

Questionnaire for Neighbourhood Amenities

A participant will either answer questions of the social, cultural, or economic category.

The questionnaire consists of three parts:

Open-Ended Recall Question – makes the participant recall what they can remember.

Participant gets ask what amenities they can remember.

- gives a more diverse set of answers than closed-ended questions.
- answers will be compared throughout the orientation methods.

Recognition Question – makes the participant identify and recognize previously encountered information.

Participants get ask to pick the right amenities out of a list.

- can be evaluated with the **Signal Detection Theory (SDT)**, used for decision-making in psychology for recognition tests.
- the recognition accuracy can then be graphically represented by a **Receiver Operating Characteristic Analysis (ROC)**.

Real amenities will be mixed with made-up once. For every category there are roughly the same number of misleading amenities to choose from.

Distance Recall Test – understand how well participants remember the spatial environment and the amenities infrastructure.

Participants have to mark down amenities according to their distance to the place they have visited in VR

- evaluation with Accuracy, Completion & Comparative Metrics
 - o **Accuracy** Metrics – Number of correctly identified location (with distance errors between marked and actual locations)
 - o **Completion** Metrics – total locations recalled
 - o **Comparative** Metrics – compare performance across all orientation methods

Social Category

Open-Ended Recall Question

“List all the social amenities you remember seeing in the VR environment.

Include as many details as you can.”

Recognition Question

Which of the following social elements did you encounter in the VR environment?

- o **Community Centre**
- o Senior Centre
- o **School**
- o Youth Club
- o **Kindergarten**
- o University
- o **Library**
- o **Food Kitchen**

Distance Recall Test

Please mark the following social amenities according to their distance from the main square with the corresponding colour.

(Community Centre, School, Kindergarten, Library, Food Kitchen)



Cultural Category

Open-Ended Recall Question

"List all the cultural amenities you remember seeing in the VR environment.
Include as many details as you can."

Recognition Question

Which of the following cultural elements did you encounter in the VR environment?

- ☐ Castle
- ☐ Culture Centre
- ☐ Galerie
- ☐ Kino
- ☐ Theatre Club
- ☐ Retirement Home
- ☐ Museum
- ☐ Concert Hall

Distance Recall Test

Please mark the following cultural amenities according to their distance from the main square with the corresponding colour.

(Castle, Galerie, Theatre Club, Museum)



Economic Category

Retail

Open-Ended Recall Question

“List all the retail amenities you remember seeing in the VR environment.
Include as many details as you can.”

Recognition Question

Which of the following retail elements did you encounter in the VR environment?

- ☐ Pharmacy
- ☐ Florist
- ☐ Bookshop
- ☐ Pet Store
- ☐ Grocery Store
- ☐ Stationary Store
- ☐ Shopping

Distance Recall Test

Please mark the following retail amenities according to their distance from the main square with the corresponding colour.

(Pharmacy, Bookshop, Grocery Store, Shopping)



Hospitality

Open-Ended Recall Question

“List all the hospitality amenities you remember seeing in the VR environment.
Include as many details as you can.”

Recognition Question

Which of the following hospitality elements did you encounter in the VR environment?

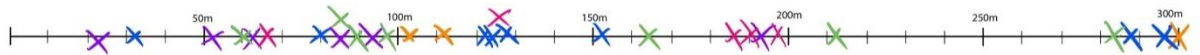
- ☐ Bakery
- ☐ Bar
- ☐ Nightclub
- ☐ Coffee Shop
- ☐ Spa & Wellness
- ☐ Restaurant
- ☐ Wellness Centre
- ☐ Hotel
- ☐ Motel

Distance Recall Test

Please mark the following hospitality amenities according to their distance from the main square with the corresponding colour.

(Bakery, Bar, Coffee Shop, Restaurant, Hotel)

Capturing The Spirit Of Place
Enhance Understanding of Space in Urban Planning through Game-Inspired Orientation Tools in VR



Service

Open-Ended Recall Question

"List all the service amenities you remember seeing in the VR environment.
Include as many details as you can."

Recognition Question

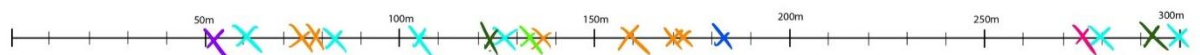
Which of the following service elements did you encounter in the VR environment?

- ☐ Doctor
- ☐ Casino
- ☐ Car Repair
- ☐ Gas station
- ☐ Bike Repair Shop
- ☐ Zoo
- ☐ Copy Shop
- ☐ Pet Grooming
- ☐ Photographer
- ☐ Physiotherapy
- ☐ Hairdresser
- ☐ Taxi
- ☐ Gym
- ☐ Massage Studio
- ☐ Post Office
- ☐ Travel Agency
- ☐ Lawyer

Distance Recall Test

Please mark the following service amenities according to their distance from the main square with the corresponding colour.

(Doctor, Car Repair, Copy Shop, Photographer, Hairdresser, Gym, Post Office, Travel Agency)



Correct Distances for Distance Recall Test:

Social

(Community Centre (303m), School (290m), Kindergarten (89m), Library (87m) , Food Kitchen (120m))

Cultural

(Castle (20m), Galerie (200m, 125m), Theatre Club (200m), Museum (20m))

Economics - Retail

(Pharmacy (147m, 92m) , Bookshop (105m) , Grocery Store (263m, 351m, 260m), Shopping (30m, 56m, 81m, 95m, 95m, 123m, 200m, 100m, 105m, 110m, 137m, 226m, 251m))

Economics - Hospitality

(Bakery (308m, 108m, 113m) , Bar (139m, 80m, 31m, 151m, 128m, 124m, 289m, 299), Coffee Shop (55m, 21m, 63m, 82m, 94m, 191m), Restaurant (283m, 86m, 60m, 98m, 85m, 165m, 213m), Hotel (65m, 135m, 187m, 196m, 194m))

Economics - Service

(Doctor (77m, 171m, 170m, 78m, 137m, 160m), Car Repair (182m), Copy Shop (52m), Photographer (250m), Hairdresser (351m, 280m, 60m, 136m, 106m, 81m), Gym (198m, 131m), Post Office (267m), Travel Agency (134m))