This document highlights the main talking points for the live presentation/demonstration.

Requirements analysis and design

- Introduce background information
- Introduce what the app is for and what are some specifications

Use case diagram

- Show the Use case diagram and point out the main points
    - Browsing Routes
    - Custom Routes
    - Viewing My Runs
    - Viewing activity statistics

System design

- Show the Design model

Demo content

Summary of what we want to demo:

- Sign up and log in (with empty fields)
- (use new account)
- Welcome page with empty stats, custom greeting message, and recommended routes
    - Show and explain route features displayed (creator, pic, no. ppl, avg time)
    - Click into a route and show the leaderboard and reviews
    - Add routes to my runs (at least 3)
- Browse page to find a route to run that others created
    - Using default and custom location and current location
    - Show empty location error message
    - Show filtering by rating (>) and distance (<)
    - Show route info, leaderboard and comments
    - Start running (close dialog), then add to my runs
    - (add at least 3 runs to my runs)
- Custom page to create a route
    - Show empty location error
    - Show customisable route with multiple points
        - Extra point input
        - Click and drag and zoom on map
    - Show repeated naming error (different users can have the same name though)
    - (create at least 3 routes)
- My runs page to manage saved runs and give reviews

    - Give a full review, show leaderboard and review message with picture, and updated stats after submit
    - Add some runs to the favourites
    - Show all 4 filtering options
    - (add at least 4 reviews)
- Back to home page to view summary statistics
    - Stats by numbers
    - Stats by graphs (show 6 options)
        - Show that each point can be traced back to a run
- Log out
- (If got time) go to another account (old account) and find the routes and reviews created by the first account

Good principles used

Good SE practices

Extreme Programming (XP) is an agile software development methodology that emphasises customer satisfaction, flexibility, and team communication. We applied it to our website design due to the iterative nature of web development projects.

- Continuous integration
    - Merge all working copies of developers to a shared mainline multiple times a day and constantly test the website.
    - Detect integration issues as soon as feasible.
- Refactoring
    - Revise the code regularly to improve its underlying structure while maintaining its external behaviour.
    - Keeps the codebase clean and adaptable to changes.
- Pair Programming
    - Two team members working together on a task
    - Solves complex design problems and ensures high-quality code with fewer errors.
- Test-Driven Development
    - Start by planning tests for a new feature before writing the code itself.
    - Ensures requirements specifications are met.
- Version Control
    - Main branch for the latest stable version of the app
    - Separate dev branch for development works
    - Use of feature branches for individual developers to work on features and merge back to dev when ready
    - Always review as a group before merging to the main or dev
- Good Documentation
    - Constant updating and providing good commit messages and code comments
    - Organise content logically for easy navigation
    - Include diagrams, flowcharts, and screenshots to clarify complex concepts

Traceability

- Demonstrate traceability through:
    - Git for continuous integration
    - Google Suite for collaboration for deliverables and documentation
    - Draw.io for collaboration for diagrams
    - VSCode extensions such as GitLens for traceability
    - Zoom minutes for biweekly meetings and pair programming tasks

Testing

- Show some test cases and CFG
- Explain input validation and filter logic validation
- Explain logic flow with CFG

Possible extensions

- Automatic State Detection
    - Implement functionality that automatically detects a user's location (state or region) using GPS or mobile network data when they are creating or searching for routes.
- Mobile-Friendly Application Design & Extension
    - Optimise the app's interface for mobile devices to improve usability and accessibility.
    - Simplify the user interface to make navigation and interaction easier on smaller screens.
- Integration with Smart Devices
    - Enable connection with wearables to track running progress and sync route data automatically.
    - Provide features that allow users to interact with the app via these devices, enhancing the hands-free experience during physical activities.
- Social Interaction Enhancements
    - Allowing for real-time sharing of runs and locations with friends or groups.
    - Enable in-app communication or integration with social media for easier sharing and engagement.
- ML/AI for route recommendations
    - Use of Machine Learning can help suggest better routes and give users better route-creation ideas
    - Implement AI-driven suggestions for optimising running times and improving performance based on past activity logs.

Appendix: more details

Storyline:

Alex, a passionate runner and tech enthusiast, often finds it challenging to discover new and exciting running routes in Singapore. Frustrated with the limited options and outdated tools available, Alex dreams of a solution that not only helps runners like himself but also builds a community around it. During a particularly uninspiring run through his neighbourhood, Alex has an idea. Why not create a web app that allows runners to discover new routes, share their own, and engage with others through friendly competition? Route Rover was born.

