Historic Urban Landscapes and Visualising Ballarat: Citizen Participation for Sustainable Urban Planning and Design

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SUMMARY

Technological innovation has provided enhanced capacity for knowledge building, for connection and for improved infrastructure planning in the development of the modern city. In parallel to the building of technology supported urban planning and design capacity, a debate has emerged around the need to maximise citizen participation in urban planning. The role of identity, culture and social context has been assessed as being as integral to sustainability in urban planning as is infrastructure management. In 2011 UNESCO, through the mechanism of the recommendation for Historic Urban Landscapes (HUL), created an imperative for the overt recognition of the role of culture, place and identity in sustainable urban planning. The City of Ballarat, Victoria, was the first of a series of international cities to pilot HUL and commit to inclusive citizen based collaboration in urban planning. Through online technology, a platform for partnership building was established. Developed and supported through the Centre for eResearch and Digital Innovation at Federation University Australia, the HUL and Visualising Ballarat portals track the diversity of urban landscapes – from built environment to geomorphology to cultural identity – and facilitate their inclusion in planning and resource allocation. Crowdsourcing was promoted as pivotal in this process, while spatial innovation provided a means through which to bring to life the notion of distinctiveness, identity and place. Through mapping intangibles across complex and diverse groups within community, the potential for improving the quality and management of the planning process was found to be enhanced. Local Area Planning provided a mechanism for a conceptual alignment of past and present and the voice of community has gained a stronger (and more disruptive) voice in determining what communities' value within their lived environment. This shift was assessed as playing an important, and increasingly recognised, role in sustainable urban planning and design.

Keywords: participatory urban planning - spatial mapping –Historic Urban Landscapes – social context - smart cities

INTRODUCTION

The growth in the use of technological innovation to map and quantify the nature and structure of the urban landscape has characterised modern urban planning. It has given rise to the notion of Smart Cities within which enhanced knowledge, connectivity and planning capacity are aligned with a greater potential for viability and growth [1]. Spatial mapping, digital connection, geo-sensors and modelling capabilities have provided local governments and urban developers with greater capacity to plan for urban growth within and across areas as diverse as drain infrastructure, parks and recreation, education and crime prevention. These enhanced capacities have placed technology, particularly spatial technology, at the forefront of urban planning and development [2].

   The literature abounds with analyses of the pivotal role of technology in building sustainable modern cities in areas such as transport [3], energy [4] and water [5]. However, while the role of technology for the building of Smart Cities remains undisputed, the debate continues to build around the critical place of the human and the social context in planning for the positive growth of the

contemporary city [6] [7]. As technologies that capture tangible aspects of urban growth and development expand their precision capabilities, the importance of ensuring recognition of the complexities of community and social identity, of place, of identity and of human values, is increasingly flagged as integral to successful urban planning [6] [7]. Civic engagement and participation, the building of platforms for collaboration and the inclusion of diversity and culture, in parallel to the enhancement of the built environment, has been identified as essential for achieving sustainability, livability and vibrancy for the modern city [8] [9] [10].

This short paper provides a brief overview of the implementation of an initiative to capture cultural identity in the building of a smart city. It explores how technological innovation was used to provide a platform for community participation and inclusion in the urban planning process.

THE HUL AND VISUALISING BALLARAT PORTALS

In 2011 the United Nations Educational, Scientific and Cultural Organization (UNESCO) established the recommendation for Historic Urban Landscapes (HUL) and created an imperative for the overt recognition of the role of culture, place and identity in sustainable urban planning [11]. The City of Ballarat, Victoria, was the first of a series of international cities to pilot HUL and commit to collaboration and inclusion in urban planning and development. The city embedded the HUL recommendation into their long term strategic planning processes in recognition of role that context had played in establishing the uniqueness and livability of the city. Technology was promoted as a key mechanism to facilitate access to the planning processes by diverse groups and communities. Consequently two portals were established through partnership with the Centre for eResearch and Digital Innovation (CeRDI) at Federation University Australia. These portals – known as HUL and Visualising Ballarat [12] – sought to bridge the recognised gap in civic participation in urban planning and design. Each of the portals has a unique function and entry point, while having the potential of working interactively to maximise reach and relevance to the greatest number of stakeholders to the planning process.

