

Digital games and the UrbanSCOPE tool

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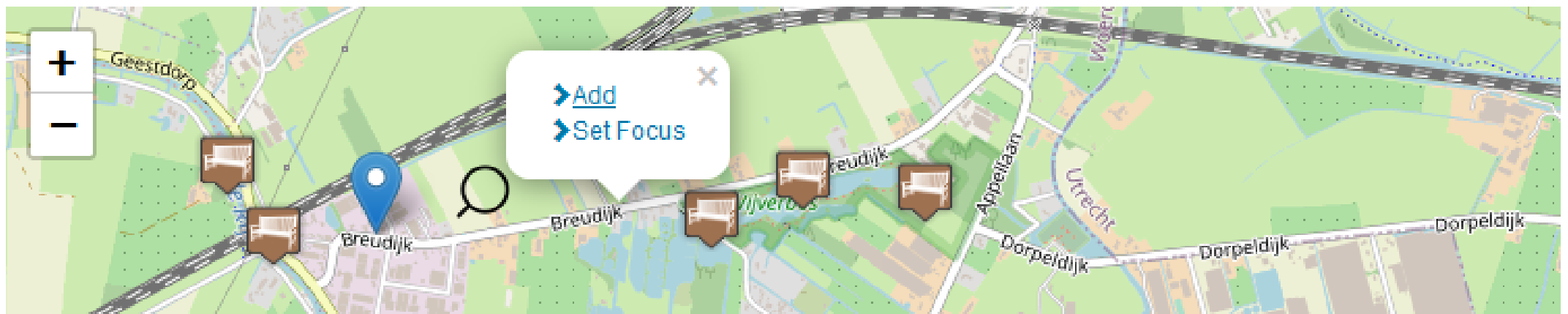
UrbanSCOPE Tool

- Sustainable Urban Mobility Planning tool
- Explore scenarios
- Effect of extra facilities on route planning
 - Benches
 - Bus stops
 - Bike lanes
 - Etc.

