

Digital games and the UrbanSCOPE tool

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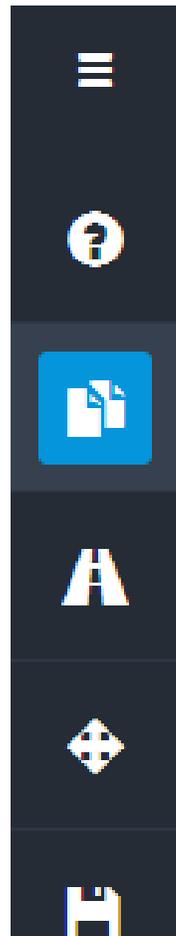
Utrecht University



UrbanSCOPE Tool

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

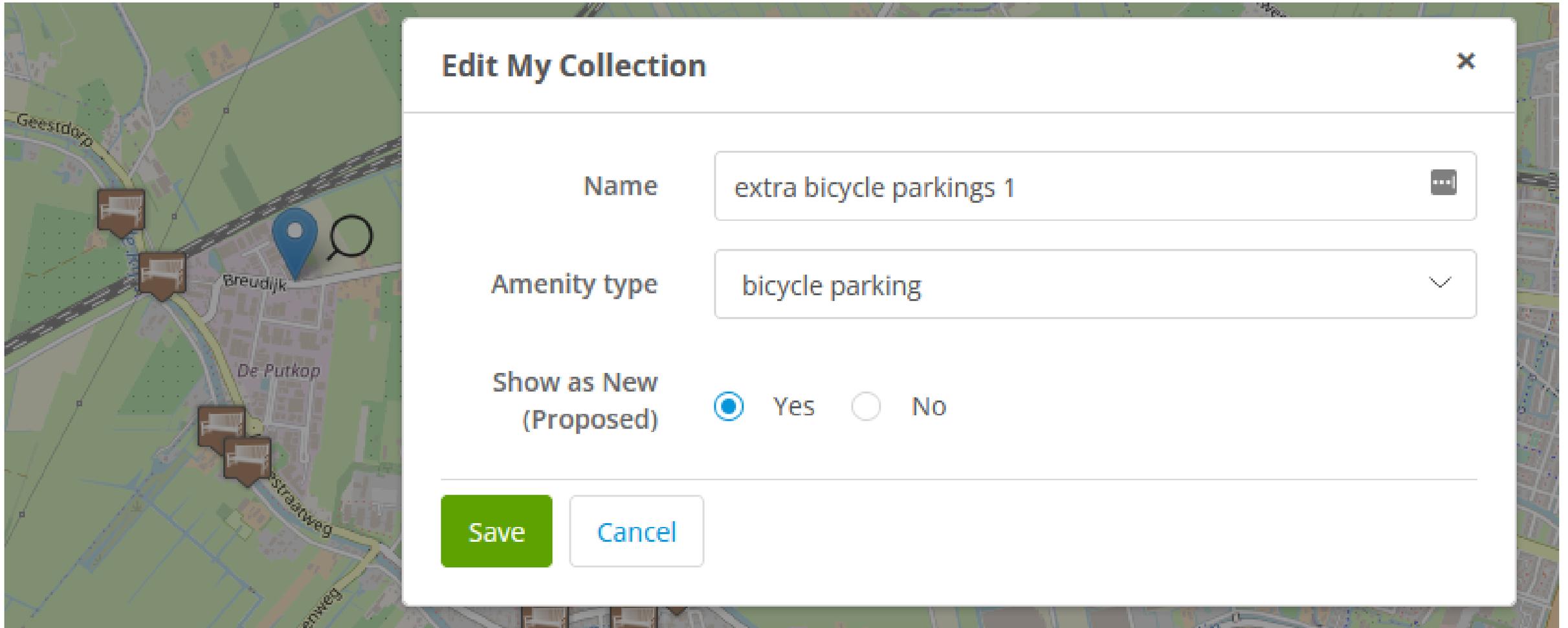
Collections of Facilities



User Collections



Add Amenities

A screenshot of a web application interface. In the background, a map shows a street intersection with several brown icons representing bicycle parking spots. A blue location pin is also visible. Overlaid on the map is a white dialog box titled "Edit My Collection" with a close button (X) in the top right corner. The dialog box contains three main sections: a "Name" field with the text "extra bicycle parkings 1" and a three-dot menu icon; an "Amenity type" dropdown menu currently showing "bicycle parking" with a downward arrow; and a "Show as New (Proposed)" section with two radio buttons, "Yes" (which is selected) and "No". At the bottom of the dialog box are two buttons: a green "Save" button and a white "Cancel" button with a blue border.

