

MSP Report - Sprint 1

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Roles

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Product Owner: Guilherme Fernandes

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Features

(Proposal for sprint 2 highlighted in bold)

Basic Features (Implemented in prototype)

- Register account
- Register type of vehicle
- Define route
- Alert if speed limit is violated
- Calculate estimated time of arrival

Features from Existing System

- **Bookmarking (home, work)**
- Avoid tolls
- **Recent destinations**
- Show current speed (implemented already as part of speed alerts)
- Parking lots
- **Hazard reports**
- **Change units**

New Features

- **Statistics: usage and driving quality (rate of speed violations etc.)**
- Walking route
- Shared ride

Project Planning

Task Table

Task ID	Task	Duration (days)	Depends on
1	Explore original app & choose features	3	-
2	Review chosen features	1	1
3	Develop BPMNs for each feature	4	2
4	Review BPMNs	1	3
5	Front-end development	7	4
6	Back-end development	7	4
7	Integrate front-end and back-end	2	5,6
8	Testing	2	7
9	Bug Fixing	1	8

Table 1: Task List with Dependencies

Gantt Chart

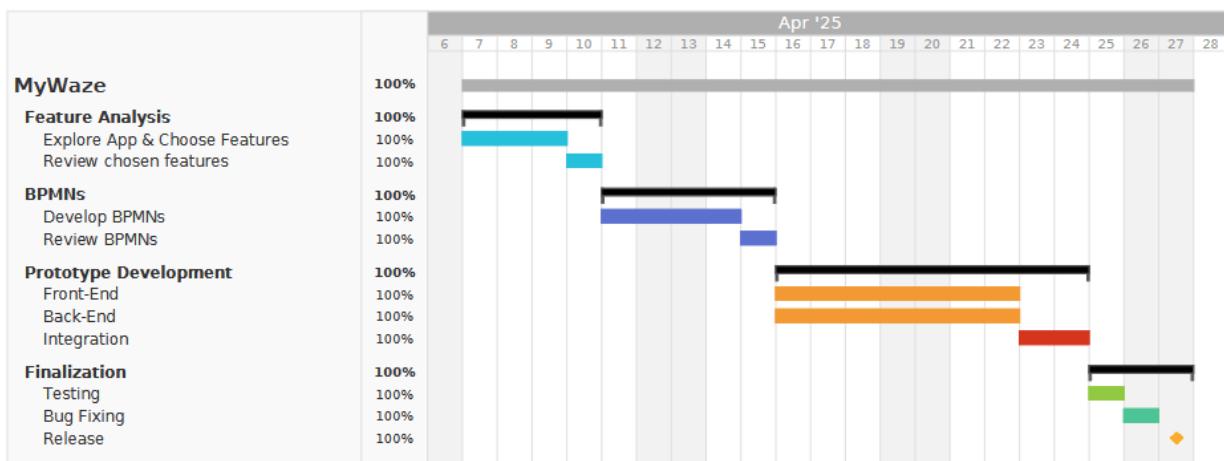


Figure 1: Gantt Chart

Burndown Chart



Figure 2: Burndown Chart

Match from Features to Models

Feature	Model
Overall process	MyWaze.bpmn
Register account	MyWaze_registerAccount.bpmn
Recent destinations	MyWaze_defineDestination.bpmn
Define route	MyWaze_defineRoute.bpmn, MyWaze_calculateRoute.bpmn
Avoid tolls	MyWaze_defineRoute.bpmn
Walking route	MyWaze_defineRoute.bpmn
ETA	MyWaze_defineRoute.bpmn
Current speed	MyWaze_navigate.bpmn, MyWaze_speedMonitoring.bpmn
Speed alert	MyWaze_navigate.bpmn, MyWaze_speedMonitoring.bpmn
Find parking lots	MyWaze_navigate.bpmn, MyWaze_defineRouteToParkingLot.bpmn, MyWaze_calculateRoute.bpmn
Hazard reports	MyWaze_navigate.bpmn, MyWaze_reportHazard.bpmn
Share ride	MyWaze.bpmn, MyWaze_registerRideOffering.bpmn, MyWaze_arrangeSharedRide.bpmn
Bookmarking	MyWaze.bpmn, MyWaze_createBookmark.bpmn
Statistics	MyWaze.bpmn, MyWaze_provideStatistics.bpmn
Change units	MyWaze.bpmn, MyWaze_changeUnits.bpmn
Register vehicle type	MyWaze.bpmn, MyWaze_registerVehicleType.bpmn

