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1 Vision for the application

At its core, the application wishes to empower the user with information about gas prices, in order to allow for the user to save money by going the extra mile.

The target demographic of the application is owners and users of gas powered vehicles, where they themselves are responsible for purchasing gas, without any prior affiliation with a specific brand of gas station. The application will enable the user to save money, by making an informed decision about where to purchase gas next time. The user has an option of saving data about amount of gas, distance driven and total price for each gas station visit in a ledger, in order to get a better understanding of their driving habits.

There are two intended modes of operation for the application:

- Stationary/planning
- En route

In the first case, the application shows nearby gas stations, and can help the user with directions to the selected station if so desired. In the second case, the user needs to top-up the tank while going from A to B. The application will then show possible stations which are close to the route, and can then show altered navigation guides from A to B, with a stop at the desired station.

In order to function optimally, the application allows for users to send data about the current prices at the gas station to a central server. As such, the application data is crowd-sourced.

The application will also be able to present previously entered ledger data and statistics of these.

2 Personal vision

Here follows the personal vision for the three project participants.

2.1 Magnus Aagaard Sørensen

2.2 Simon Alexander Alsing

2.3 Jakob Wilbrandt

3 User stories

Here follows a list of user stories, outlining the intended features and functionality of the application.

3.1 Setup

- As a user,
- I expect the application to know my default gas type,
- so it can guide me to the best prices.

As a user, I expect the application to know my default gas type, so it can guide me to the best prices.

At first run, the application shows a setup screen. Here, the user selects the default type of gas to use in the application.

3.2 Fill up gas

As a user, I wish to find the cheapest gas in my vicinity.

In the default view, a map is shown centered on the users current location, showing the nearest gas stations and the price for the default gas type.

As a user, I wish to be guided to my selected gas station, so I can take advantage of the low prices.

Once the user has selected a gas station, navigation directions is show in the default navigation provider.

As a user, I wish to know my fuel consumption better, to monitor my driving and the health of my vehicle.

When the user has been stationary at a gas station for two minutes, a notification is shown prompting the user to enter information about gas price and amount, to store in an ledger.

As a application owner, I wish to have the most up to date information, so more people can take advantage of the application.

If the user enters information about fuel price and amount, the price is sent to the remote server, to update the current prices for all users.

4 Design overview

4.1 Activities

The application will be designed for usage in portrait mode on hand-held devices, as well as landscape mode on larger devices e.g. tablets. Since the layout changes, the design of the application also changes to a large degree, in order to deliver the best possible user flow in each case.

Portrait

I portrait mode we will have the following activities:

- Setup/options screen

- Map mode (Default)
- List mode
- Show prices
- Route mode
- Report prices
- View ledger
- Enter ledger information

Landscape

In landscape mode, the dynamics of user operation has changed, and we will instead use fragments to alter the content of our activities depending on the user action. Thus, we have a different list of activities here:

- Setup/options screen
- Main screen
- View ledger

Here, the main screen is split into two pieces, each showing a different fragment. For instance, it could be the map mode from portrait on the left side, and the right side would show the prices for the last selected station. The map mode could be swapped for the list view while still keeping the prices list. While at a station, the show prices fragment could be replaced by a report prices fragment. When planning a route, the map fragment would be shown in unison with the route mode fragment.

4.2 Risks

A high degree of fragmentation between the portrait and landscape modes. The requirement for backend API. The acquisition of data.