Web-based Social Participation in the Process of Town Planning

Implementation of "Citizen" vehicle for an exchange and education on master planning issues

Robert Barelkowski

Polish Academy of Sciences, Poznan Branch, Pomeranian University of Applied Sciences
robert@armageddon.com.pl or robert.barelkowski@tih.pl

Abstract. *The paper discusses the principles of using internet nested "Citizen" system that composes the platform to exchange information between different participants of planning procedure. As a part of P.R.S. method instrumentation, "Citizen" allows multidirectional interaction of planners, authorities and users of space. The paper shows various aspects of system structure, pointing out the most significant application abilities, the role different contents of the system play and services they provide to participants. The article summarizes the results of application, discusses the impact, web-based social participation has on efficiency of planning procedure, elimination of conflicts and understanding of planning problematics.*

Keywords. *web-based planning support, programming implementations for town planning, user participation <in planning>.*

The methodology for contemporary spatial planning

Contemporary spatial planning defines several important goals that have to be achieved in the planning procedures. Definitely among the most significant are: sustainable development of both civilization and natural contents of the environment, mechanisms to manage these contents in well balanced proportions allowing progress, investment and thus maintaining the vitality and regenerating potency of the nature, economic optimization and political and social acceptance (ECTP, 2003). While these goals are substantially hard to achieve all at the same time, there is constant necessity to invent, test, verify and evaluate various tools, which are helpful in improving the planning process.

The activities undertaken during the research on P.R.S. method are one of the examples of such an activity. The P.R.S. method was elaborated in 2000, and furthermore developed through several research programs focused both on the theoretical improvements of its structure and the implementations in real task. They strongly underpin the importance and the impact the social participation (or its absence) in the course of planning procedures has on the efficiency of masterplanning. Obviously the social factor stands for the most crucial source of potential conflicts and protests that in many cas-

es may lead to paralyze or rejection of all planning efforts. However encouraging people to participate in decision making increases their responsibility and identification with subject problems (Sanoff, 1999). The evidence of other research examples in various fields relevant to architecture and planning supports this thesis, like it happens in case of using public events (Holmgren, Ruediger, Storgaard and Tournay, 2004), intensive participatory architectural design (Toker, Toker and Rifki, 2002) or explaining the results of spatial planning through exemplary graphic modelling (Hanzl and Wrona, 2004).

The tools for post-information society in spatial planning

Ten years ago Negroponte (1995) prophesized the post-information era, characterized by mass-customization that can be well seen in many civilization processes. This customization can also be related to personal choices and personal control in information acquired through different media, the selection of media themselves. The undeniable influence, internet has in different areas, is as well evident in spatial planning and its informative and explanative function. Contemporary societies require the use of information technologies that are profitable for all users of the internet. The interested parties receive the information sooner than ever before, the planners and the authorities gain multiple benefits from acquiring the feedback from those parties. Even if the rate of availability and popularity of internet is not so vastly spread, still almost 27% of people of the age above 15, connecting to web environment, cannot be underestimated (SMG/KRC source, 2005, http://www.idg.pl/news/77128.html, over 5% increase in past two years). An increasing tendency to take an active part in the process to define the future of human environment is also one of the results of educating process on requirement to shape environmentally sensible and socially conscious attitudes.

The P.R.S. method principles included an issue of information technology tools implementation. Barelkowski and Barelkowska (2003) point out the presence of web-based information exchange platform throughout whole procedure of establishing masterplanning regulations. In the course of multiple P.R.S. implementations it appeared that internet nested tool shall be used for more aims than mere information exchange platform. Among the key assumptions for the tool composition there were: creating two-way information exchange platform, variety of planning information yet grouped in clear order and focused as selected onto main planning issues, easy and quick adaptability for different implementation in different procedures (for distinct counties).

Theoretical principles and the structure of "Citizen"

A simple code name "Citizen" has been given to the project of creating website template dedicated to the procedure of masterplan of Kostrzyn, small town 20km east of Poznan. To encompass the assumptions several layers have been defined to put an order to the mass of information related to this plan. These layers were interpreted as levels of interaction between the actors of planning procedure. Three types of actors were distinguished: authorities (A), planners' team (P) and users of space (U).