Requirements Diagram

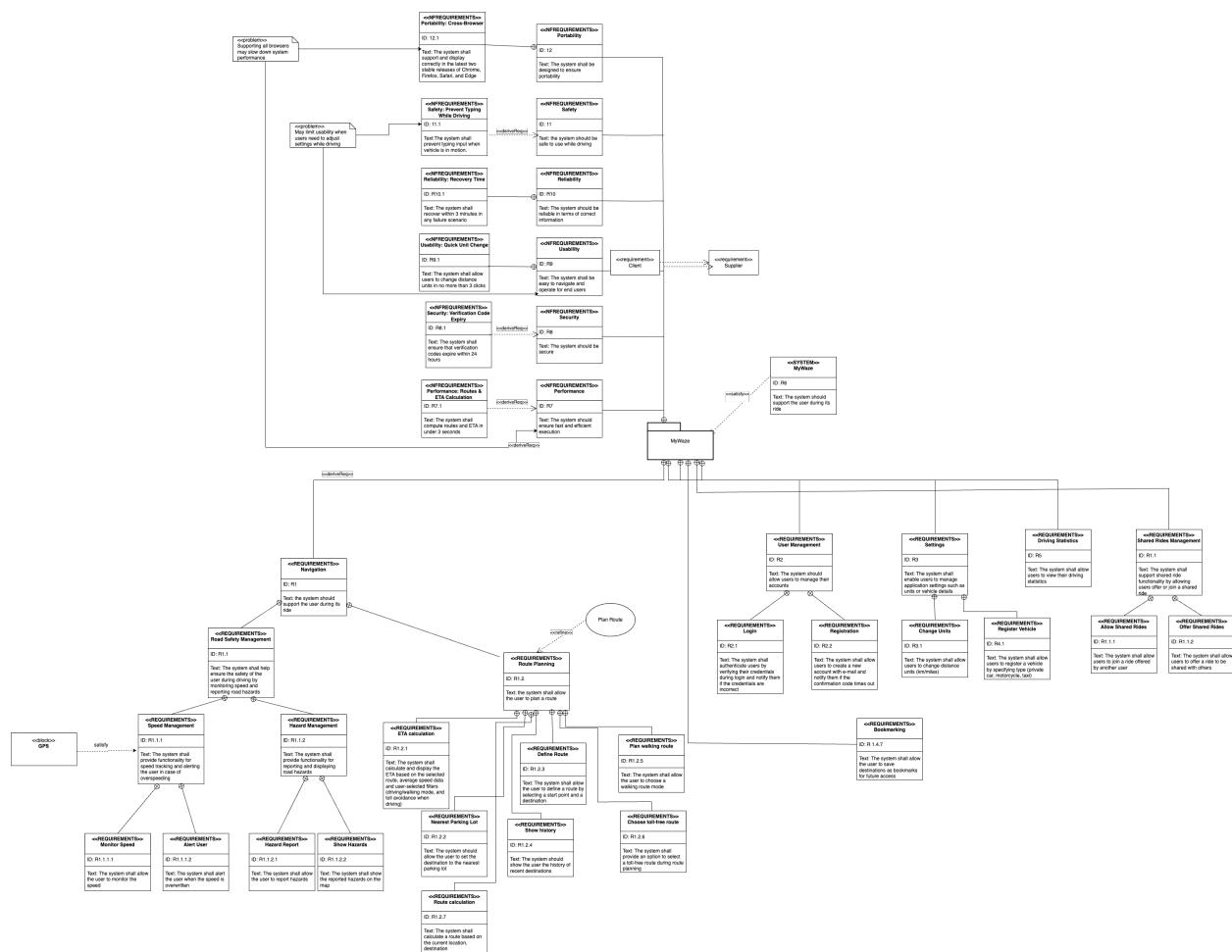
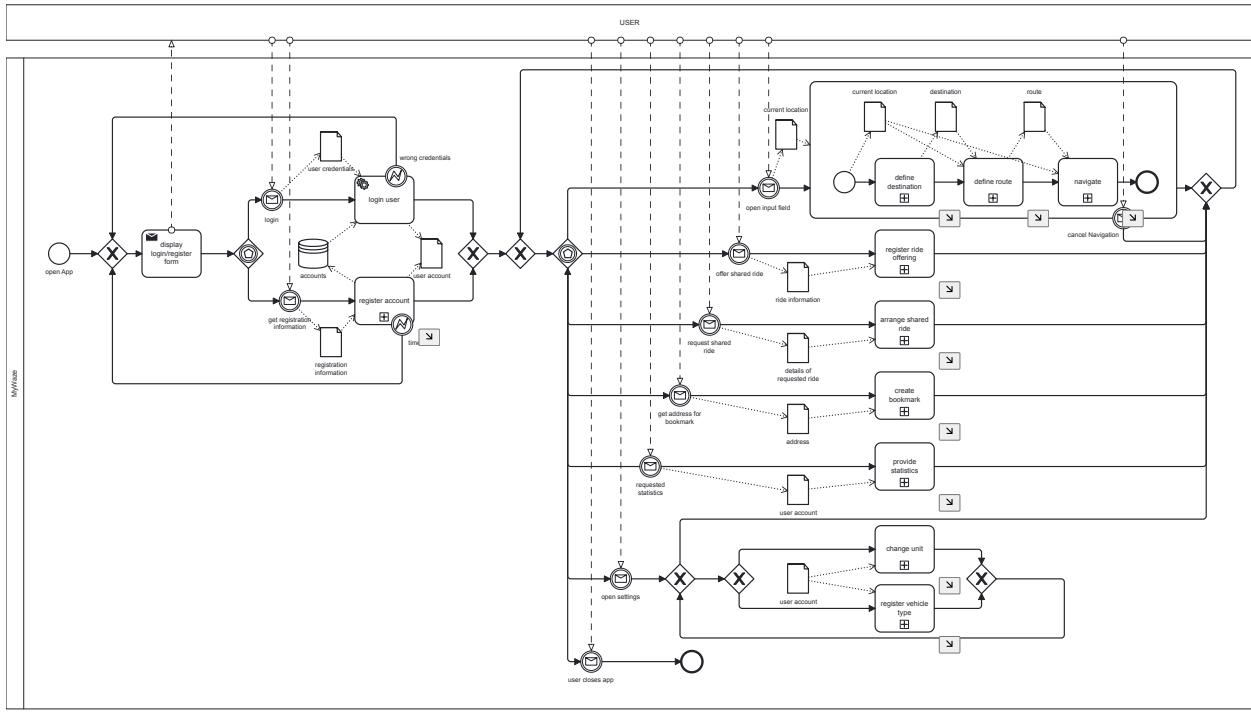


Figure 3: Requirements Diagram

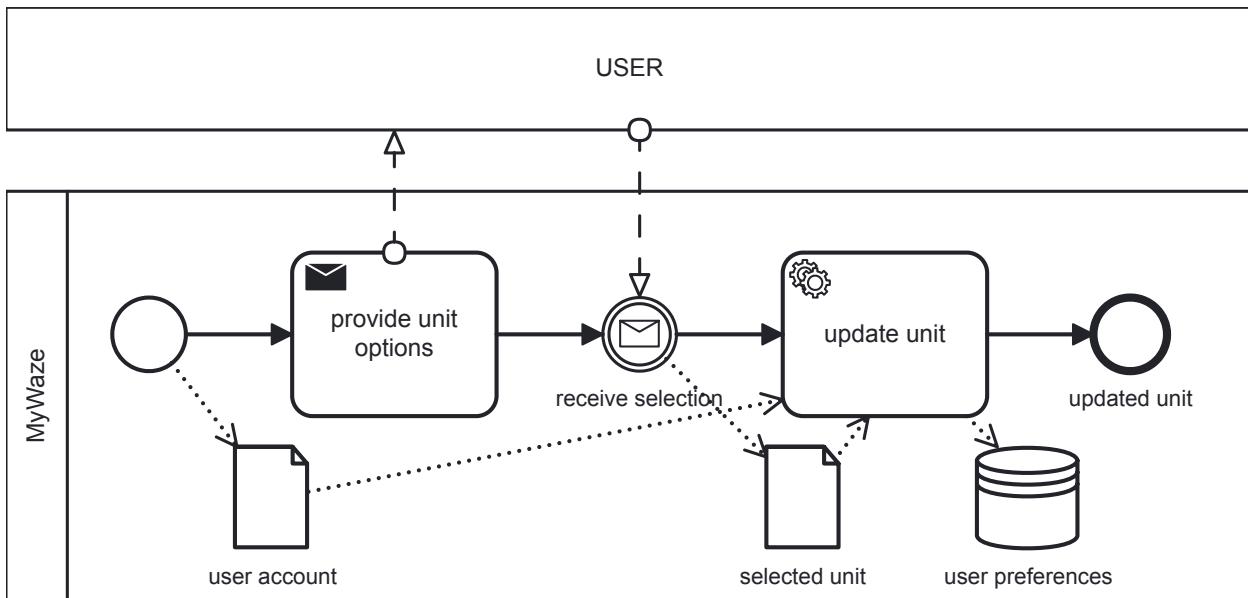
BPMN Models



MyWaze.bpmn

[BPMN.IO](#)