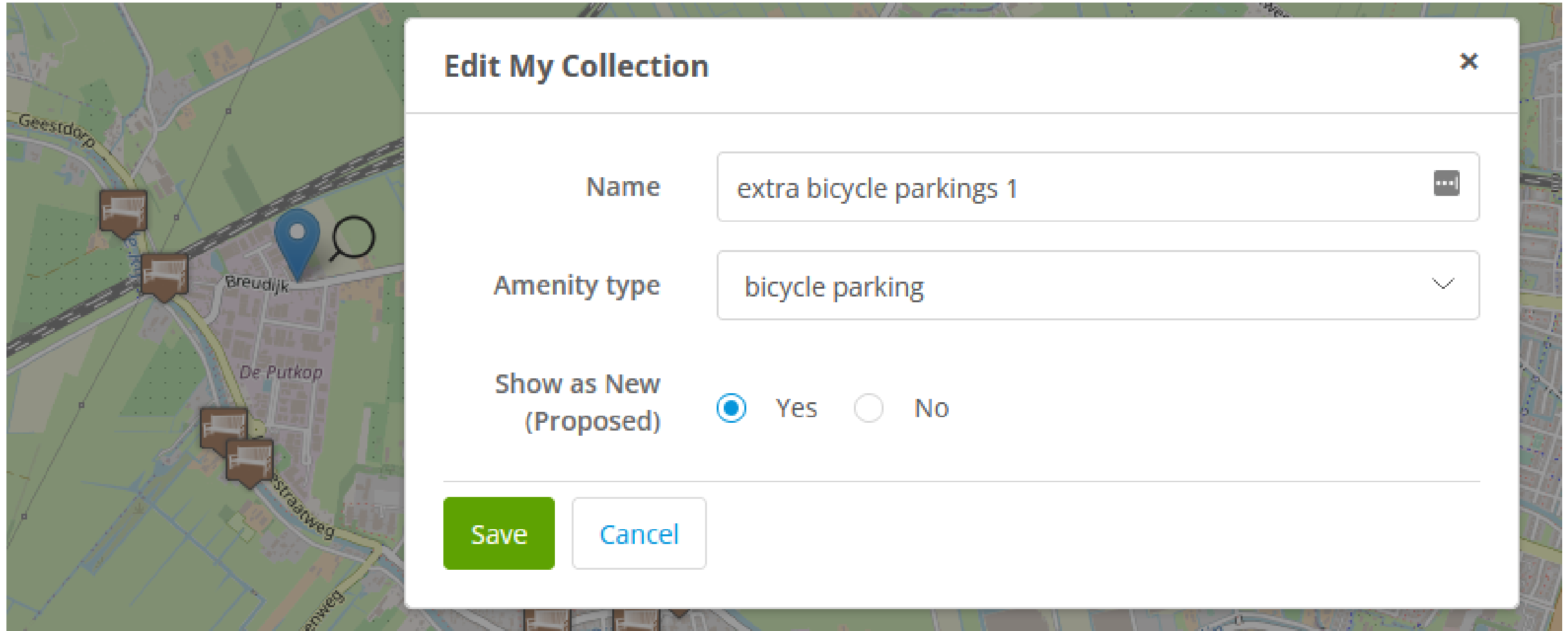
Collections of Facilities

User Collections

 Coordinate input  New  Add to  Listing  View



Add Amenities

A map background showing a street intersection with labels like "Geesdorp", "Breudijk", "De Putkop", and "Straatweg". There are several brown icons representing bicycle parking spots on the map.

Edit My Collection ✕

Name

Amenity type

Show as New (Proposed) ☒ Yes ☐ No

Amenities



Image_collection [Elements] x

Add
 Rename
 Delete
 Find usages
 Move to other image collection
 Export to file...

Image	Name	Format	Size
	bench	png	32x37
	bin_closed	png	32x32
	bus_stop	png	32x37
	tourist_info	png	32x32
	danger	png	24x24
	traffic_light	png	32x32
	cinema	png	32x37
	cycling	png	32x37
	drinkingwater	png	32x37
	ecarcharge	png	24x24
	police	png	32x37
	repair	png	32x37
	shoppingcenter	png	32x37
	sports	png	32x37
	streetlamp	png	32x37