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



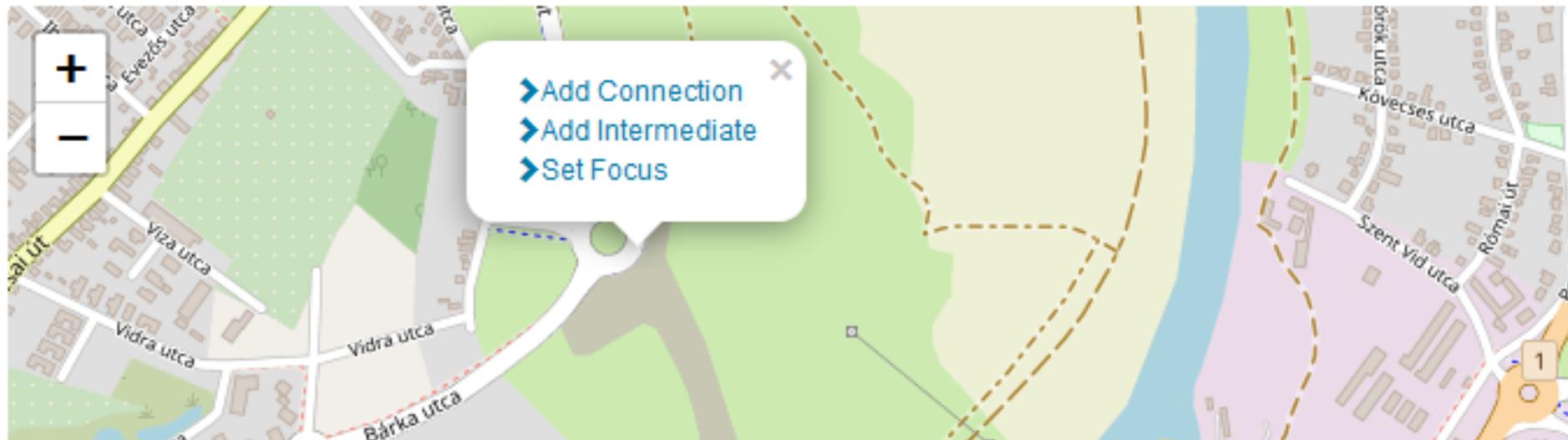
Clear



Options

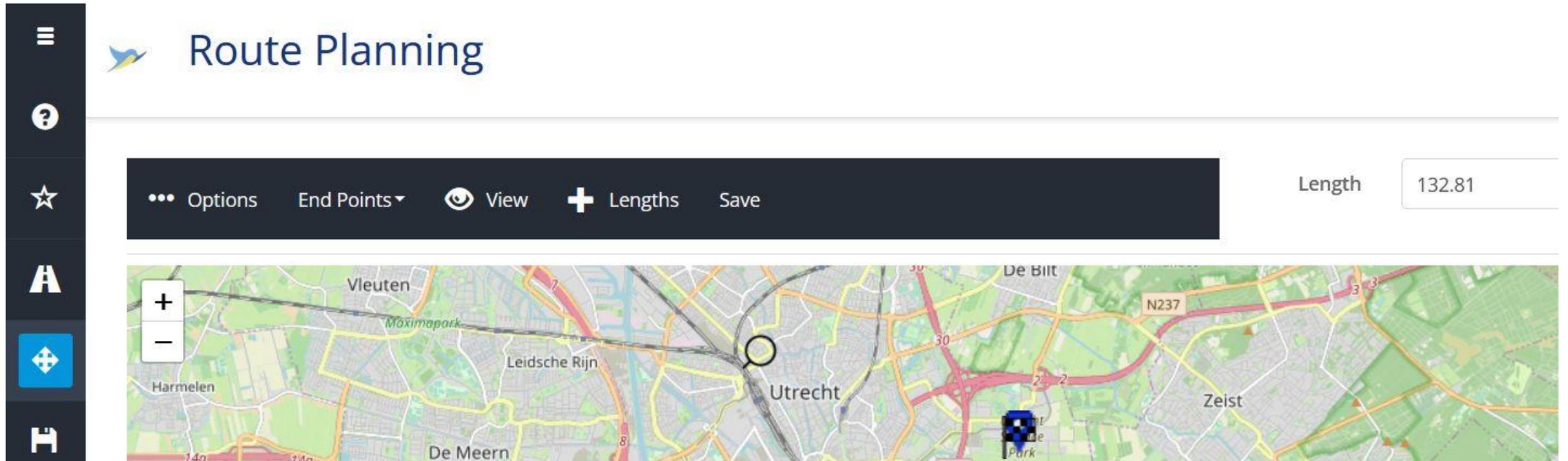


List Roads



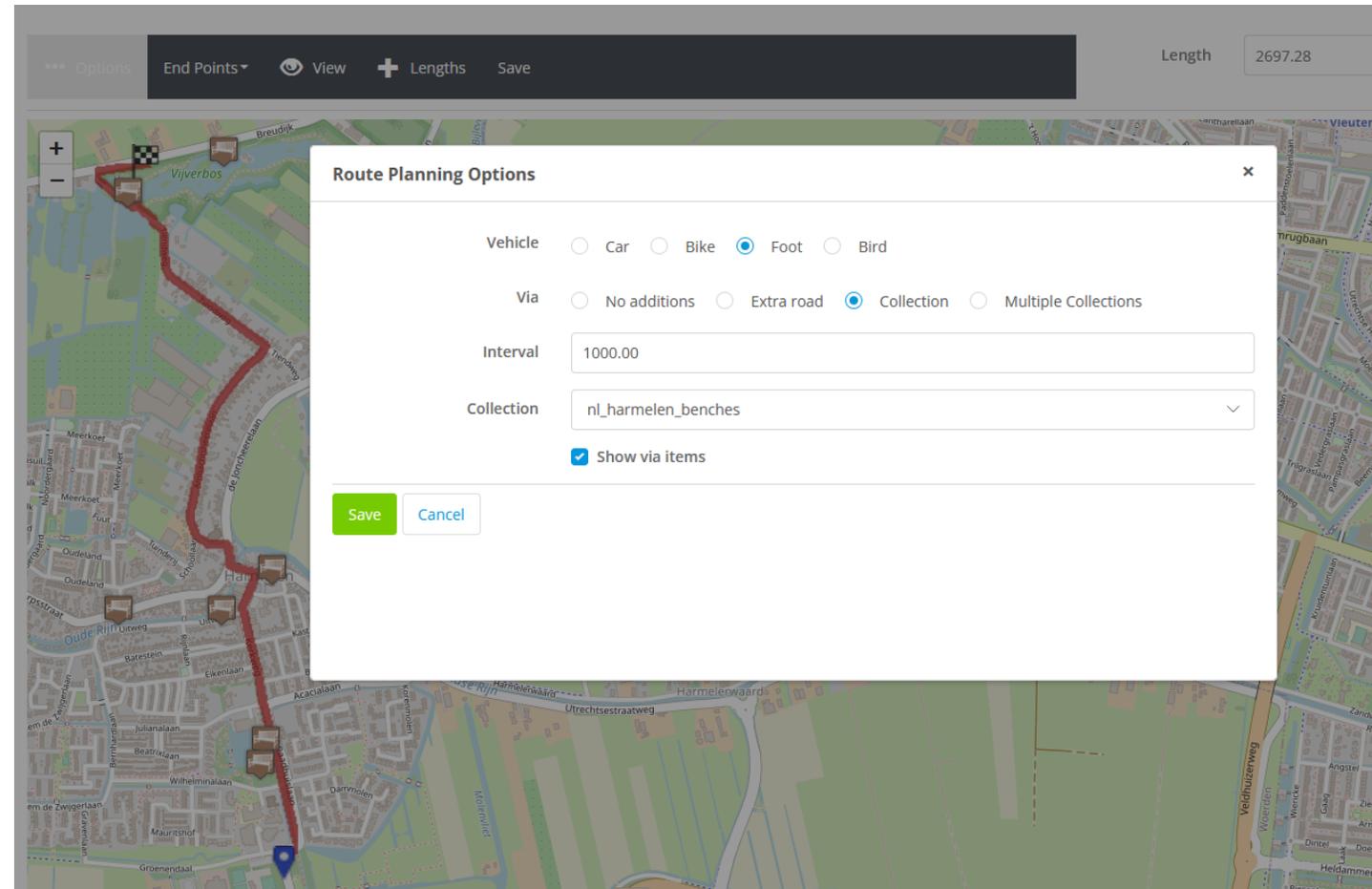
Route Planning

- From start to finish

A screenshot of the Urban Scope Route Planning application. The interface includes a dark sidebar on the left with navigation icons (hamburger menu, question mark, star, zoom in, zoom out, location, and home). The main area has a title "Route Planning" with a bird