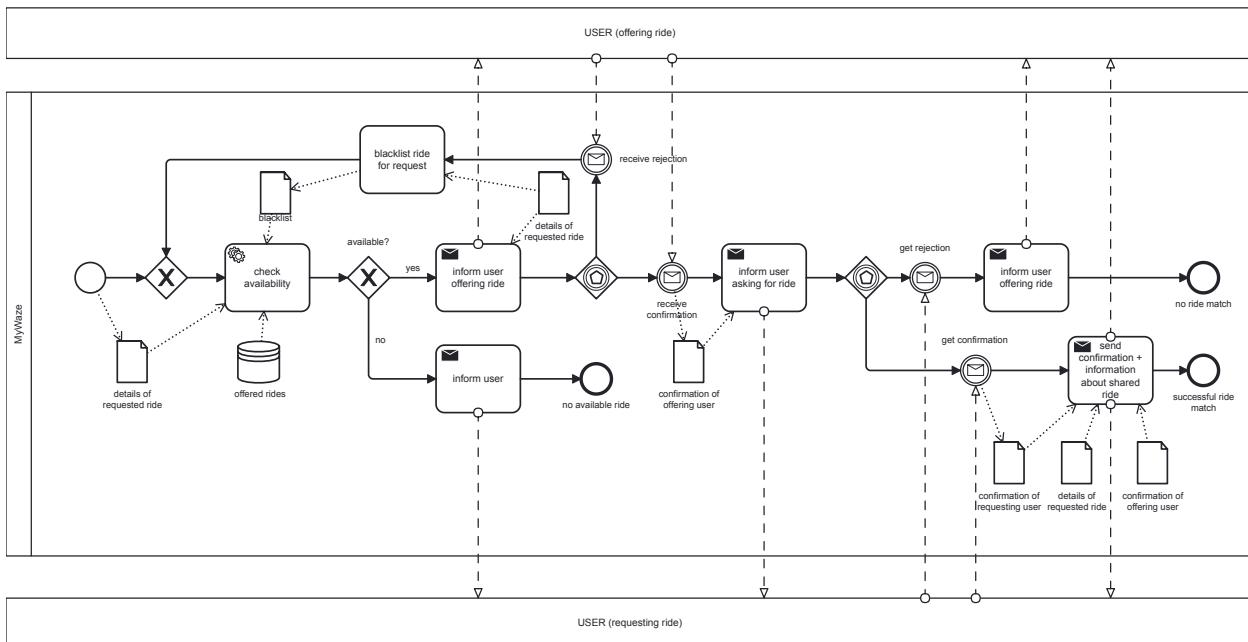
Figure 4: Model: MyWaze



MyWaze_ChangeUnit.bpmn

BPMN.io

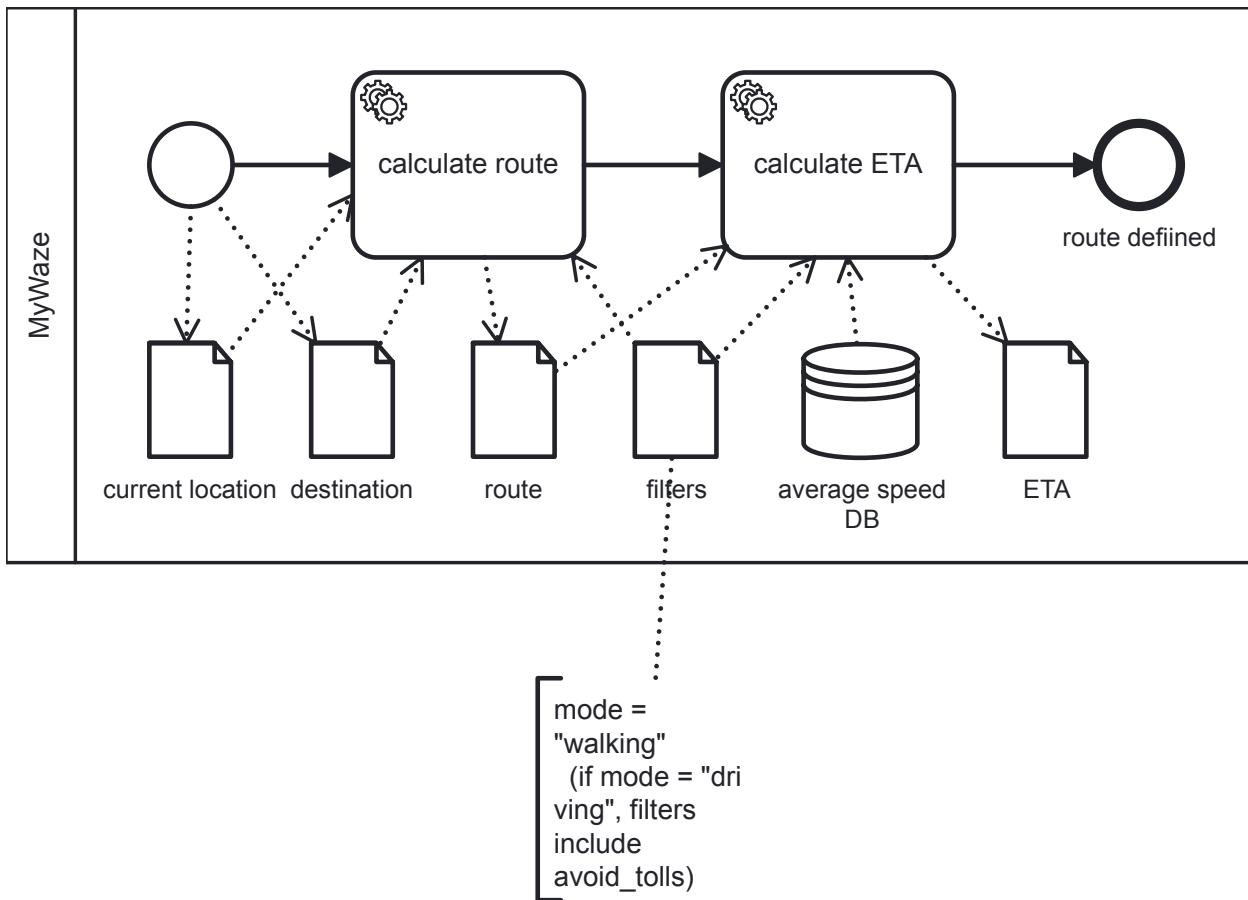
Figure 5: Model: MyWaze'ChangeUnit



MyWaze_arrangeSharedRide.bpmn

BPMN.io

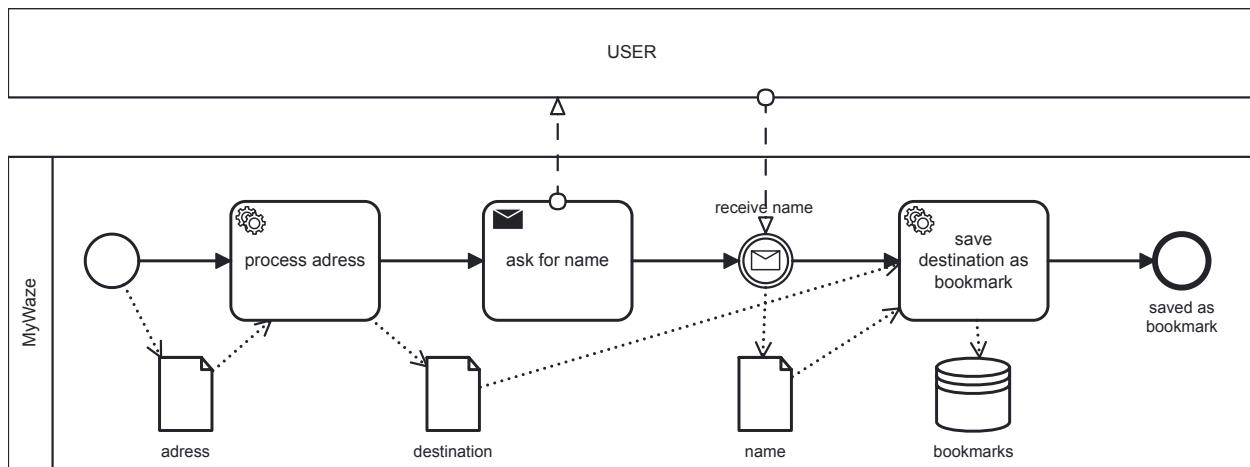
Figure 6: Model: MyWaze'arrangeSharedRide