The internal structure of "Citizen" appears in four layers. Included is the primary Information Delivery Layer (IDL) which gives the core data on the specific plan, detailed information on spatial regulations, concept alternatives among others. It presents the authorities and planning team making the authors of the masterplan concept inanonymous. The Planning Status Layer (PSL) reveals the stage and the advancement of the procedure and eventually presents the updates of the plan. The Information Acquisition Layer (IAL) gathers the most important mechanism to collect anonymous
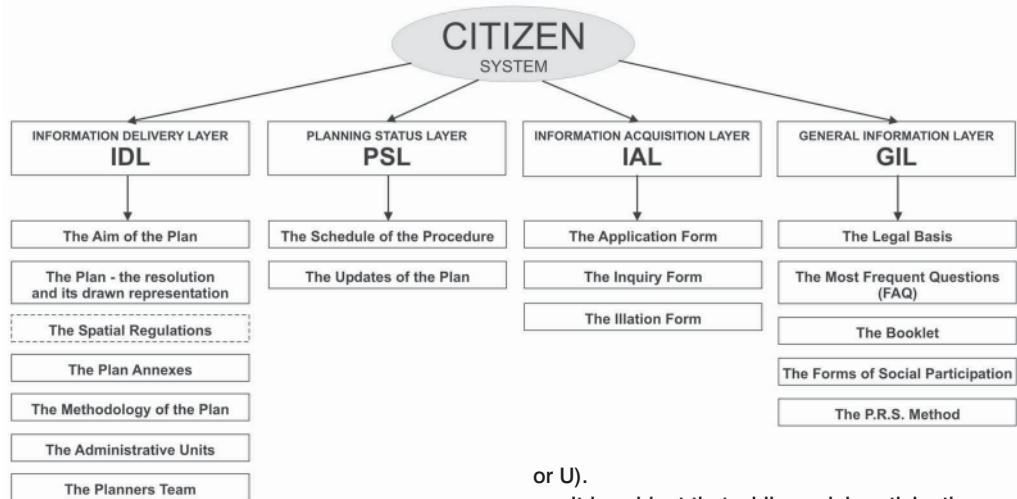
Figure 1. The structure of "Citizen" web-system – the layers and their contents.

or U).

It is evident that while social participation was one of the main issues, the interaction between the actors requires explanation and involvement of the abovementioned layers. It also reflects the organization of the planning process and the complexity of relationships – planning team gathers information, analyzes multidisciplinary data, conducts the researches that appear to be unconditionally added, then formulates the concept, discussed by all parties throughout the continuation

or personally authorized ideas, wishes, expectations, opinions of parties interested. These can be received in transcripted applications, later in the course of procedure illations, or in unlimitedly accessible inquiries, with automatically generated inquiry results. The last layer contains general data, composing the background or legal basis for other stipulated and discussed activities of actors (A, P

Figure 2. The functions of "Citizen" layers.

A - Authorities
County Council and County executives
(in specific examples administration
of another levels also)
P - Planning team
The group elaborating the concepts of masterplan and
conducting analyses, additional research, coordination
and synthesis of planning data
U - Users of space
Both the inhabitants, the owners and other parties
interested, what may mean also members of authorities
and other persons or institutions

IDL - Information Delivery Layer
The information produced mainly by the team processing the
spatial data into the conceptual masterplan and the
regulations (resolution)
PSL - Planning Status Layer
The information provided by the administration on the
schedule and its advancement
IAL - Information Acquisition Layer
The information delivered by the members of local society
and other users of urban or rural space reflecting the ideas,
wishes and expectations
GIL - General Information Layer
The general information composing the rules of planning
procedures, namely the legal acts on planning, on means to
maintain administrative powers, related but general issues
[IDL, IAL feedback]
The authority decisions or conclusions formulated in
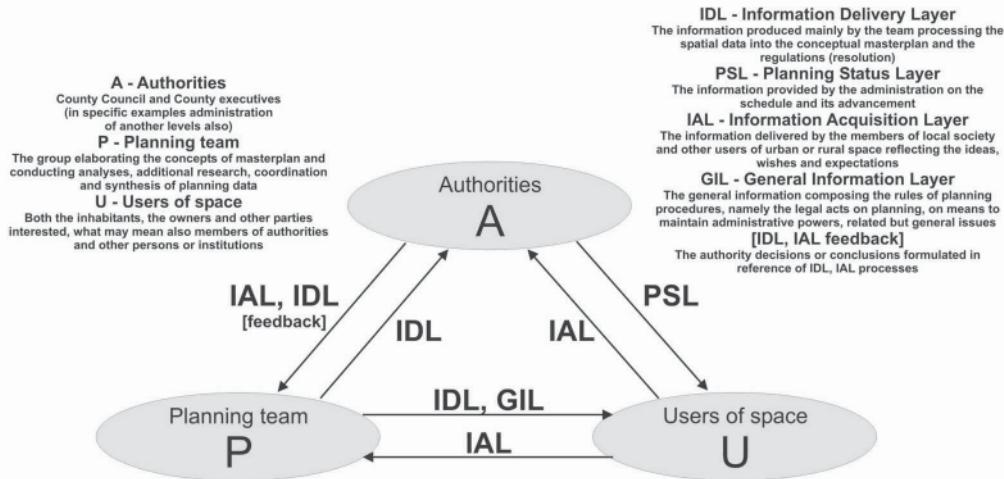reference of IDL, IAL processes