icon. Below the title 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 bottom portion of the screen shows a map of the Utrecht region with a highlighted route in red and yellow. Labels on the map include Vleuten, Leidsche Rijn, Utrecht, De Meern, De Bilt, Zeist, and Harmelen. A zoom control is visible in the top-left corner of the map area.

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 a web application interface for managing scenarios. The main header is 'Scenario Overview'. Below it, there's a 'Scenario' section with buttons for 'Search', 'New', 'Edit', 'Delete', 'Show', and 'Return'. A list of scenarios is shown, with 'gyor bridges' selected. An 'Edit Scenario' dialog box is open, showing the following details:

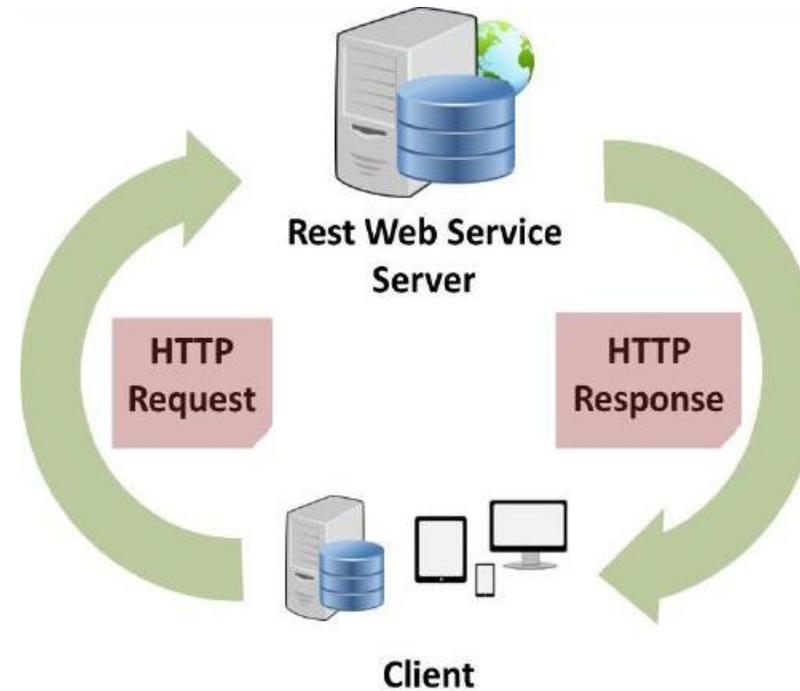
- Name: gyor bridges
- Length: 17733
- Buttons: Add, Remove, and pagination (1 to 3 of 3)
- Table of items:

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

Additional options in the dialog include 'View Info Items' and 'Info Editable' (set to Yes).