MyWaze_calculateRoute.bpmn

BPMN.io

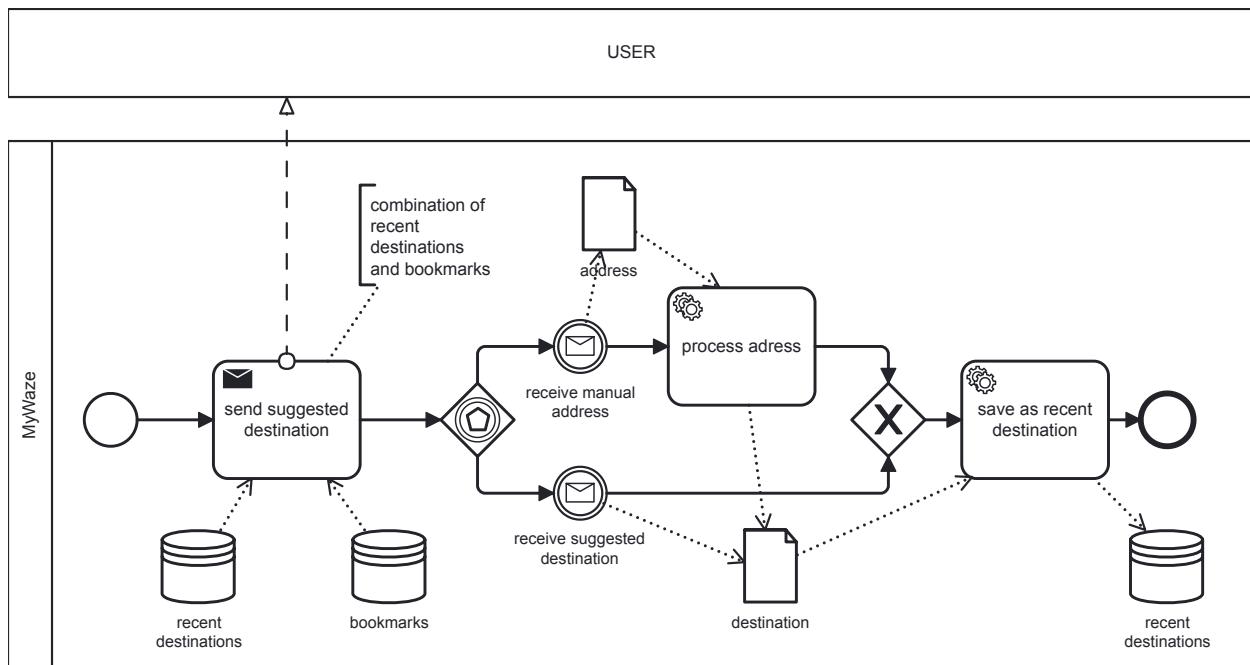
Figure 7: Model: MyWaze calculateRoute



MyWaze_createBookmark.bpmn

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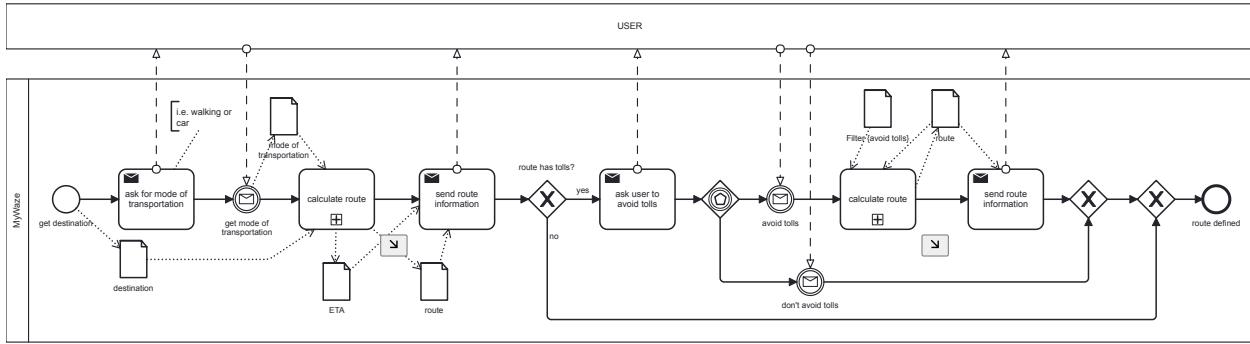
Figure 8: Model: MyWaze.createBookmark