The HUL portal is a tool for civic engagement. It enables community members to access and input information around how they SEE (a tool for ways of seeing the city), SHOW (a means to allow individuals to share what the city means to them), TALK (a mechanism to facilitate involvement in the conversation about the city by the maximum number of participants) and RESEARCH (a platform of research from community, academics and students) the city.

The portal contains Cityscapes and Artscapes through time, 3D terrain maps. Timelines, photo maps, hidden histories, images, memory atlases, stories from local government areas across the city, research and research stories, social media and panoramic landscapes.

A snapshot view of the portal is provided in Figure 1 and it is a resource which overtly promotes its potential to act as a gateway to Ballarat's past, present and sustainable future.

Figure 1: A snapshot of the HUL Portal

Visualising Ballarat, while having its own entry point, can be accessed directly within the SEE subset of the HUL portal. Visualising Ballarat is a mapping tool which allows for information sharing across the built, cultural, natural, visual and sound environments, This knowledge and planning tool facilitates visualisations of historic and contemporary elements of relevance to communities and provides a single point of access to federated data drawn from a range of data sets. The portal uses spatial mapping to capture a growing array of data and enables individual community members and groups to access and share information. The mapping function allows for a visualisation of diverse data which, through layering capabilities, enables a factors of importance to community values, identity and place to be mapped and highlighted. A snapshot view of this portal is provided in Figure 2.
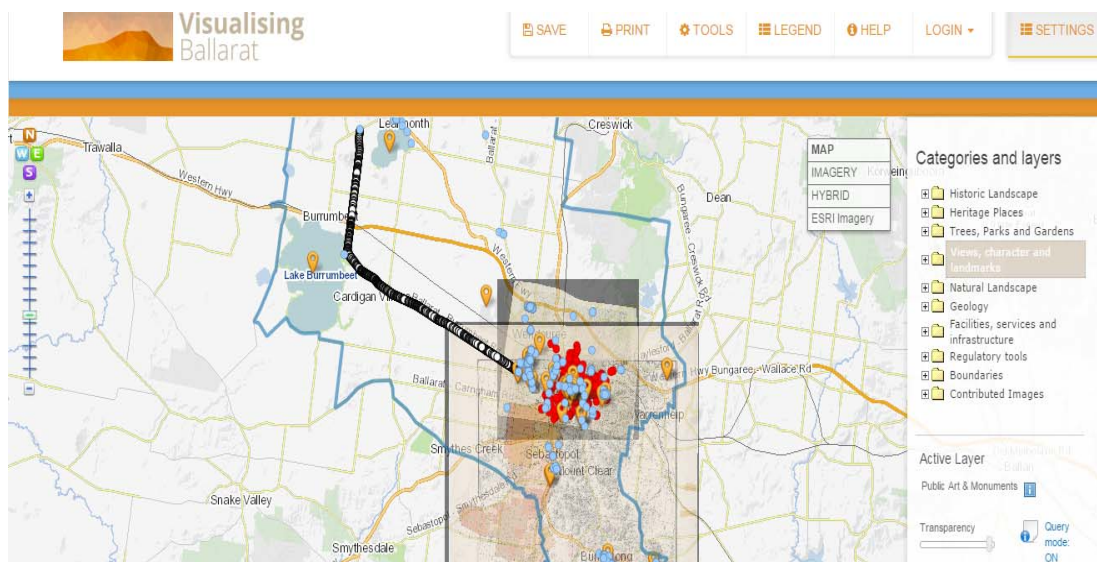

Figure 2: A snapshot of The Visualising Ballarat Portal

Visualising Ballarat is the central tool in this community participation initiative. It provides the conduit through which the measurable infrastructure (the tangibles of urban planning) and the social and cultural infrastructure (the intangibles of urban planning) are able to be captured on a single platform. The project has been operating since late 2014 and the two portals are the first of a series of gateways that will be built over time. As the project moves into the second year of implementation, an array of additional data sets will be included, with growth in the scope of the initiative targeted into 2016 and beyond. The goal is to provide the community, practitioners, researchers and industry with place-based information on demand, and, through this, build capacity to plan a city characterised by diversity, cultural relevance and informed infrastructure development; fundamental components of a modern Smart City [9] [10].