Figure 3. The participants of planning procedure and their interactions on various "Citizen" layers.

of the procedure. So it is P (actor) who renders the key data accessible on IDL. The team is also responsible for simultaneous explanation of general planning knowledge and rules that through GIL compose the basic foundation of education, hopefully resulting in understanding the mechanisms, the significance of social participation, the idea of self-sustainability and – in this context – the aims of the masterplan concept as well. The A (actor) monitors the actions, manages the administrative, legal procedure. Through checking the efforts of P and conducting administrative part of the plan A is responsible for controlling the schedule of activities and publishing the advancement data on the web. While given with the request from U (actor), A is also responsible to define his own attitude to the postulate, what becomes the feedback of IAL or IDL, the decision proposals laid down by users of space or planners. U has the opportunity to express her/his preferences and view to the space management issues through IAL. This distinction does not exclude the A or P from becoming U actor, so all parties involved are able to comment, criticize and try to improve planning solutions. U

is given the unique chance to observe and experience the evolution of masterplan.

The description of "Citizen" website

The working copy of "Citizen" was launched on http://www.armageddon3.websmajster.bydgoszcz.pl to test and evaluate several modules of the website. To translate theoretical assumptions layers have been regrouped in accordance to the hierarchy (verified as well throughout the process of
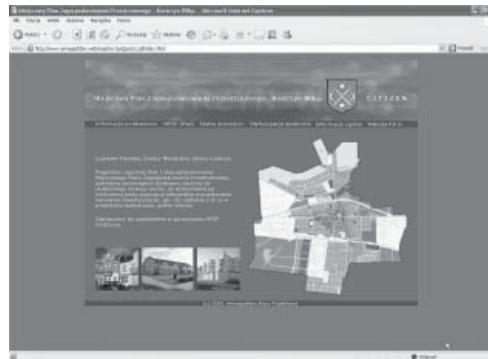

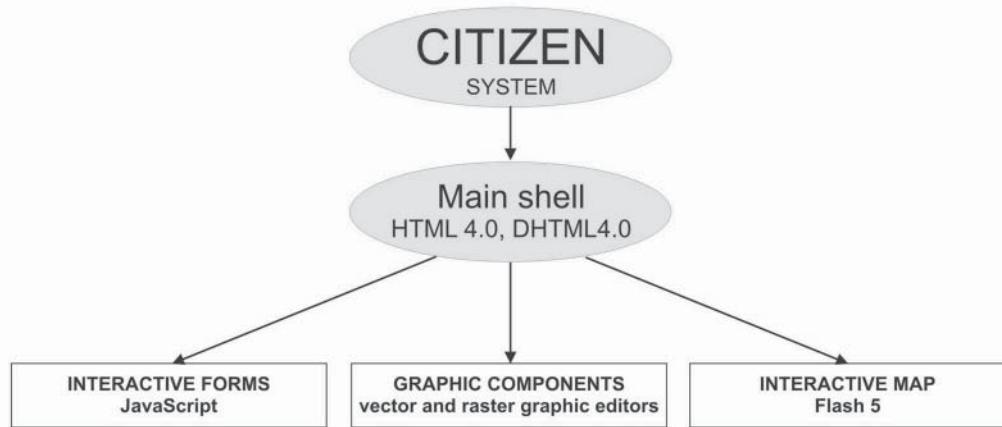*Figure 4. The screenshot of indexpage of the "Citizen" website.*

Figure 5. The selection of software systems for "Citizen".

INTERACTIVE FORMS
JavaScript

GRAPHIC COMPONENTS
vector and raster graphic editors

INTERACTIVE MAP
Flash 5

evaluation) of the available information and guest interest in acquiring it.

The basic data on masterplan contain mainly IDL. The concept drawing of masterplan with related data on the type of use/function, the profile of investment, density, requirements on greening rate and others were also separately marked, while these compose the most important part of creative and individually elaborated pieces of information. PSL was apprehended in menu of the status of the procedure, periodically updated as the progress of the procedure is becoming evident or as the legislative regulations are defined. Social response and the opinions, requests or applications composing IAL can be sent with the use of available Javascript forms or inquiries. The inquiries are automatically collected and the results are coming in graphic representation as graphs, visualizing various aspects of respondents opinions. GIL comes as explanatory text available through simple sublinks of the website. Its mainly educative function is supported by another additional information provided also for IDL (information on authorities and aims of masterplan) and IAL (an introduction to forms of social participation).