Adding Roads

My Roads



Save



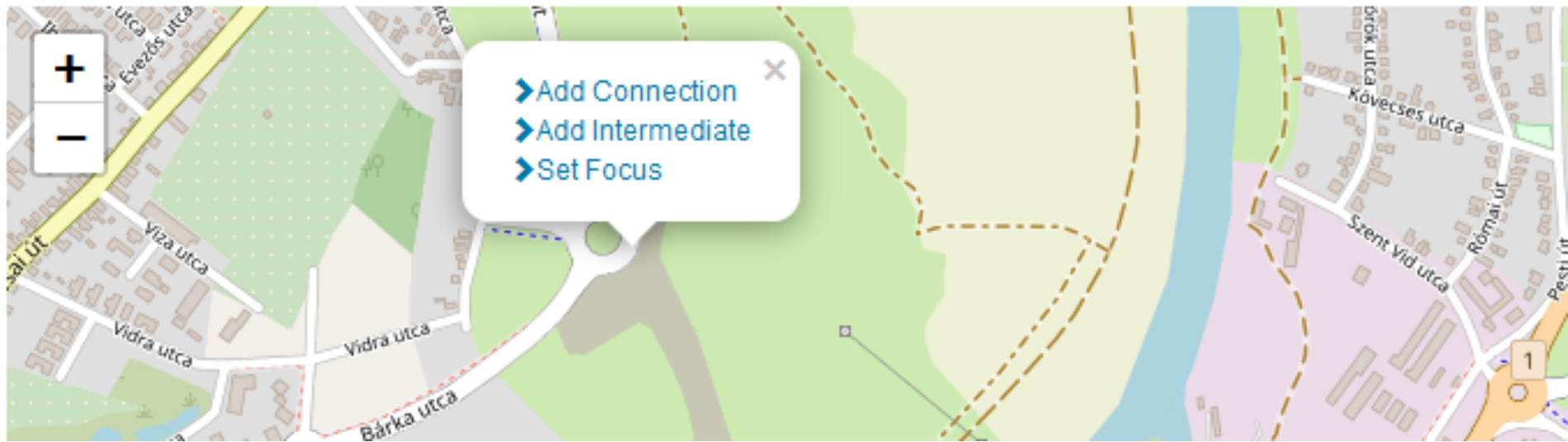
Clear



Options

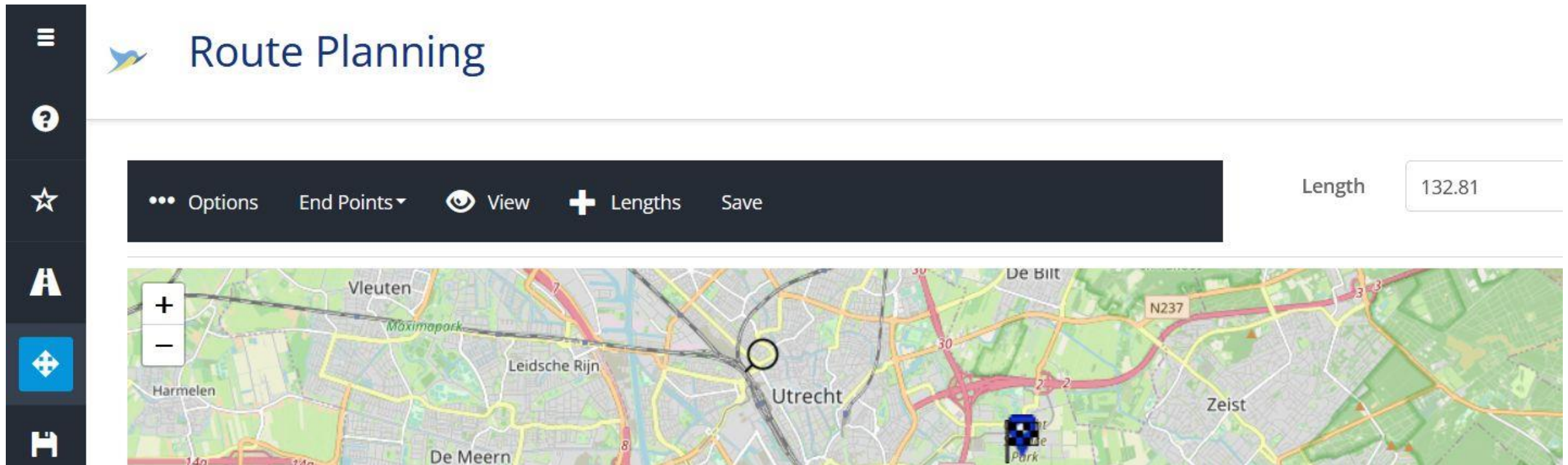


List Roads



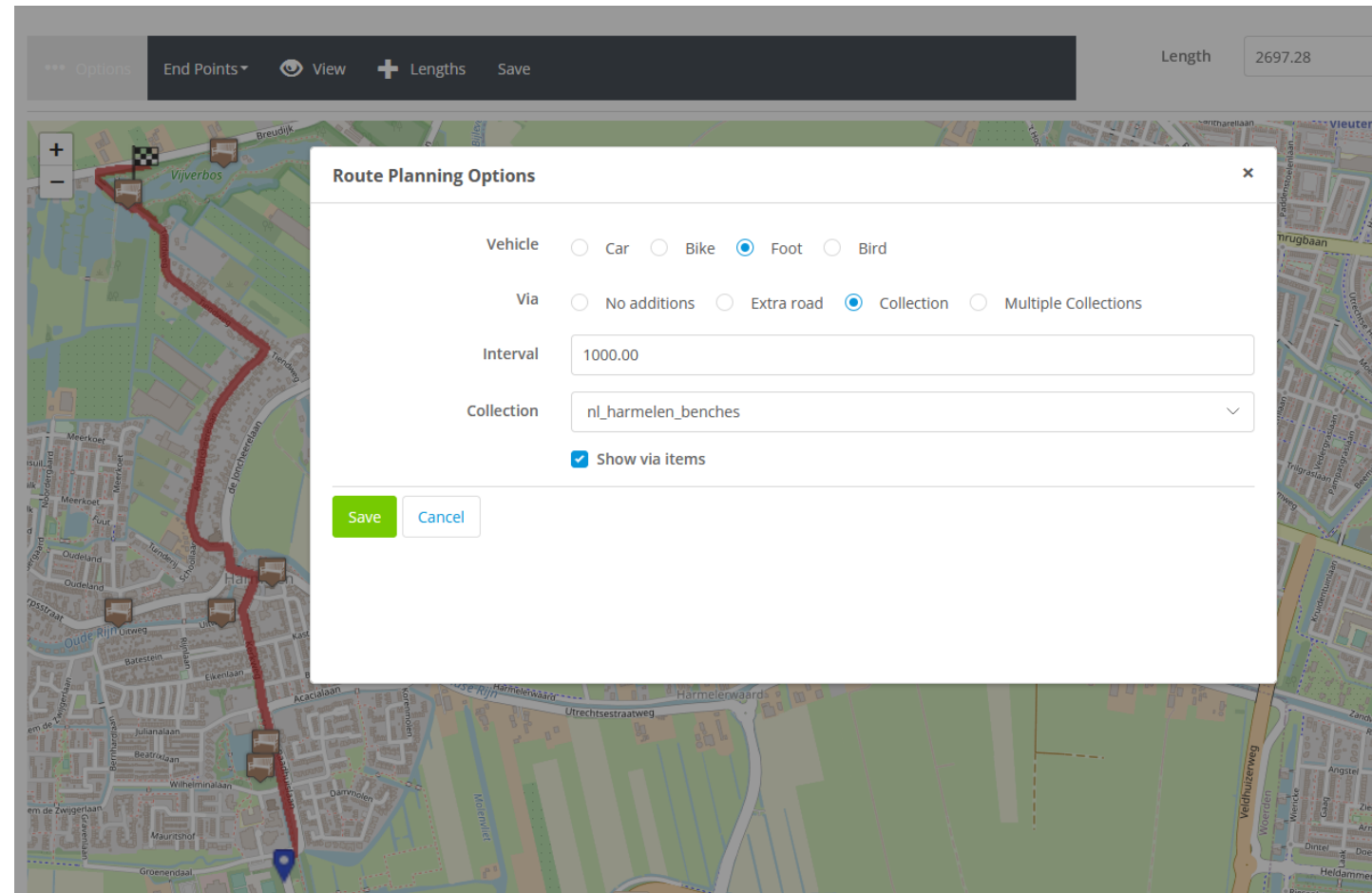
Route Planning

- From start to finish

A screenshot of the Urban Scope Route Planning web application. The interface includes a dark sidebar on the left with icons for menu, help, favorites, and map tools. The main header shows the "Route Planning" title with a bird icon. Below the header is a dark control bar with buttons for "Options", "End Points", "View", "Lengths", and "Save". On the right, a "Length" field displays "132.81". The main area is a map of the Utrecht region, showing a highlighted route in red/pink. Key locations labeled on the map include Vleuten, Harmelen, Leidsche Rijn, De Meern, Utrecht, De Bilt, and Zeist. A zoom control is visible in the top-left corner of the map.

Route Planning

- Car, bike, foot, straight line
- Via collection of amenities with preferred interval
- Via extra roads



Scenarios








- Collection of routes:
walk to bike parking,
cycle to train station


The screenshot displays the 'Scenario Overview' interface. On the left is a dark sidebar with icons for menu, help, documents, a house, a location pin, a folder, and a share icon. The main area is titled 'Scenario Overview' and contains a 'Scenario' section with buttons for 'Search', 'New', 'Edit', 'Delete', 'Show', and 'Return'. Below these buttons is a list of scenarios with the header 'Name'. Two scenarios are visible: 'huis-zeist' and 'gyor bridges', with the latter being selected. An 'Edit Scenario' dialog box is open over the 'gyor bridges' scenario. The dialog has a title bar with a close button. It contains input fields for 'Name' (set to 'gyor bridges') and 'Length' (set to '17733'). Below these are 'Add' and 'Remove' buttons, and a pagination indicator showing '1 to 3 of 3'. A table lists the components of the scenario:

Vehicle	Name	Length
Bike	gyor-bridge1	4339.98
Bike	gyor-base	8581.99
Bike	gyor-bridge2	4811.44

Below the table is a 'View Info Items' button. At the bottom of the dialog, there is an 'Info Editable' section with radio buttons for 'Yes' (selected) and 'No'. At the very bottom are 'Save' and 'Cancel' buttons.

