



QCIF Technology Diffusion Project Proposal

Regional Level Community Engagement –

A collaborative e-democracy through the use of technology driven Visualisation and Advanced Computational Tools

Applicants:

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Introduction

A proposal to the QCIF technology diffusion fund for support of a pilot for the exploration of intelligent tools (e.g. advanced data visualisation and computational analysis of large textual datasets for thematics) designed to advance data and text mining techniques in social and community agendas for theme extraction, analysis, commentary, and direct dialogue interaction at the regional level.

This type of collaboration has only become possible due to advances in High Performance Computing technologies. This project allows for the diffusion of these technologies into the complex community environment using the Brisbane North region as a pilot area.

Background

In Australia and around the world an increasing movement is evolving in the establishment and application of an e-democracy approach to enable community participation, engagement and empowerment through the use of technology in the democratic process. For example the Australian Government Information Management Office state that:

“With the advent of e-government and the increasing use of information and communication technologies to enhance government delivery, opportunities arise for agencies to engage and involve citizens and community through new channels. While traditional ways of engaging will still occur, agencies are also exploring online and electronic avenues of involving the community.”

In Queensland, the stated role of the Department of Communities E – Democracy Unit in a context of the Smart State agenda is to:

- promote good practice in using advanced technologies to engage with the community;
- contribute to the Queensland Government's knowledge and showcasing of good practice in community engagement through the diffusion of advanced technologies;
- identify areas of public policy that might benefit from dialogue between government and community using these technologies;
- evaluate the contribution of e-democracy initiatives to government and the Parliamentary process; and
- research and develop options for future e-democracy policy in Queensland.

Concept:

The project is designed to further enhance and extend an e-democracy/e-participation vision and model from the community perspective. This will be achieved through the piloting of an application model and associated tools, the result of which provides a replicable process linking and engaging government, industry, community groups and individuals in dialectic on current issues raised by or of concern to community. An outcome of this engagement will be the increased opportunity to actively participate through an empowered grassroots e-democracy process in regional level strategy, governance and informed decision-making in real-time.

This will allow regional and local issues and current events to be identified by the various community members, disseminated for general discussion, commentary and appropriate action integrating social and economic outcomes. Examples may include health, education, environmental, social services, physical infrastructure, technology, industry, business, safety, sustainable futures and values and ethical standards.

This initiative has become possible through the:

- increasing acceptance and affordability of enabling advanced Information Communication Technology (ICT);

- a regional level willingness of partners (detailed below) to actively collaborate with each other and to engage the wider community; and
- The ability to process large quantities of dynamic data on a real-time basis.

Process:

1. At a regional level develop a community of practice that engages organisations, agencies and individuals in communication on regional issues.
2. Extend through engagement and technology the mechanism to identify and discuss regional issues.
3. Conduct a pilot study on the integration of intelligent data and text mining tools for the purposes of performing thematic, visual and computational analysis directed towards the identification of regional level social and economic agendas and issues.
4. Enhance the process of participative e-democracy through commentary, representation or strategies development and progression at the regional level informed by the broader community.

Technology

Quest newspapers are available from 1995 via an online subscription based service. Allowing for data such as letters to the editor and themes of major articles to be extracted and mined for analysis. This will provide a benchmark for an artificial intelligence system based on computational analysis of data and resultant thematics to allow an interactive response model for the future which includes thematic visualisations.

The Quest newspapers to be used in this pilot are:

City North News

North West News

Northside Chronicle

Use of complex software algorithms for data and text mining such as neural networks and binary tree searching would allow for identification of themes and temporal analysis of this historical data. Thus providing the basis for identifying relevant issues for an interactive system that allow for building a model for responsive testing of a theme over spatial area which equates to the distribution areas of the various papers. This allows spatial comparisons and analysis to be made using Geographic Information Systems technologies including the CIS developed with QPSF support in 2004/5.

The outcomes of this technology diffusion project will provide Quest Newspapers and the researchers with a comprehensive set of tools and techniques for interpreting, analysing and displaying the complex data sets. It would also allow key findings to be disseminated in a way that is accessible to management, other Governmental bodies and associated local community groups. This pilot could be extended to other news bodies such as the parent company of Quest, News limited.

Community Consultation Tools

Community consultation and information is an important part of planning and this project also proposes to develop visualisation materials that are suitable for such activities. It is envisaged to include the development of interactive Web based models for viewing over the Internet and including interactive models and GIS maps. These would be generated from the visualisations produced by the software. This would also provide evidentiary based data for community leaders to pursue a desired expressed outcome which in turn extends the level of community democracy.

Participants:

1. Brisbane North Development Forum Inc. (BNDF)
2. Quest Newspapers (Industry)
3. Australian Catholic University (ACU)
4. Queensland University of Technology (QUT)
5. Northern Corridor Education Precinct (NCEP)
6. Brisbane Airport Corporation (BAC)
7. The University of Queensland (UQ)
8. Department of State Development Innovation & Trade (DSDI&T)
9. Software providers

Issues Range:

The range of issues is not limited to any discipline. Issues that arise may vary from education, information and communication technology, politics, economics, law, health, social sciences, and business.

Resources:

Budget:

Technology and Research Assistance

0.5 FTE HEWA4 (\$41,083/2) \$20,541 plus 26% oncost	\$ 25,500
Internship	\$ 3,000
Data Preparation and extraction, Software	\$ 6,500
Administration, Meeting costs, workshops, stakeholder training	\$ 5,000
Sub Total	\$ 40,000
Participant In-kind (from project applicants)	\$100,000
Web Programmer	
Systems-Analyst	
Data mining technology support	
Artificial Intelligence analyst	
Equipment In-kind	\$ 15,000
Office space In-kind	\$ 30,000
Total	\$190,000

Time Lines:**Stage 1 (Months 1 - 6)**

Model development and testing with historical documents as a test base for thematic analysis and visualisations.

Stage 2 (Months 3 – 6)

Pilot the use of software tools for the purposes of facilitating participation and expansion of data collection using BNDF Inc. and Quest Newspapers as the forum.

Stage 3 (Months 6 –11)

Review and analyse the results of Stages 1 & 2 in the context of the overall project and beta-test the model through a limited trial through a series of single paper distributions through the Northside Quest papers.

Stage 4 (Months 11 -12)

Compile project report. Explore possibility to extend the overall project concepts data and text mining tools and techniques for theme extraction informing multiple discipline level journal articles. Investigate potential conference representations and further funding sources such as NCRIS or ARC Linkage Applications.

Intellectual Property:

The underlying IP that this proposal is based on relates to the 'QPSF Pilot Project: Transforming Geographic Information Systems into Community Information Systems (CIS)'. The IP of the pilot project resides with QPSF and QUT and to a lesser extent Griffith University.

The data used in the application of the CIS in this proposal is publicly available data, however, IP may be generated with respect to the process of engagement and the emergence of e-democracy at the regional level. This IP would reside with proposal participants and QCIF.