MyWaze_defineDestination.bpmn

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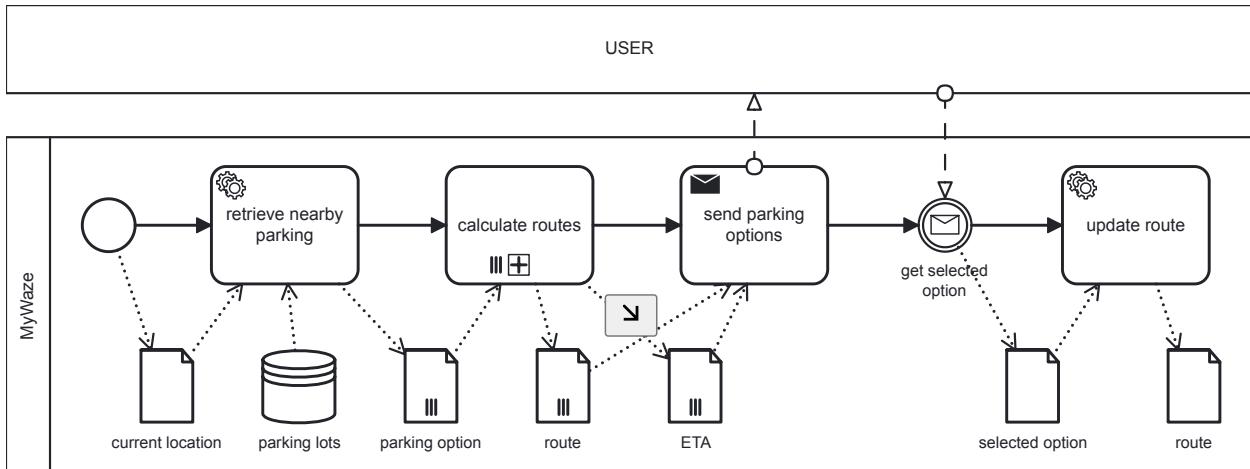
Figure 9: Model: MyWaze.defineDestination



MyWaze_defineRoute.bpmn

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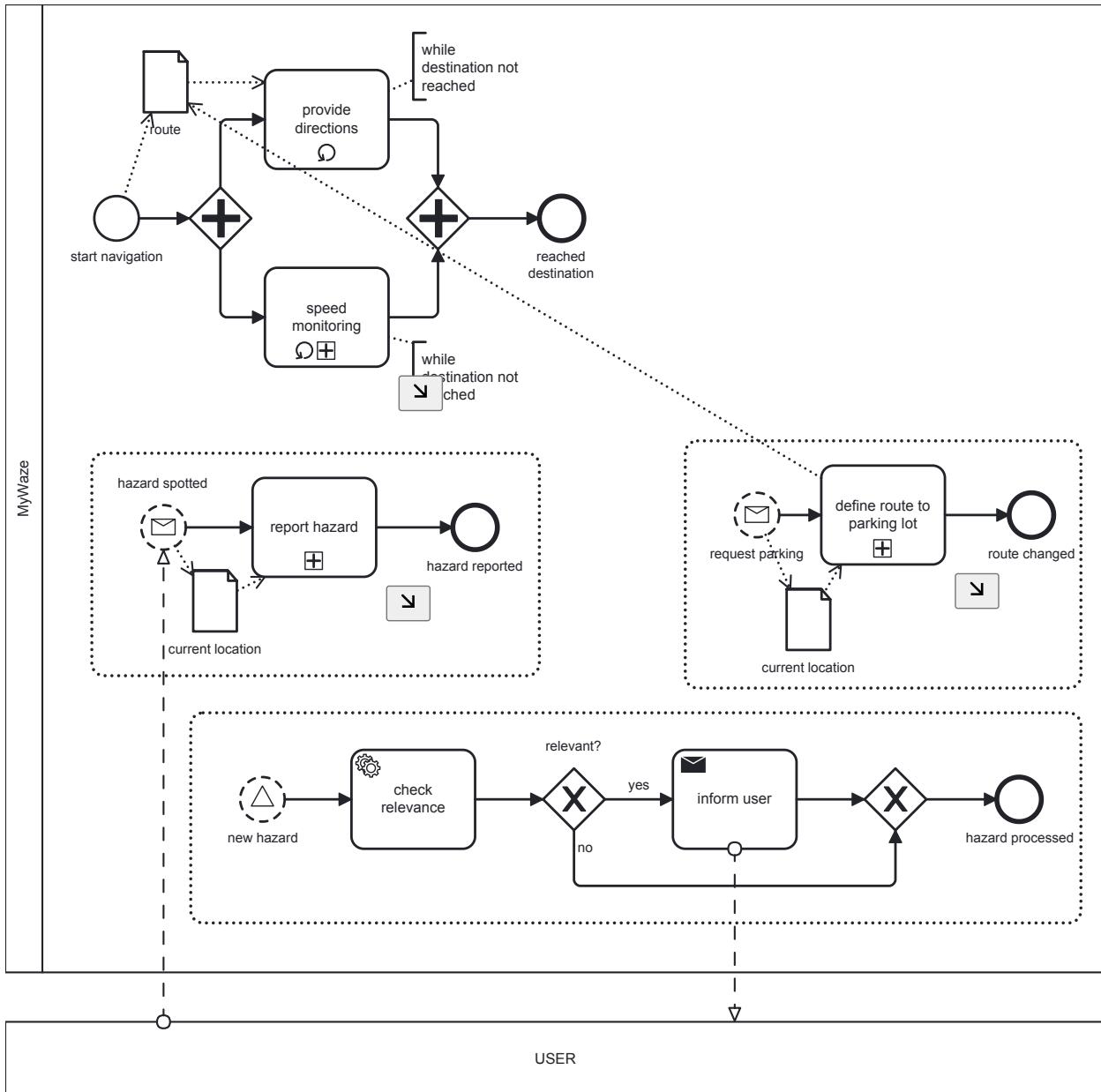
Figure 10: Model: MyWaze`defineRoute



