The Neighbourhood Wizard

Cause and effect of changes in urban neighbourhoods

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Abstract: The Neighbourhood Wizard is a website that makes citizens aware of the consequences of the changes that they would like to realise in their neighbourhood. Users of the website can suggest changes to their neighbourhood. A Bayesian Belief Network is used to predict the effects of the changes on several indicators of liveability as experienced by the community. The Neighbourhood Wizard also shows what would be the optimal experience of liveability for different sections of the population.

1. INTRODUCTION

In the list of criteria that people use when buying or renting a house, the quality of the house itself plays a dominant role. However, the quality of the neighbourhood of the house, both physical and social, plays an increasingly important role as well when people are selecting their future home. It can often be noted that the inhabitants of neighbourhoods make an effort to keep up the quality of their surroundings and even try to improve it, as they realise that the ‘liveability’ of their environment is strongly determined by the social and physical quality of the neighbourhood. In many neighbourhoods in the Netherlands local initiatives for neighbourhood improvement are taken by groups of inhabitants or neighbourhood associations.

Municipalities generally have the policy to support and promote these initiatives. A good approach is to start by initiating dialogues on the issues involved and nurturing these dialogues until they mature, until they lead to new, shared, moral understandings (Etzioni 2004). Many municipalities
therefore actively seek the participation of inhabitants in the development and (re-)design of neighbourhoods.

Two issues are commonly encountered in the process of citizen participation in urban development. Firstly, citizens are not generally educated to acknowledge the complexity and range of problems in their neighbourhood, but rather tend to focus on the problems they encounter in their daily activities. Citizens are not always able to acknowledge the viewpoints and needs of all members of society and their suggestions for improvement therefore tend to be too constricted.

Secondly, citizens tend to express themselves in terms of solutions when asked to describe the problems they encounter and the wishes they have for the improvement of their neighbourhoods.

Both issues are addressed in the research project that is reported in this paper. The paper first introduces the objective of the research project. Section 3 outlines the general approach and research method that was followed for the development of the project. Section 4 introduces the term liveability, which plays a key-role in this work. Section 5 discusses how people experience liveability and how this can be modelled. Sections 6 and 7 explain how we built a knowledge representation from data that was collected regarding the experienced liveability of neighbourhoods in the city of ’s-Hertogenbosch. Sections 8 and 9 discuss the development and evaluation of the prototype system. Finally, in section 10 we draw conclusions regarding the work done and future work.

2. OBJECTIVE

The research project presented in this paper aims to support the process of participation by neighbourhood inhabitants in (re-)designing their neighbourhood. In this project we have focused on making citizens realise what the consequences are of their ideas for changes in the neighbourhood. These consequences are often more complex than citizens can oversee and have to do with many different aspects of the quality of the neighbourhood. Changes in the neighbourhood may have a positive influence on one aspect, but work out negatively for other aspects. Furthermore, proposed changes may have a positive effect for one group of inhabitants, but be assessed negatively by inhabitants who have different requirements.

The objective of the project was to develop a tool that allows citizens to propose changes to their neighbourhood and assess the quality of these changes. The assessment is done in the context of how the community will experience the various aspects that determine the liveability of the neighbourhood.