Buttons at the bottom: Save (green), Cancel (blue).

Technical Implementation





Applications

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

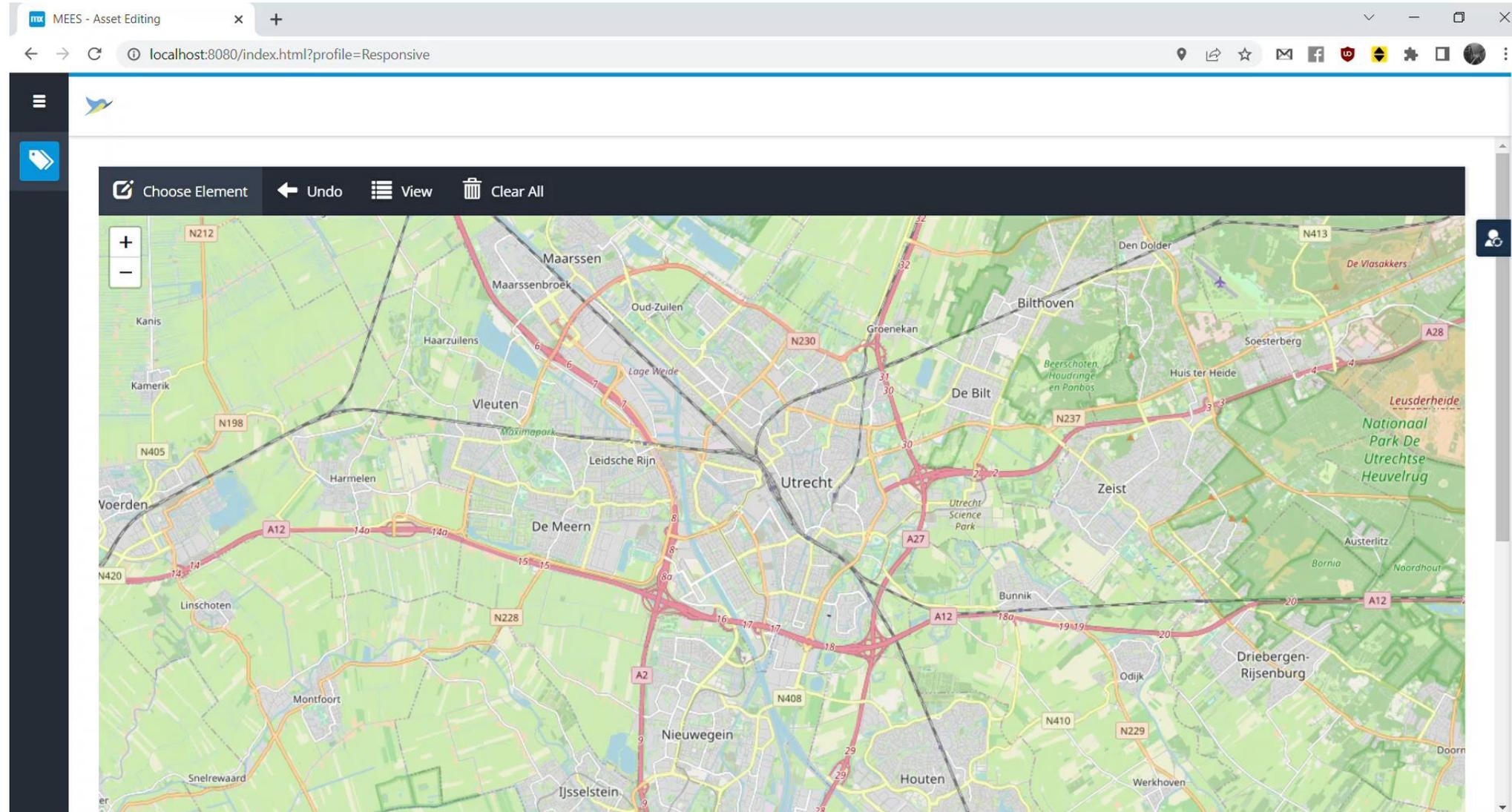
Digital games and the UrbanSCOPE tool

- 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

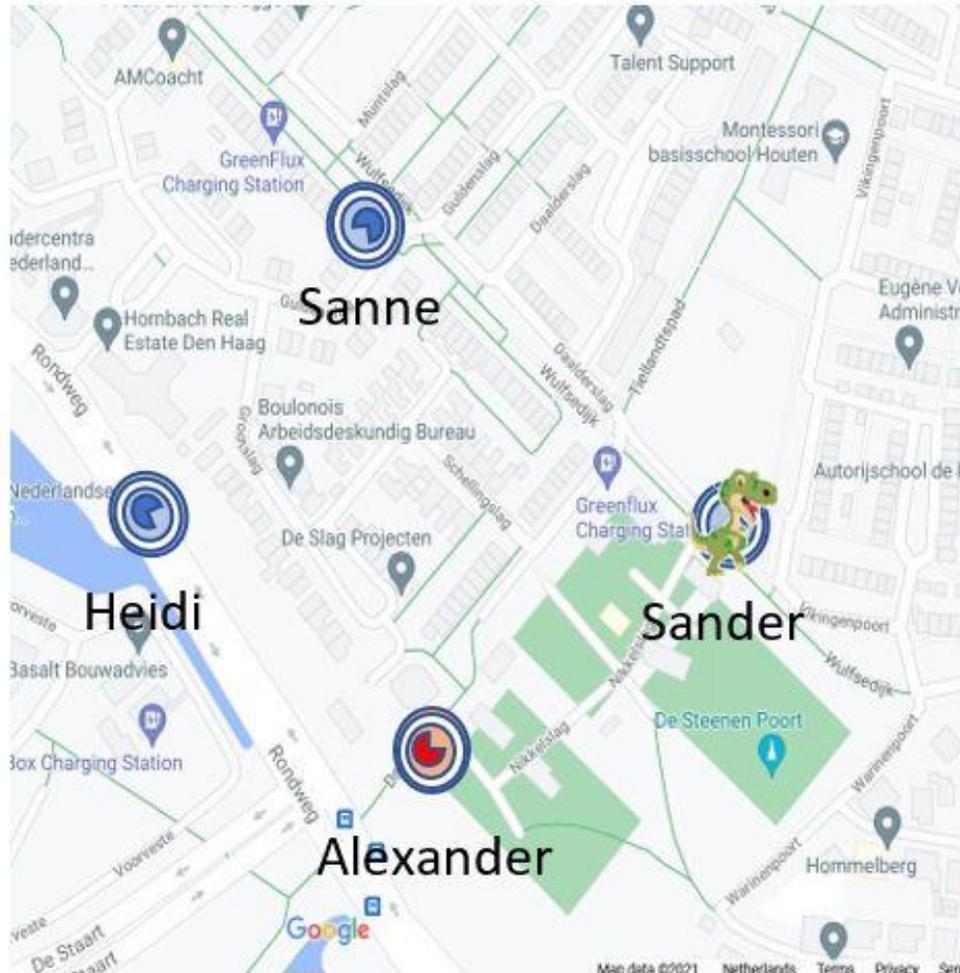
Applications