MyWaze_defineRouteToParkingLot.bpmn

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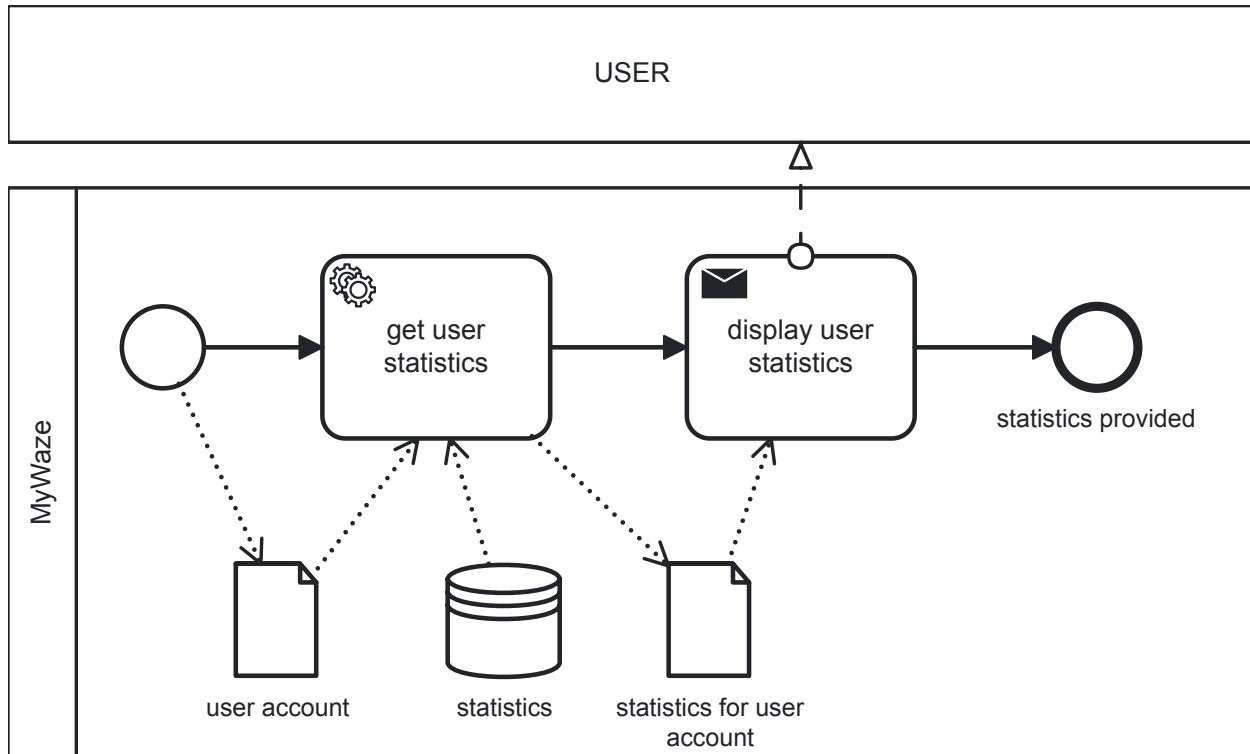
Figure 11: Model: MyWaze`defineRouteToParkingLot



MyWaze_navigate.bpmn

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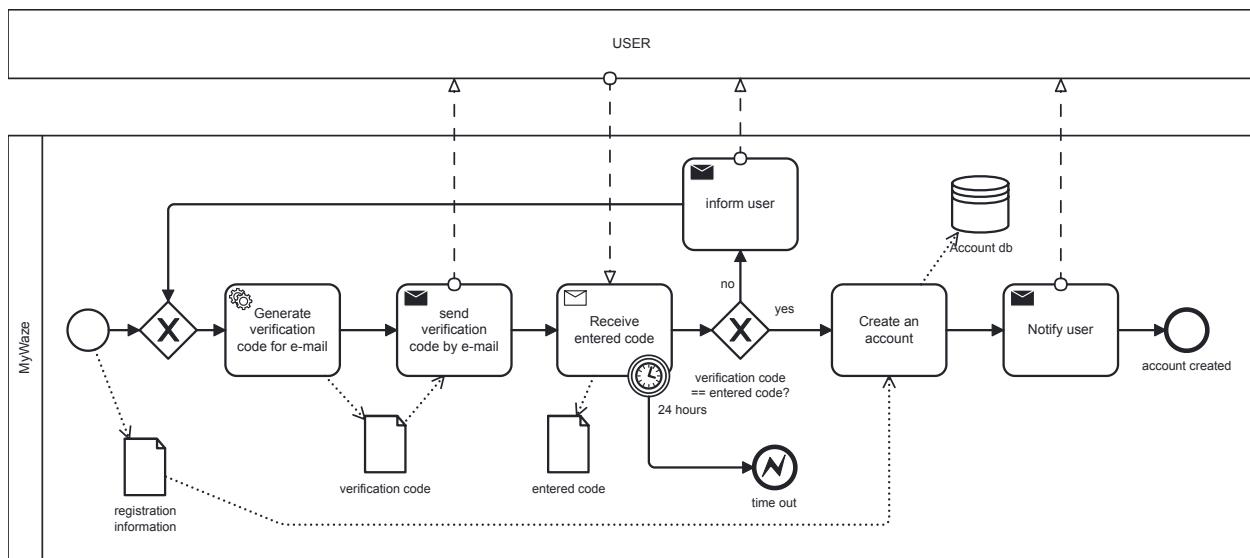
Figure 12: Model: MyWaze.navigate