Add Photos



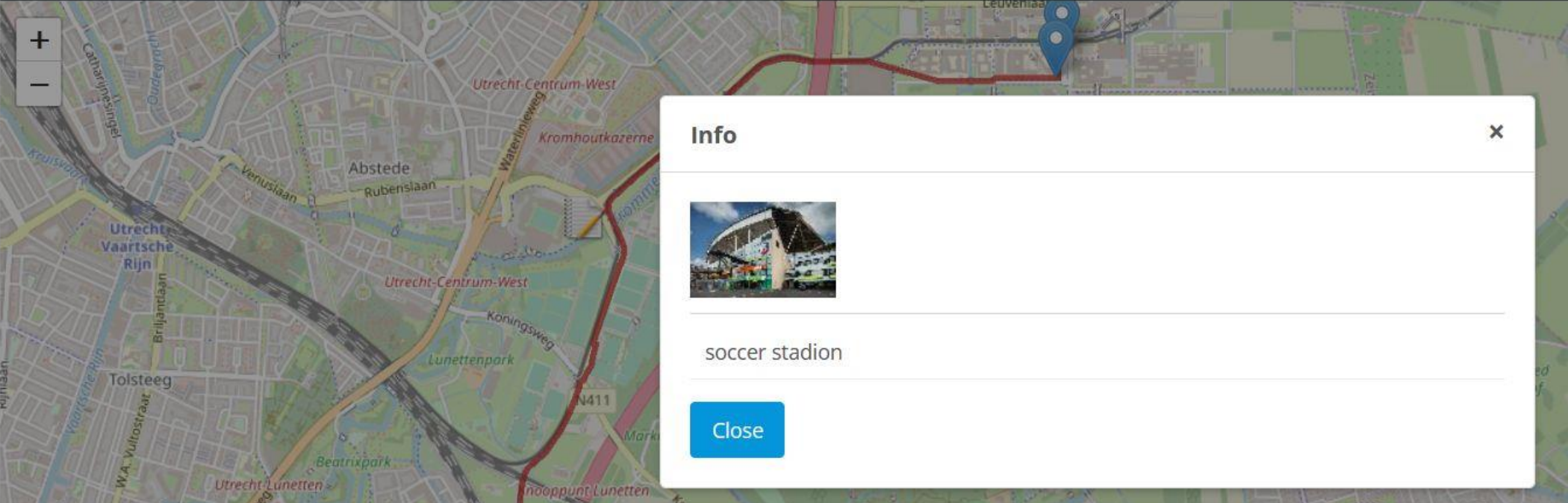


Routes and Scenarios


ViewRoutesScenarios

+

-

A map of Utrecht, Netherlands, showing various streets and landmarks. A red line indicates a route through the city, starting from the top right and moving towards the bottom left. A blue pin is located on the route near the top right. Labels on the map include "Utrecht-Centrum-West", "Kromhoutkazerne", "Abstede", "Rubenslaan", "Venuslaan", "Koningseweg", "Lunettenpark", "N411", "Mark", "Beatrixpark", "Utrecht Lunetten", "W.A. Vulltostraat", "Tolsteeg", "Briljantlaan", "Utrecht Vaartsche Rijn", "Kruisvaart", "Catharijnsingel", "Oudegracht", and "Leuvenlaan".