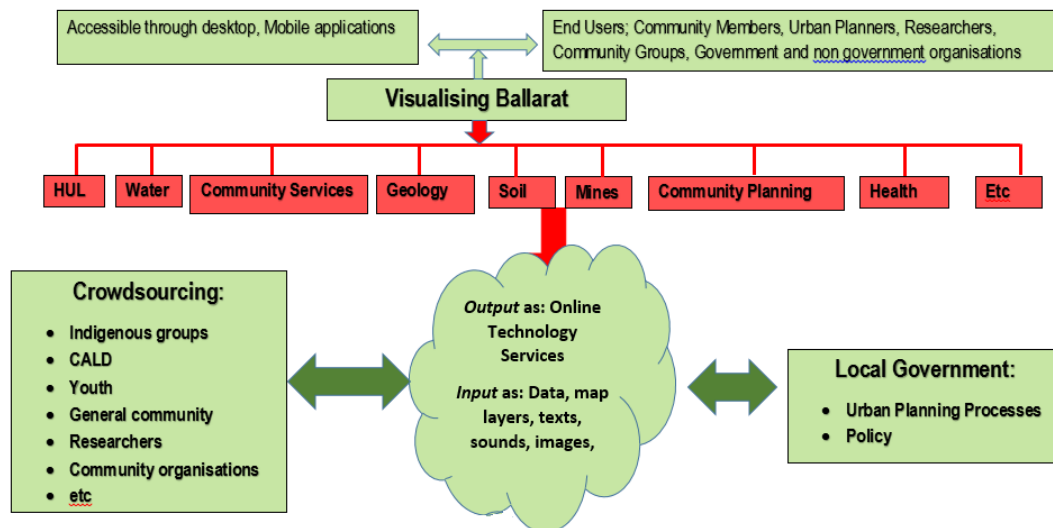The long term model for the HUL and Visualising Ballarat initiative is captured in Figure 3.

Figure 3: Linking the portal to urban planning

The connecting thread is the use of technology to enhance traditional urban planning and development opportunities. The use of web-GIS and electronic libraries, 3-dimensional and 4-dimensional visualisations, augmented and virtual reality and 3d printing are all critical tools in this project.

HUL AND VISUALISING BALLARAT IN LOCAL AREA PLANNING

At the current point of project implementation, the HUL and Visualising Ballarat portals have become a mechanism for enhancing local area planning. Feedback gathered from community organisations and from urban planners at the City of Ballarat identifies the HUL and Visualising Ballarat portals as important resources. The portals are used to initiate conversations at the local area planning level relating to what defines a particular community. As planners move through communities seeking to consolidate urban planning and development strategies, the portals provide an intuitive visual tool through which to map current infrastructure development. Citizens are invited to provide input relating to places, spaces, sights and sounds of relevance to that community. While the use of a consultative process is not a new innovation in urban planning, the portals provide an innovative platform for collaboration characterised by:

- The ability to immediately overlay tangible and intangible elements of the city and allow communities to view this in real time. This facilitates the process of individuals and groups providing informed input based on a more holistic understanding of information of relevance to urban planning decision making.

- A building of a greater trust relationship with local government through the equalisation of power differentials. Once citizens become skilled and self-directed in the use of the portal, then they are able to remain involved independently, and in an ongoing way. The portals enable them

to gain immediate access to information across a range of issues. This then provides the basis for informed civic participation because the power (and the choice) for accessing information, and for providing input into knowledge building, rests with individuals.

- An enhanced capacity for inclusion of a more diverse range of community members. Traditional approaches to community consultation can be exclusionary for many groups, particularly indigenous, culturally and linguistically diverse groups and people with disabilities. Many individuals are not confident in being involved in open forums, community meetings and submission writing. The portals provide a means for sharing knowledge and gaining knowledge in a way that was not previously available. It also supports people who have insights that they have not previously shared to better understand that their insights and stories have relevance within the urban planning and knowledge building process.

CONCLUSION

While development of HUL and Visualising Ballarat is ongoing and significant expansion is required to maximise the capacity of Visualising Ballarat to achieve optimum outcomes in informing urban planning and development, the crowdsourcing elements, the diversity of data sets and their accessibility through a single point of access provides a clear alignment between technology and participatory urban planning and development. This technical innovation seeks to address what researchers on the importance of inclusive urban planning [7] refer to as the disparity between the vision for participatory urban planning and the present reality.

ACKNOWLEDGEMENTS

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[12] The HUL portal is located at http://www.hulballarat.org.au/. Visualizing Ballarat is located at http://www.visualisingballarat.org.au/