MyWaze_provideStatistics.bpmn

BPMN.io

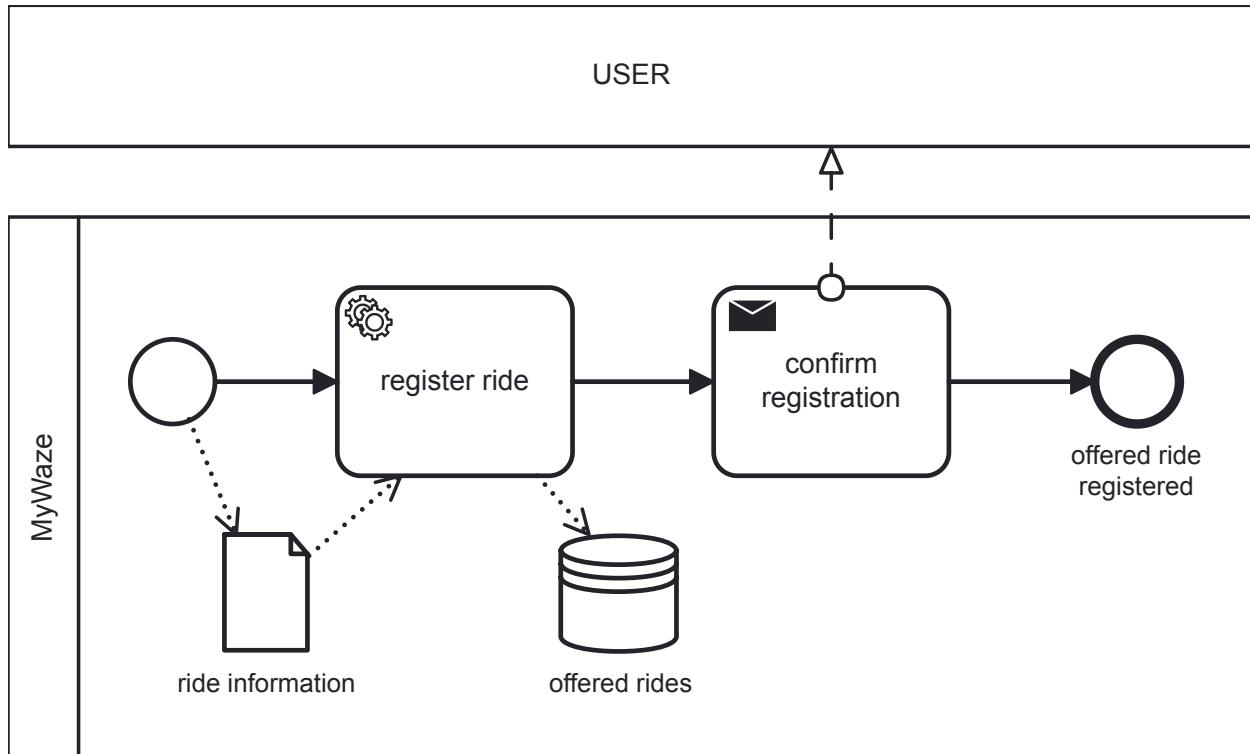
Figure 13: Model: MyWaze'provideStatistics



MyWaze_registerAccount.bpmn

BPMN.iO

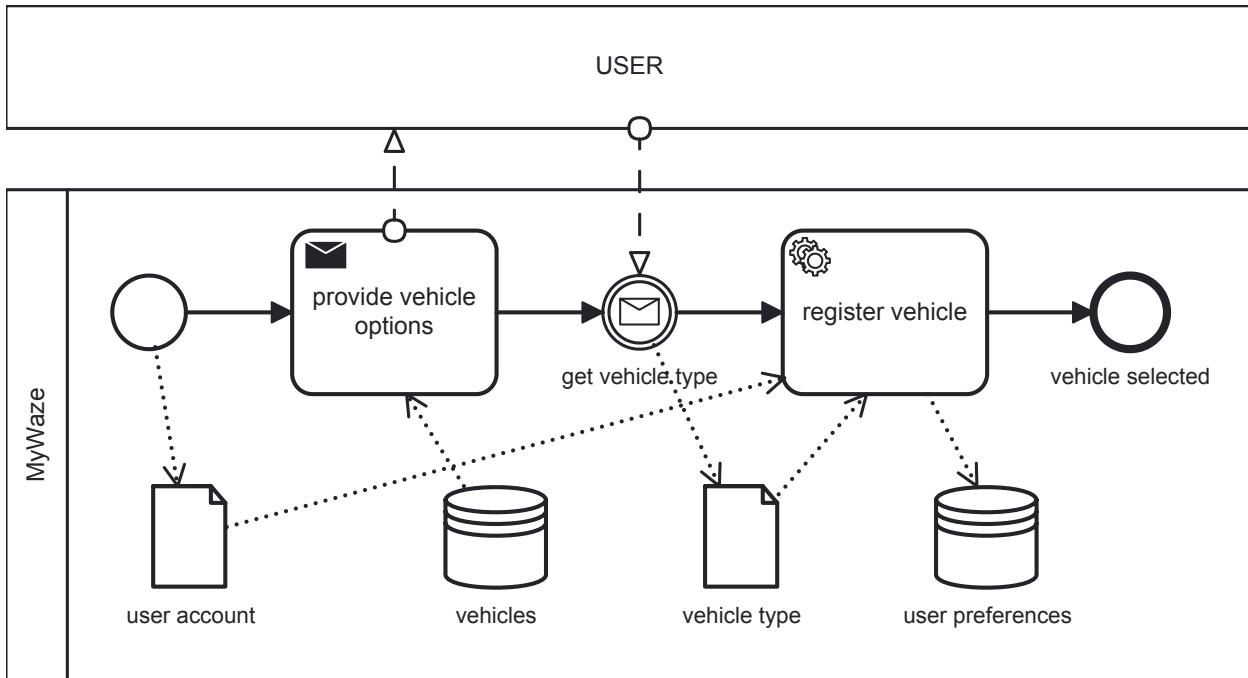
Figure 14: Model: MyWaze' registerAccount



MyWaze_registerRideOffering.bpmn

BPMN.iO

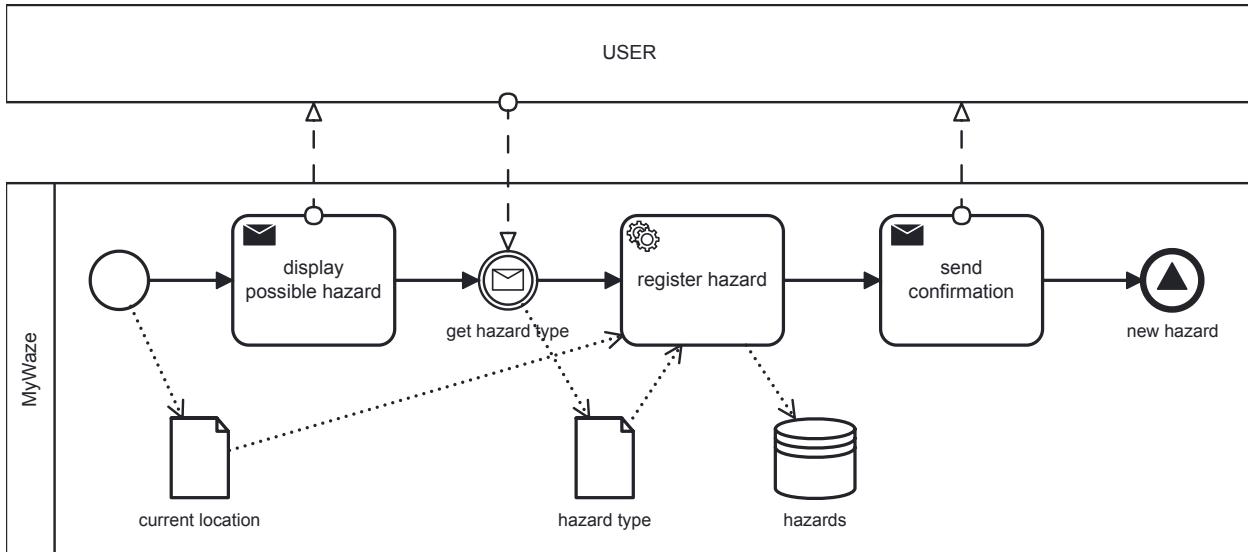
Figure 15: Model: MyWaze' registerRideOffering