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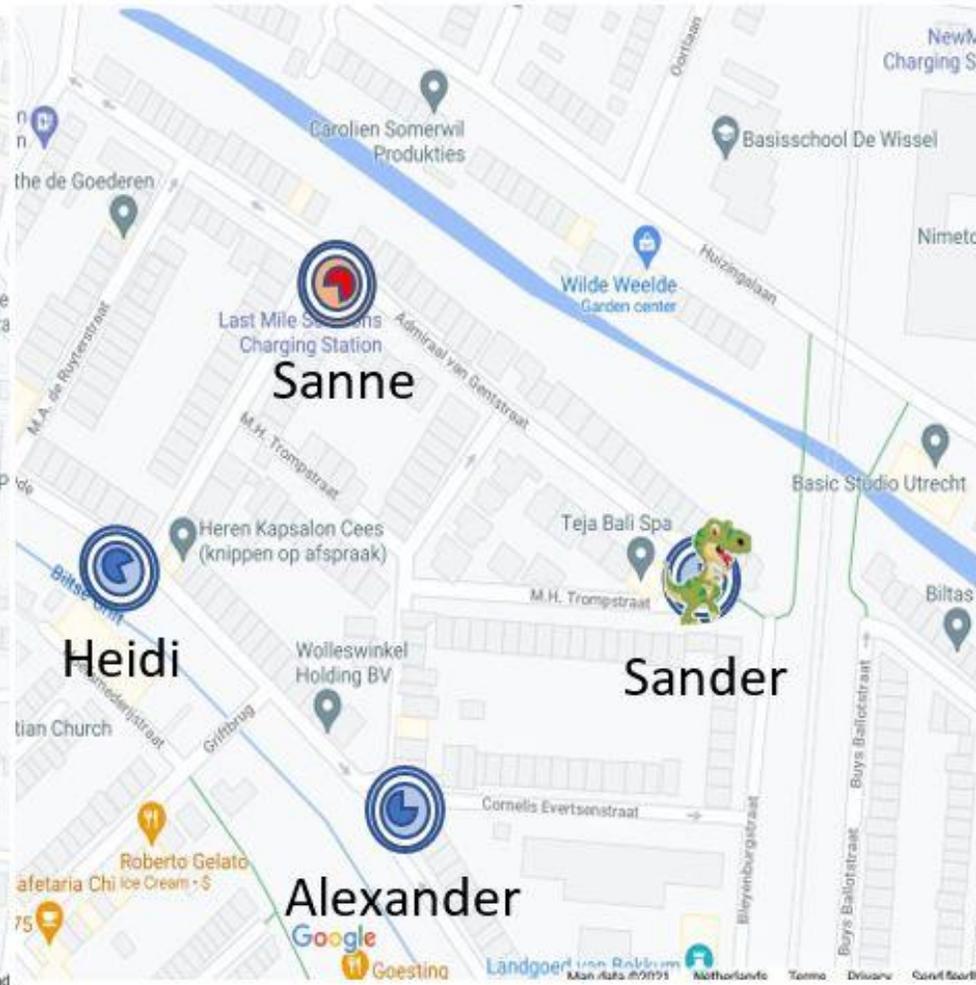
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Location-Based Games