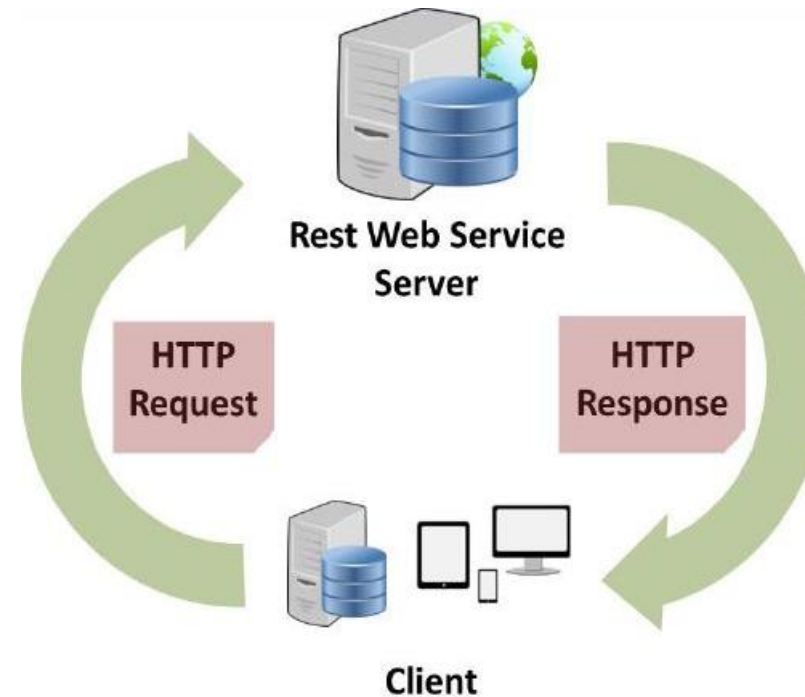
Info

A photograph of a modern soccer stadium with a large, curved roof and colorful facade.

soccer stadion

Close

Technical Implementation



Applications

Urban Sustainable Mobility in focus: student education, community involvement and participative planning

