Chapter XIV

EVO–PARK:
Designing Better Architectural Projects
Using Participated and Interactive
Genetic Algorithms

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ABSTRACT

Designing good and sound architectural projects is a hard job. Generally these kinds of projects involve many stakeholders, everyone with his/her own aims, and designing activities could be very difficult to face. We can make this process easier using an “autonomous genetic design facilitator” and “collective subjective designer” to realize projects that meet needs of every part involved in. The chapter describes a methodology we suggest as a process of urban parks design. This methodology can be adapted to other situations considering many variables (and consequently a huge amount of possible solutions) and many specific needs to satisfy.
We believe that people need and have a right to determine and shape their own environment

(Christopher Alexander)

1. INTRODUCTION

Modern democracies are built on the representative model, where citizens delegate decisions to elected people that will act on their behalf, governing on the base of greater knowledge, specific skills and so on. Decision making is submitted to all the members of society.

On the other hand, there is a definite trend towards direct participation of citizens, that wish to influence directly the agenda, the planning and the choices. Yet as far as in the 1963 Lipset asserted that “the stability of an industrialized democracy [...] legitimates open participation by all groups in the economy and the polity” (Lipset, 1963, p. 521). Citizens participation is considered an adaptive mechanism that can “contribute to the stability and legitimacy of the larger system” (p. 529). Putnam reports that “strong traditions of civic engagement [...] are the hallmarks of a successful region” (Putnam, 1993).

Governments are interested in engaging citizens to enrich the democratic participation, taking their ideas and points of view; in this way, governments, especially local ones as cities, towns and counties, can shorten the distance between citizens’ needs and the implemented planning, can improve the quality of the actions receiving suggestions from the people that live in those territories, can reduce the potential conflicts that may arise from decisions, can augment the networks and shared vision that are an important part of social capital. So there is greater and greater interest in e-participation and e-government, at International and National level (OECD, Organization for Economic Co-Operation and Development, 2003), (OECD, Organization for Economic Co-Operation and Development, 2006), (De Pietro & al., 2003), (Partecipando, 2006), (Urbact Project, Partecipando, 2006). “Social capital is not a substitute for effective public policy but rather a prerequisite for it and, in part, a consequence of it.” (Putnam, 1993).

“Sustainable cities need to reembed themselves in ecological and cultural systems. And such reembedding cannot take place without people’s participation in designing, planning and managing the resources that support urban life.” (Urbact Project, Partecipando, 2006) In order to promote a sustainable and democratic urban development, it’s essential to monitor urban regeneration processes by participation. Many participatory processes have been implemented in different ways and at different levels to let the inhabitants value and decide together with technicians, administrators and elected representatives the development of the places they live in (Urbact Project, Partecipando, 2006).

But how can a citizen control the decision making? And how can a citizen be informed of the problems? And how is it possible influence urban planning without a specific technical knowledge?

Indeed, a decision involves different dimensions, each one dealing with lots of parameters, so that the main goal (for instance, a new museum building) will be described in term of finance, architectural technologies, aesthetic and activity programmes of the museum, its impact on the urban context, the time needed to deliver a good and so on.

One of the important challenges of e-democracy is to involve people in participating in the design of buildings features, as new schools and museums and in the landscape design as well. These processes that are usually very expensive, impact on the citizens’ life and in the city skyline, are subjected to an aesthetic judgment by all the users (who will live in those places). Hence the planning and realization of an architecture can more easily yields critics and then it is higher the
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