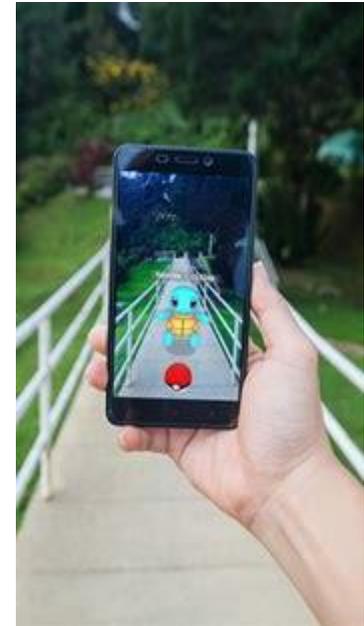
Player Alexander's view in the game



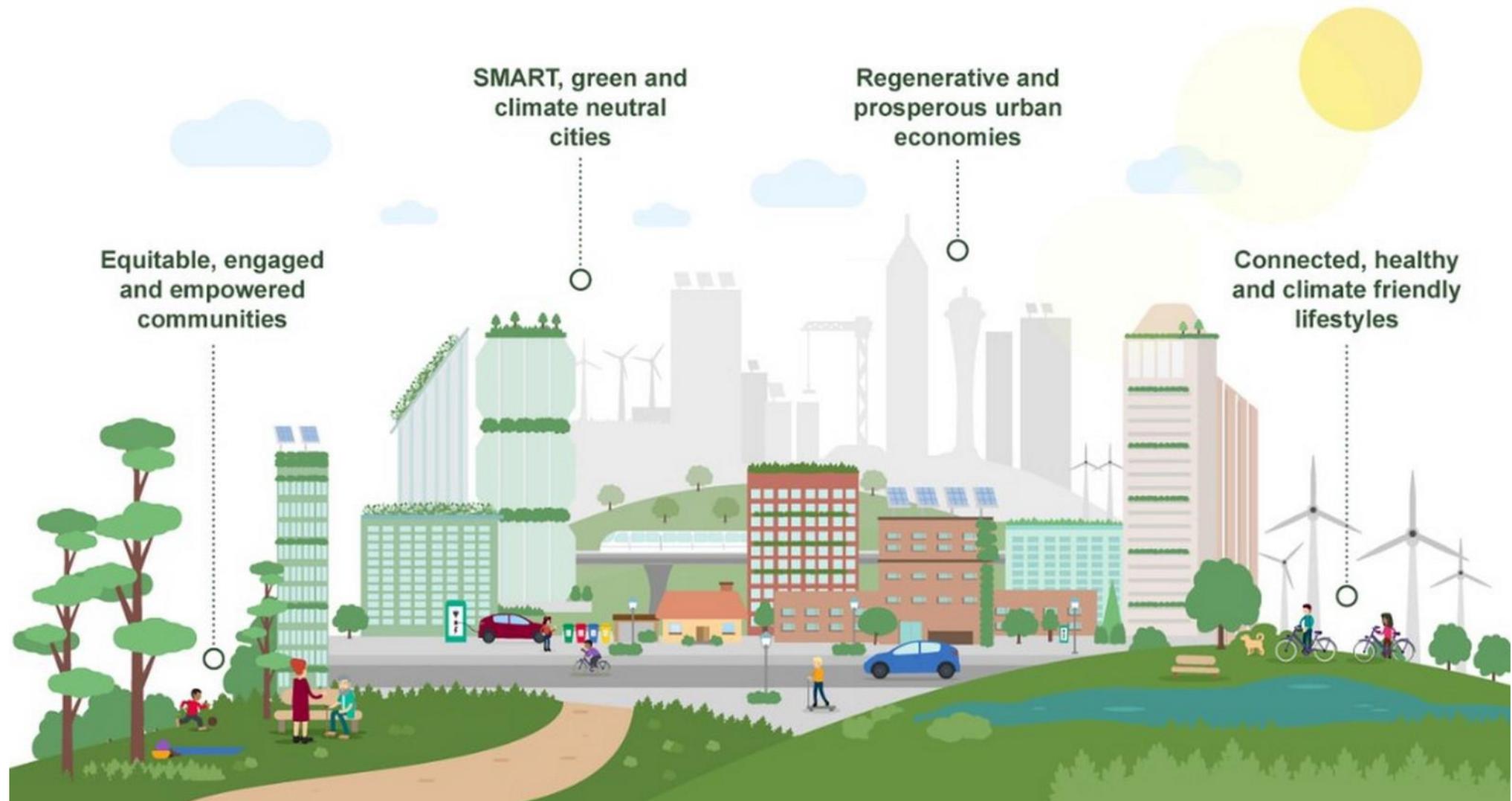
Player Sanne's view in the game

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



Equitable, engaged
and empowered
communities

SMART, green and
climate neutral
cities

Regenerative and
prosperous urban
economies

Connected, healthy
and climate friendly
lifestyles