- Primary Function: Helps users find curated running routes in Singapore, created by both the app team and other passionate runners.
- User-Created Content: Provides tools for users to build and share their own running routes.
- Gamification Element: Features a gamified leaderboard to enhance social interaction and engagement among users.
- Target Users: Aimed at runners of all levels who are seeking new routes or wanting to share their favourite routes with a community.
- Social Features: Encourages social connections through competition and shared experiences in running.

[click to see test cases covered for demo.xlsx]

Presenter	Description (just adapt based on input)	Input	Results
1	Good Morning! We are Team Number One, and we will be presenting to you Route Rover. Route Rover is a web application that has 3 main functionalities that allow users to browse, create, and record routes to track their runs. I will now pass the time over to my group mates, who will elaborate more about our app.	-	-
A	Thanks <1>. I'm <A>, imagine that I am an aspiring runner. However, I have a slight problem, I only know of 1 or 2 routes and running rounds at the wave all the time is boring. Luckily, Route Rover helps me with this. Let's see how it works. First, let's create an account. If both the input fields are empty, I will not be able to create an account.	Email: <blank> Password: <blank>	Fail
	If I leave the email field blank, and fill in just the password, it does not work too.	Email: <blank> Password: <friendA>	Fail
	Third time's the charm, let me input both fields now. We have successfully created an account, let's proceed to log in.	Email: friendA@gmail.com, Password: friendA	Success
	If both the input fields are empty, I will not be able to login.	Email: <blank> Password: <blank>	Fail
	If I only fill in my email, I will also not be able to login.	Email: friendA@gmail.com, Password: <blank>	Fail
	If I key in both my email and password correctly, I will be able to login.	Email: friendA@gmail.com, Password: friendA	Success
	Now, we're on the homepage. We can see our name, as well	Click on Run 11.	See route details nad map

	as some recommended routes for me. Wow, that's useful for me. Let me click on one of them. Oh there's a map showing the route.	Click Home.	
	Looking pretty cool. Let's see the other recommended routes. If I look closely, I can see s.o much information about the route. The creator of the route, number of people who have ran this route, distance, terrain type, and est time are all visible. Seems like I can add this to my runs for later/ start running now However, I would prefer to browse other routes too.	Click on GBTB. Click on Start Running/ Add to Run Click Back	See route details nad map
	Let me look for some routes near The Wave so I wouldn't have to run the same boring route over and over again.	Type NTU Wave	See [no.] routes
	That's alot of routes, let me narrow down.	Click Browse Type NTU Wave Change min rating to 4.5 Click Search	S3 is shown [DO NOT CLICK]
	Let's try if the other filters work. It works, there are now lesser routes than the default one.	Click Browse Type NTU Wave Distance >3.5	Show 3 runs
	Let's try the Nanyang House route. I can zoom in and out with my mouse. When I click on the icon on the top right, I will also see the	Click Nanyang House Use mouse to zoom in and out Click top right icon, hover over the diff points	 Map zooms in and out Corresponding points appear on map

	route instructions.		
	I like this let me add this to my runs and go run now, bye	Click Add to My Runs Log out	
B		Email: friendB@gmail.com Password: <blank>	Fail
		Email: friendB@gmail Password: 123456	Fail
		Email: friendB Password: 123456	Fail
		Email: friendB@gmail.com Password: 123456	Success
		Click on My Runs	Empty
		Click Custom Start: <blank> End: <blank> Click Search	Fail
		Start: <smth> End: <blank>	Fail
		Start: <blank> End: <smth>	Fail
		Start: NTU SCSE End: HALL 11	Succesfully Generate Route
		Click Add to My Runs, Fill in relevant sections Click on My Run Click on that route	Saved route appears See the route with the saved points
		Click Custom Start: Jurong Lake Garden Gym	

		End: Lakeside MRT Click Search	 Results success
		Add point: Taman Jurong Food Centre	Point added, route updated on map
		Drag out from route to include another point Click Add to My Runs, Fill in relevant sections	Another point included, route updated
		Click on My Run Click on that route	Saved route appears See the route with the saved points
		Click on Sign Out Log in again	
C		Email: friendC@gmail Password: 123456	Fail
		Email: friendC@gmail.com Password: 12345	Fail
		Email: friendC@gmail.com Password: 123456	Success
		Refresh Page	Still logged in
		Click on My Runs	See at least 1 reviewed route and 3 non reviewed routes
		Click on Reviewed Route	See all the route info
		Click on To Review route	See the prompts