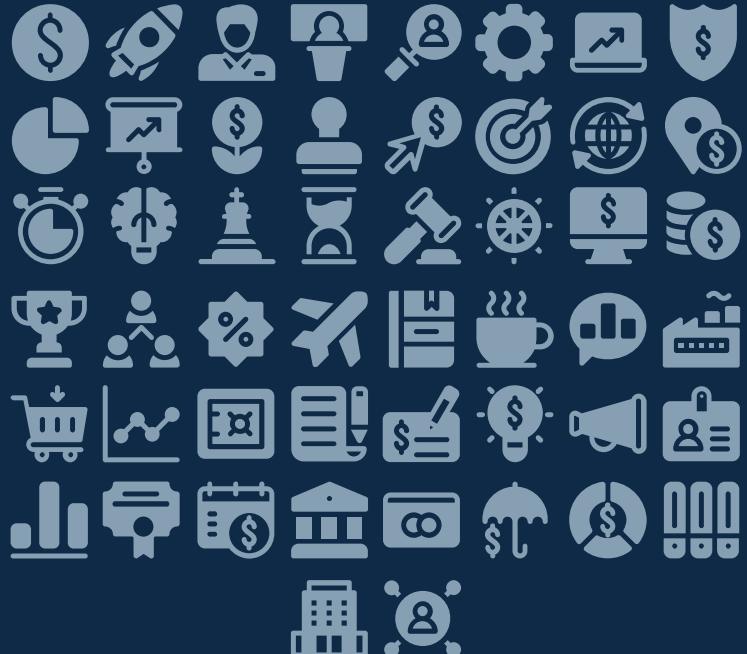
Educational Icons



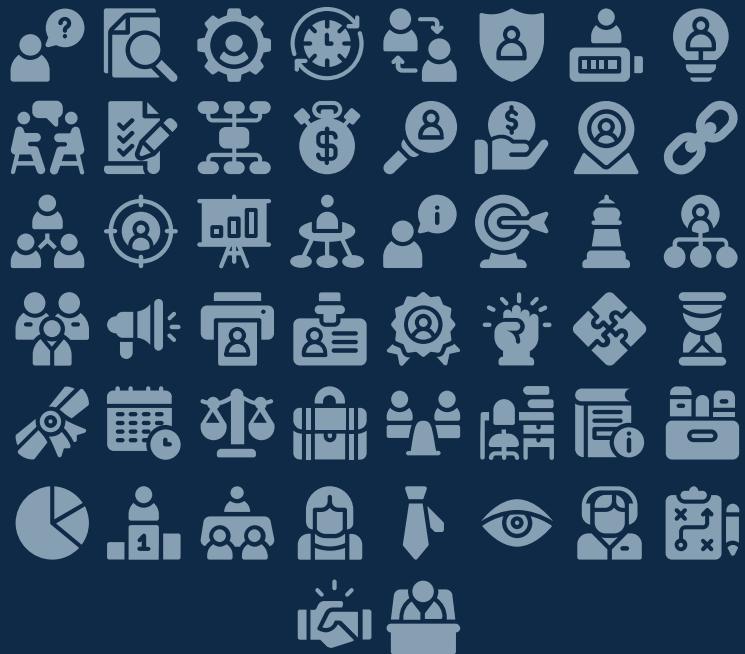
Medical Icons



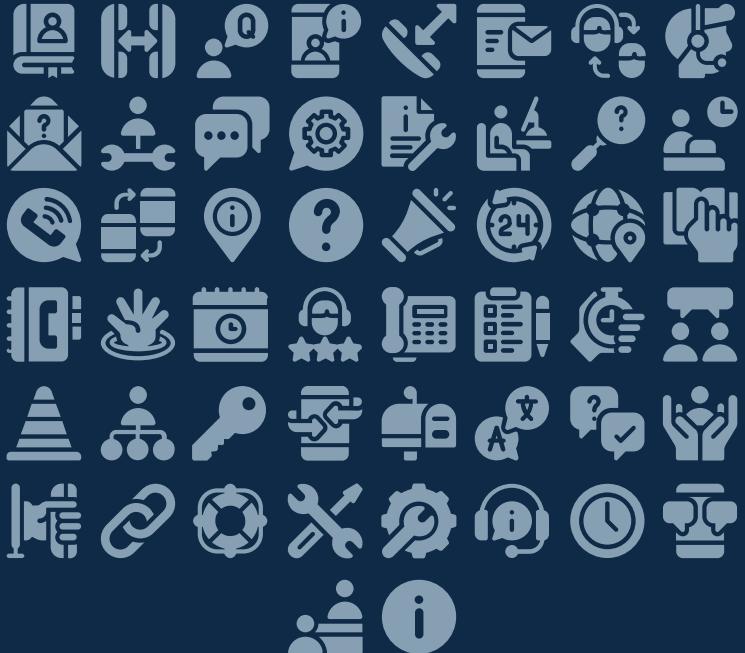
Business Icons



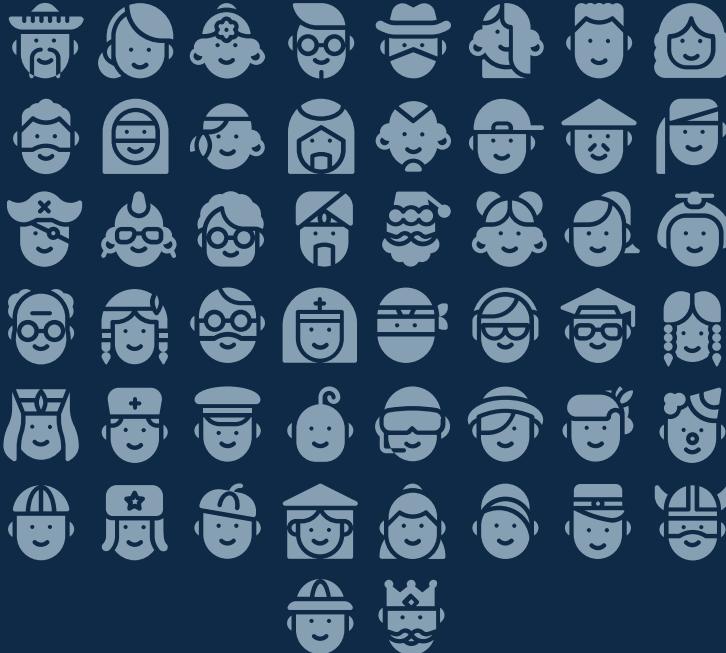
Teamwork Icons



Help & Support Icons



Avatar Icons



Creative Process Icons



Performing Arts Icons



Nature Icons



SEO & Marketing Icons