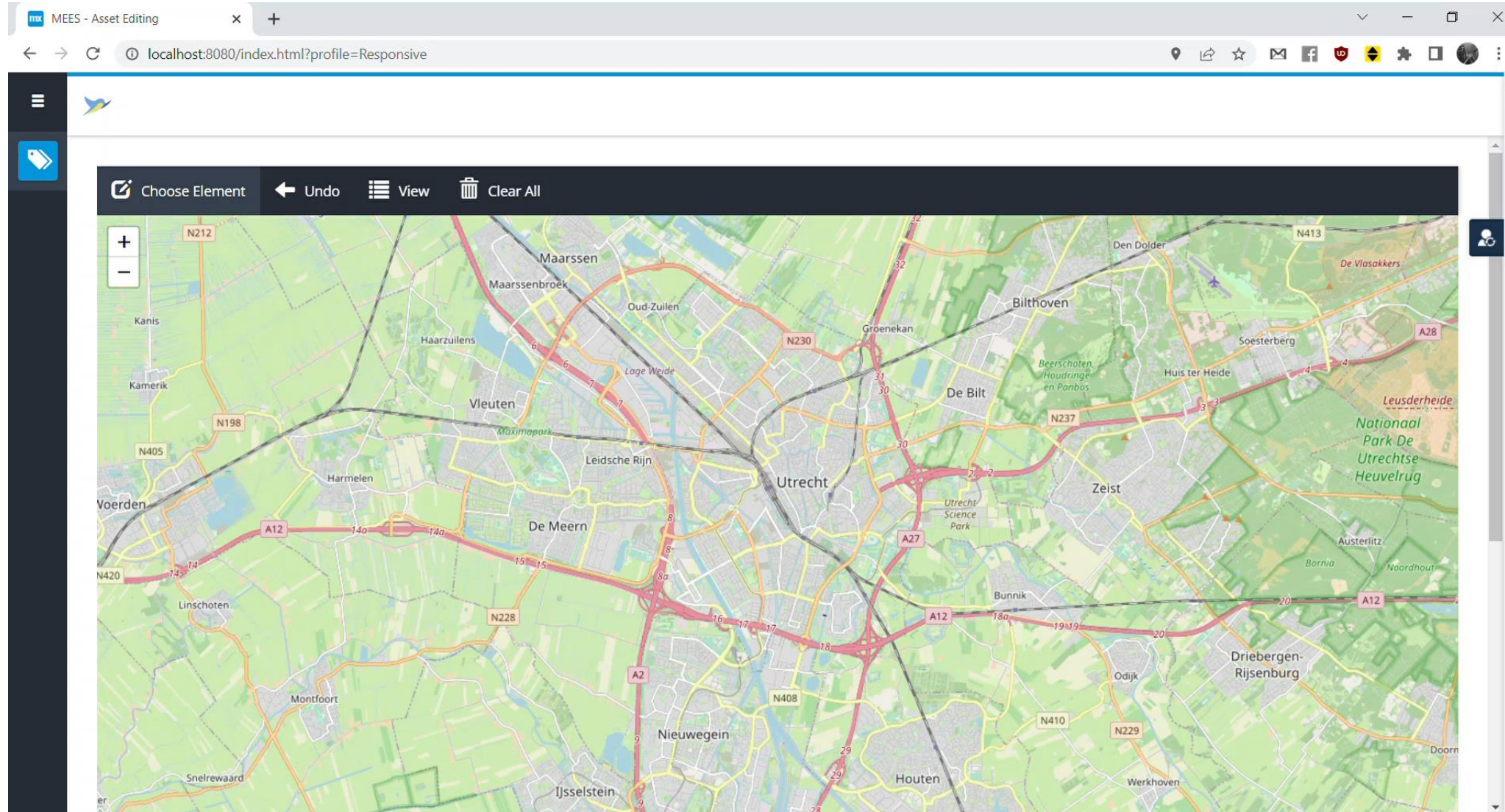
Digital games and the UrbanSCOPE tool

- Teaching urban planning ✓
- Competitions at schools ✓
- Research tool user experience (UX)
- Location-based games

Location Specification



- Typing coordinates in text box
- Cursor or finger click on map
- GPS



Performance

- 25 participants
- Statistical analysis and UX questionnaire show:
- GPS input most accurate
- Cursor/finger click on map best UX

