

Town and Gown: Visualising University Neighbourhoods as Places within the Urban Environment The Example of Three Universities in Moscow



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In everyday life, people use a wide variety of geographical terms. However, most of them are not a part of a formal geographical vocabulary. City dwellers often use identifiers such as “downtown” and, significantly less often, the names of official administrative districts. These unofficial names often identify the locations important for residents, carrying special meanings and associations, but most of the time they are left unattended since geography of perception is hard to capture and use.

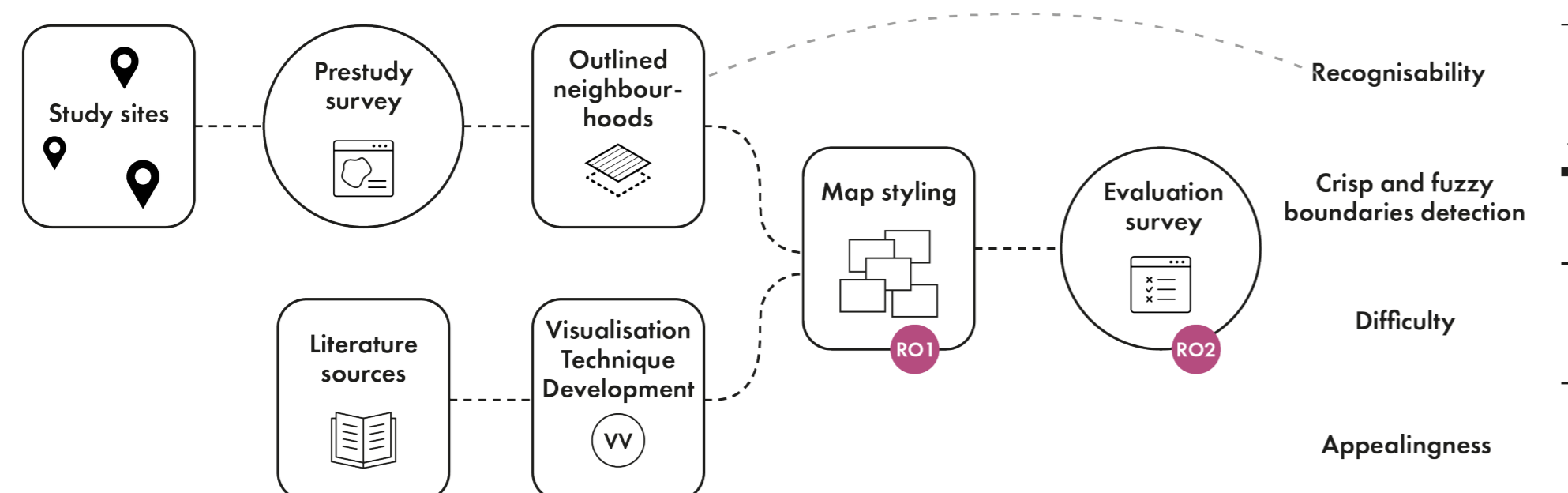


Fig. 1. Schematic thesis workflow

Areas within a city sharing some common stereotype and having a certain “popular” name are called neighbourhoods [1]. A special case of a neighbourhood is a university campus and surrounding area associated with it within a city. It is an interesting spatial phenomenon since different campuses might have their own spatial relationships with a surrounding area – from isolation to interweaving – due to geographical, historical and institutional reasons. It is a challenging cartographic task to convey these complex relations in a clear way.

The aim of this thesis is to develop cartographic visualisations of boundaries and internal structure of three campuses in Moscow: Lomonosov Moscow State University, Higher School of Economics, and Bauman Moscow State Technical University area.

Visualisation technique	Crisp boundaries identified correctly	Fuzzy boundaries identified correctly	Recognisability: mean value	Appealingness: mean value
	✓	✓	2,2	1,0
	n/a	n/a	n/a	2,1
	×	✓	2,7	1,7
	×	✓	2,3	0,0
	✓	✓	2,0	0,6
	✓	✓	2,3	1,8
	✓	✓	1,7	1,6
	✓	✓	2,3	1,1
	✓	✓	2,9	0,5
	×	✓	2,3	-0,9
	n/a	n/a	n/a	-0,1
	✓	✓	2,0	-1,3

Fig. 2. Performance of the tested visualisation techniques

METHODOLOGY

The set of twelve visualization techniques was created to test how different variables deal with conveying fuzziness and sense of place of the neighbourhoods [2].

The first step prior to the boundaries’ visualisation was to identify the location of the neighbourhood boundaries in a way how the residents perceive them [3]. This had been done through a pre-study online survey where the respondents were asked to outline the areas they consider belonging to their alma mater. The boundaries of informal regions were identified by calculating the percentages of respondents who claimed each part of an area their neighbourhood. Three hierarchical levels of the neighbourhood were allocated within them: core, domain, and sphere. The visualisation techniques created previously were applied to the resulting three-part surface.

Evaluation survey allowed find out which of the techniques are able to successfully convey neighbourhood boundaries and how intuitive these techniques are.

RESULTS

Most of the evaluated techniques allowed to identify fuzzy and crisp boundaries at least partly. The contour lines technique best succeeded in providing correct visual impression of crisp boundaries (Fig. 2). It also dealt well with representing fuzzy boundaries, as well as hexagons and circles techniques, and combination of layer tinting with hatching.

CONCLUSION

Despite strong differences the different visualisations’ performance, it is hardly possible to name one undoubtedly proper technique. The answers showed that the most important characteristics of a successful visualisation technique are the ability to see a basemap, simplicity and clarity. The techniques possessing these characteristics can be employed to neighbourhood’s visualisation and able to successfully convey both crisp and fuzzy boundaries. Apart from that, it is beneficial and a proper technique for its visualisation can help the researchers working in the field better bring their findings to a broader audience.

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fuzzy boundary, neighbourhood, visualisation, sense of place

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