MyWaze_registerVehicleType.bpmn

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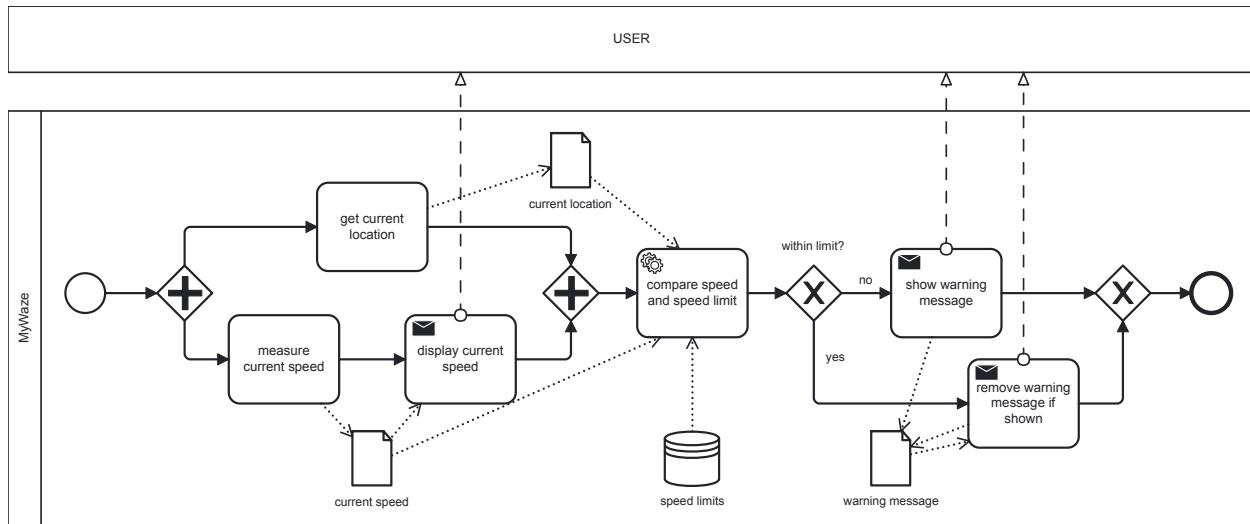
Figure 16: Model: MyWaze·registerVehicleType



MyWaze_reportHazard.bpmn

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Figure 17: Model: MyWaze·reportHazard



MyWaze_speedMonitoring.bpmn

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Figure 18: Model: MyWaze`speedMonitoring

Prototype

Running Instructions

```
cd msp-mywaze-backend  
npm i  
npm run dev
```

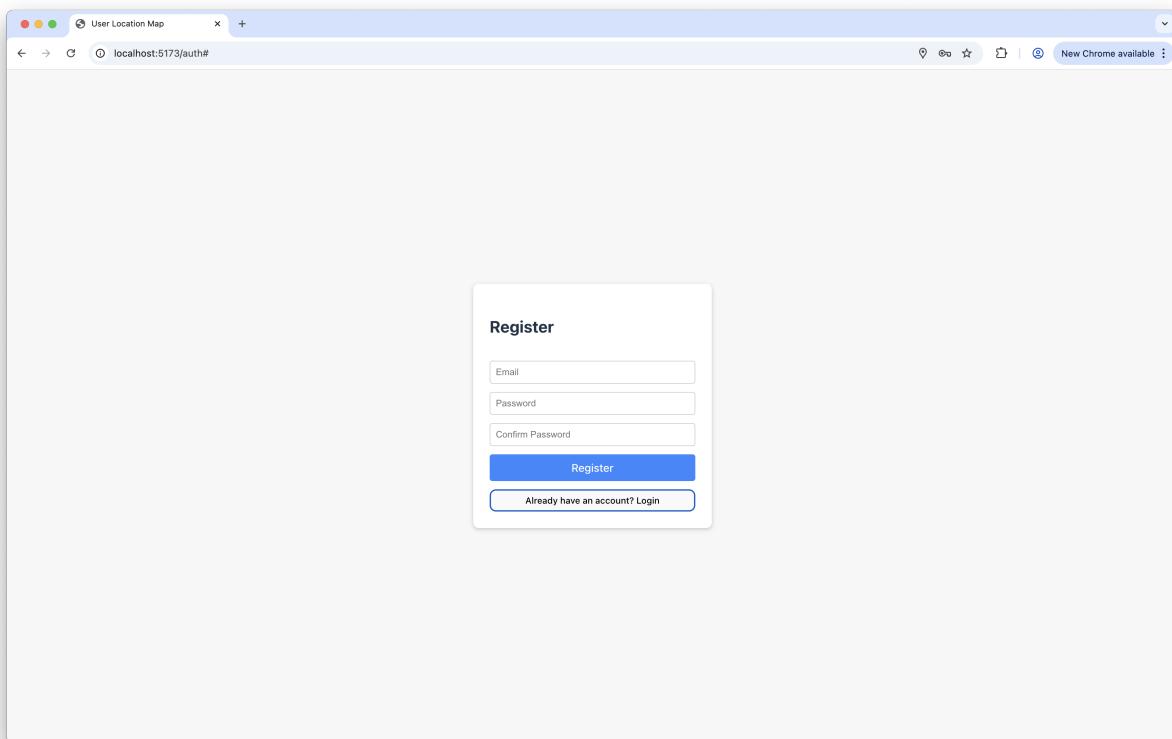
```
cd msp-mywaze-frontend  
npm i  
npm run dev
```

The only prerequisites are a current version of `node` and `npm`. The database is implemented as SQLite, so no manual setup is necessary.

Routing uses OpenRouteService, which is quota-limited (daily) in the free version. If it stops working, please wait one day or change the variable `ORS_API_KEY` in `msp-mywaze-backend/src/routes/routing.ts` to your own (free) API key obtained from <https://openrouteservice.org>.

Features Implemented

- **Registration:** User can register and login on home page.



- **Vehicle Type Registration:** User can configure their vehicle type in the drop-down user menu on the top right of the screen.
- **Define Route:** User can define a route by entering the destination name or address into the text field at the top center and clicking *Go*.
- **ETA:** ETA is displayed in a popup above the destination after a route is defined.

- **Speed Warning:** Current speed will turn red if the user moves over 50 km/h. To test speed warnings on desktop, click on the speed value to generate a random speed around 50 km/h.