The details on tool creation

As the idea defined the "Citizen" solution as a simple and flexible web-based vehicle, selection of programming platforms was limited to few wide known and easily operable environments. This point of view limited the use of Javascript and Flash technologies to no more but places, where they were necessary and responsible for creating friendly interface.

The core application is scripted in HTML and DHTML, thus allowing simple adaptation for the purposes of other administrative bodies in different planning procedure resulting in possibility to adjust the whole code in one or two days if all graphic contents are preliminarily prepared (Musciano and Kennedy, 2001). The interactive map showing the details of planning regulations and dynamically changing while pointing towards different areas of the map, had to be however written in Flash (Ulrich, 2001). This allowed for combination of distinct sublayers of IDL: IDL-F profile of usage (function) showing the future land use together with parametric data, including density, greening rate, IDL-S status profile exposing photo-inventarization of masterplan area that is intended to record present state and act as a reminder for guests of the web-

site, IDL-I interactive profile allowing submission of locally rooted application.

In case of submissions IDL-I switches to programmatic processes formulated in Javascript (2003). Application and illation forms, as fully personalized, require encryption procedures realized by SSL protocol. Those forms serve the purpose to fully express the standpoint of the petitioner. Anonymous inquiry form is the other, yet similar type of mechanism. Beside the remark window it is almost completely composed of predetermined choice options, related to the vehicle of collecting and segregation of data acquired in such a way. Results of web-based inquiry are merged with traditionally gathered information to generate social statistics on various aspects of planning problems. The general nature of the inquiry assures its universal use.

One has to underline that several parts of the website are now inactive due to the advancement status of the planning procedure. This way the resolution text, prognoses or other contents appear to be inactive and inaccessible, however they will become available in time. Still some details are working out like the precision issue of locating application forms or ability to submit the application or illation with graphic attachments.

The application and significance of web-based social participation in planning

The "Citizen" system has already been involved in informing, educating members of local society on planning issues as well as in studying social preferences and viewpoints on main tasks plan shall resolve. Currently the most important part of public debate is about to be started in Kostrzyn. The procedure of discussion is meant to begin on June 6th and continue through two to three months. Its purpose is to extract as many conflicts as possible and try to solve these before the emergence of their negative influence on the procedure itself. Already the inquiry proved to be very useful by substantiating the fact the greening and recreation areas are seen by the local soci-
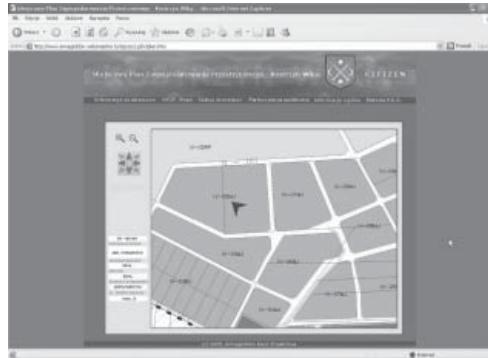

Figure 6. The detailed location info.

ety as principle issue instead of industrial zones assignment expected by the authorities (compare Barelkowski, 2000). Thus the mechanisms already provided strong arguments to redefine main goals planning procedure is aiming to.

Summarizing the significance of web-based social participation it is worth mentioning that it improves multiple factors of planning. First issue is an informative one. "Citizen" presents the most basic information concerning planning in concise yet approachable way. It is always available for interested parties allowing quick reminding. It improves the schedule of planning procedure, usually very time consuming, because concept is available at once and may be commented by people very soon, appropriately directing planning team efforts to solve real problems and concentrate on quick
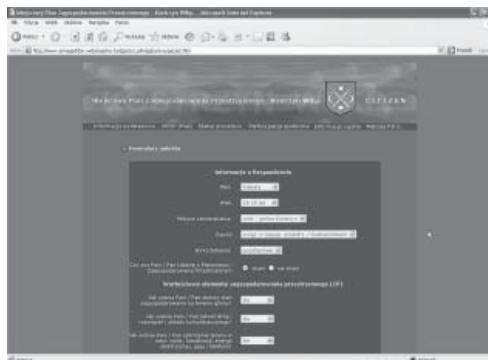

Figure 7. The inquiry form.

and efficient optimizing the spatial regulations. In the same time the feedback received from respondents or applicants gives immediate location of newly announced expectations.

Second issue can be defined as the process of social education on planning principles. The site provides both general, straight information on who's responsible for the procedure, how plan is elaborated and when different activities take place. Simultaneously through frequently asked questions, people gain simple answers to basic questions. They are also given with the explanation on principles of self-sustainability and questions of legal interventions into personal interests.

Third issue is influencing the social and political aspect of planning. Local authorities are becoming more aware of society members' attitude to various problems, understanding more how to deal with problems of transforming the vision from masterplan concept into real arrangements of local law.

Acknowledgements

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