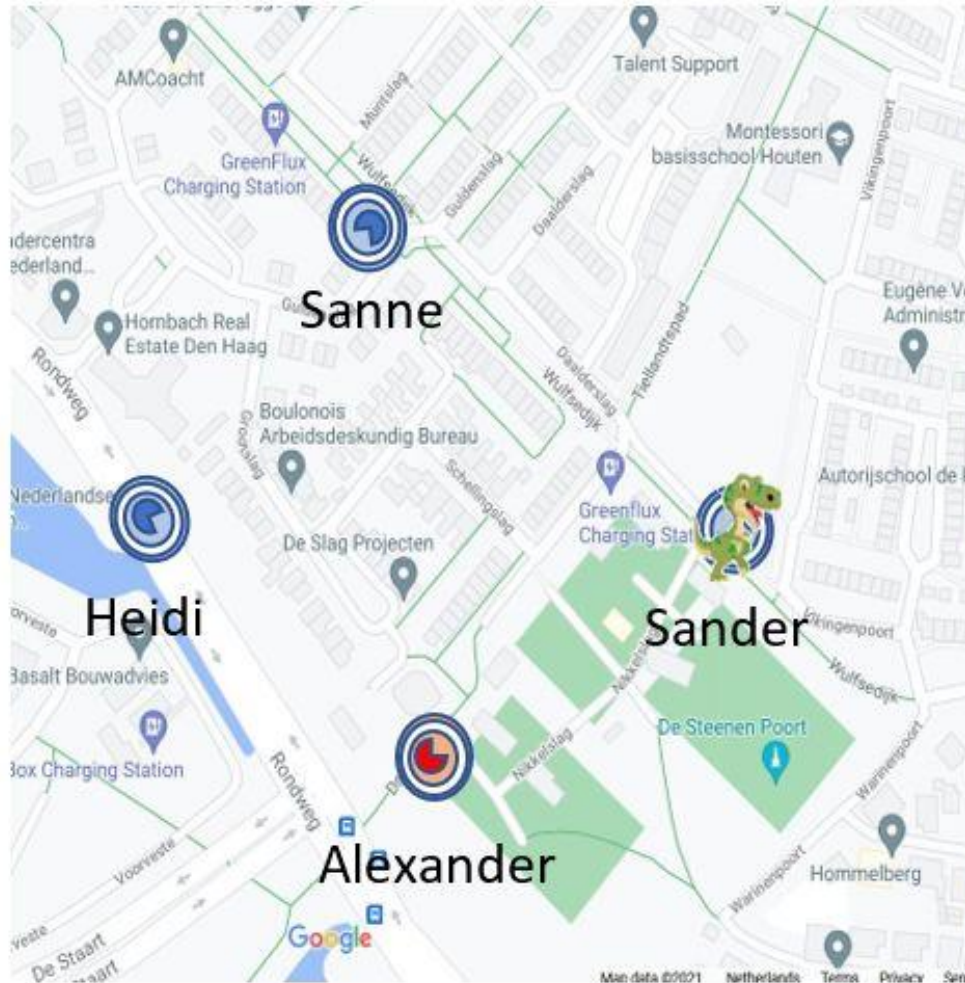
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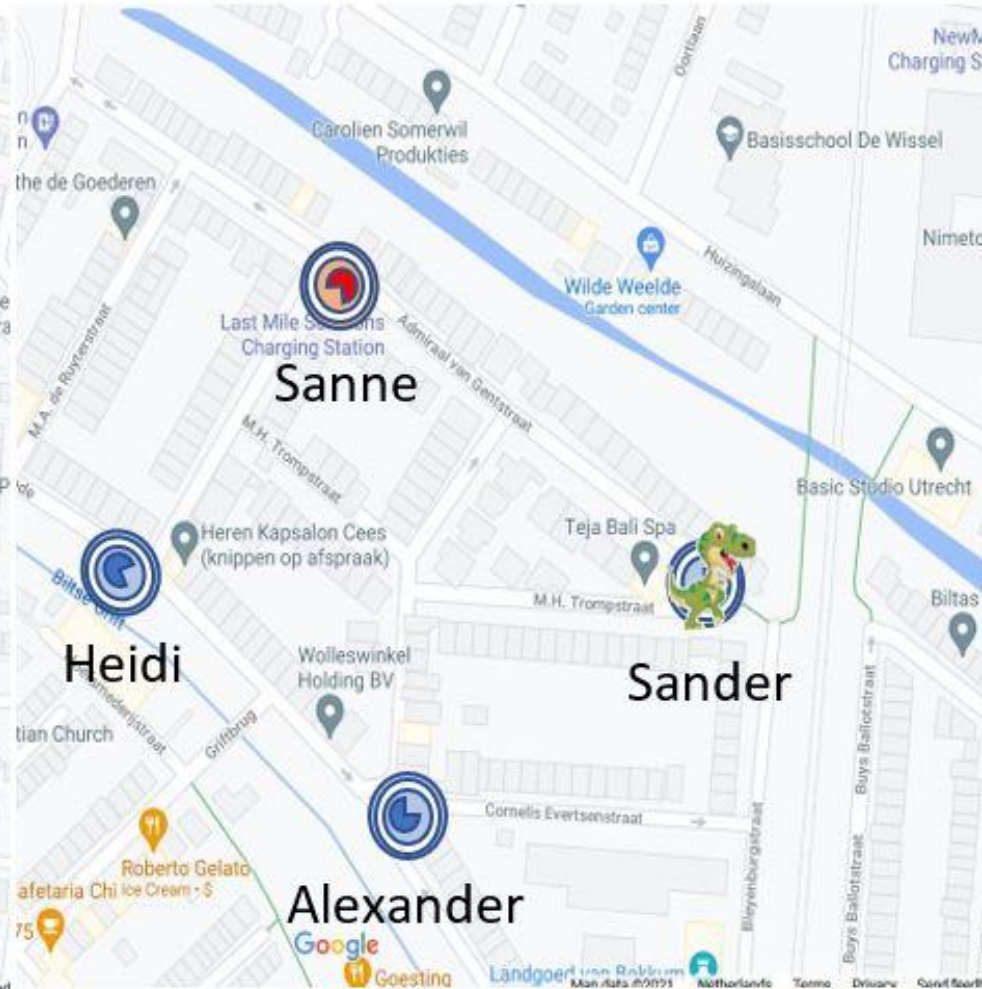
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Location-Based Games



Player Alexander's view in the game



Player Sanne's view in the game

Game Mechanics

- Collecting: for a given object, place photos on map
- Surprise: Easter eggs/geocaching, find virtual object/asset
- Creation: create a route with a figure like a flower
- Gifting: when (virtual) object found, give away as act of kindness
- Place icons: place smiley, thumb, clapping on virtual amenities
- Awards: give points for placing amenities or new roads
- Leading others: team-based cooperative challenge
- Being the hero: plan the cleanest route to reduce pollution
- Gaining status: hand out limited-edition items
- Nurturing: perform activity, otherwise negative points



Thank You

