

DATAMAP: EXPLORING GENDER BALANCE IN IRELAND THROUGH INTERACTIVE MULTIMEDIA INSTALLATION

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Traditional presentations of information, such as statistics, can often be inaccessible to the public or presented in a manner that is unengaging. Art and technology offers new and alternative possibilities for presentation and audience engagement. *DATAmap* is an immersive interactive multimedia installation that presents factual information on the levels of representation in Irish State bodies, with a focus on gender balance.



Fig. 1: Representation of Dun Laoghaire/Rathdown County Council statistics (Copyright Fionnuala Conway & Mark Linnane).



Fig. 2: DATAmap - visitors interacting with information (Copyright Fionnuala Conway & Mark Linnane)



Fig. 3: a close-up of a visitor stepping on a light sensor (Copyright Fionnuala Conway & Mark Linnane)

1 Introduction

The declining health of Irish democracy has been of increasing concern in recent times with low levels of participation, poor representation of groups and in general, a disillusioned population. [1] [2] In 2006, in response to this concern, the Irish Prime Minister established the Taskforce on Active Citizenship to look at ways to encourage a more engaged and active citizenry. [3] The Taskforce have made various recommendations on ways to encourage the development of an active citizenry, including the provision of information as a way to raise awareness of vital issues of concern for citizens. Digital media and technology, used in an artistic way, offer new ways to present information that can make it more attractive, accessible and engaging. The *Art of Decision* research project and exhibition is a creative application of art and technology to raise awareness of Active Citizenship and a novel response to the Taskforce recommendation. [4] The exhibition presents a series of nine interactive multimedia rooms that invite visitors to think about Active Citizenship and their involvement in society and politics. *DATAm* is the largest room in the exhibition and presents a large volume of factual information on the levels of representation in Irish State bodies, with a focus on gender balance. This paper will first present the focus and motivation for the design. It will then go on to detail the design and creation of the *DATAm* and will be followed by a discussion of the work.

2 Focus on representation of gender balance

In Ireland, as in many other countries, there is a concern about the inequality and under-representation of certain groups (young people, women and those in disadvantaged areas) in political decision-making. While it is clear that structural changes have to be made to address the barriers to participation from these groups, information and knowledge on these issues can be used to raise awareness of these issues and engage the citizen. The presentation of age, socio-economic and gender-differentiated data is important in understanding the position of these groups in society and decision-making. In attempting to engage the citizen with information, the challenge is to make it appealing, impactful and memorable by making it personally relevant and meaningful so that the citizen feels engaged in a way that forms the basis for action.

The traditional presentation style, for example, of presenting data, such as inequalities, as numbers and statistics is often inadequate in its ability to shock, anger, outrage and, therefore, engage the citizen. Traditional media has a role to play in the presentation of this type of information but often the presentation is a compact summary of a situation at a national level situation. The citizen's experience of information presented as a summary of the regional and national level statistics can be quite removed from their personal experience in their locale and community.

In an attempt to raise awareness of the gender balance in decision-making bodies throughout Ireland, the National Women's Council of Ireland (NWC) and Department of Justice, Equality and Law Reform initiative involved the development of a life-size photographic exhibition, 'Put More Women in the Picture' depicting the gender composition of statutory bodies at national and regional levels. [5] By representing the numbers of men and women in these institutions as photographs of the actual people, the information is made more meaningful and engaging to the viewer. The exhibition has been displayed in a wide range of settings from locally based community centres to libraries and county buildings and, in situ, displays the information pertaining to the local area alongside national figures. While this presentation goes a considerable way to enriching the presentation of information such as this, art and technology offer new and alternative possibilities for presentation and audience engagement. The artist working with multimedia and technology can exploit these possibilities to present a complex view of many layers of information in an accessible and meaningful way. *DATAmap* is the novel result of an exploration by the artist into how the interactive installation could be a physical platform for the presentation of the complex set of local, regional and national data on the gender composition of State bodies around Ireland.

3 *DATAmap* design

The design of *DATAmap* had two purposes: a) to use multimedia to visualise and represent data on the gender composition of State bodies around Ireland and b) to design a physical interface that allows visitors to interact with information through a custom-designed physical space that facilitates a group experience.

In order to point out the breadth of institutions that are making decisions affecting citizens and society, a list of key statutory bodies was made that consisted of a wide range of decision-making bodies including, but not restricted to, those of local and national government. Along with national government bodies such as the Government and Senate, city, county and urban district councils, vocational education committees (VECs), city and county development boards were included as well as boards such as the Arts Council, the Gas board and Fisheries Boards, and others that may not be so immediately obvious to the public. A detailed database of the addresses and activities of each board was then compiled as this would also be used to influence the design. Data on the gender makeup of each of the boards was then gathered by consulting various sources and by telephoning the body and was collated as the absolute numbers and percentages of men and women on each board.

At the information visualisation design stage, it was important to find some way to differentiate the information from each organisation. The activities of each board served to inform the information visualisation as it allowed the artist to visualise and realise an animated scenario in which the numbers of men and women could be depicted, and served to give each board its own identity and personality. Photography of locations where organisations are based was also used in a considerable number of the animations.

Fig. 1

The numbers of men and women on each board are depicted as pairs or couples of symbols related to the activity of the board while also suggesting a gender for each object, and are presented in an animation of a scenario or location that suggests the activity of the board. For example, the scenario presented for each city council is an animation of men as mops and women as buckets arriving to clean a city street, as seen in Figure 1. This is a light-hearted depiction of the idea of inanimate objects having a gender as the 'gendered' objects appear in humorous cartoons that are intended to play with gender perceptions. Alongside the animation, the information is also presented as numbers and percentages of gender composition.

DESIGN OF THE *DATAMAP* SPACE

*DATAm*ap is an immersive installation consisting of a room, built around a large-scale, interactive, colourful floor map of Ireland, designed to allow large groups of people interact with information. The room was designed as a large space, 48 foot long by 24 foot wide and with 12 foot high walls, which immerses visitors in an experience of the information and is surrounded by 6 projection screens that display the animations.

Upon entering *DATAm*ap, visitors walk onto a large-scale, colourful map of Ireland covered with sensors marked by small lights, representing the 140 points of information that can be accessed in *DATAm*ap. The overall interior design of the *DATAm*ap was intended to create a playful space where use of colour, light and materials was important. The map of Ireland is divided into areas according to colours and the area around the map, depicting the Irish sea, is covered in a blue plastic grass-like material. The animations and floor lights are the only sources of light in the room. Figure 2 depicts the space.

Fig. 2

Providing visitors with an intuitive way to understand how to access the information were a core concern in the design of the *DATAm*ap. It was important at the data collation stage to record the addresses of the boards as this information was used to allow the placement of sensors at the geographical location of the organisations. Standing on the sensors triggers the related animation to play on a nearby screen (see Figure 3). However when a visitor steps on a light, only one animation is displayed at a time.

This means that people are 'forced' to watch the current cartoon and wait their turn for the information point they had triggered.

Fig. 3

4 Discussion

DATAmap presents a rich experience of complex information in the form of an interactive immersive environment. It is designed to maximize the impact of the information to be displayed and to encourage engagement with the data. *DATAmap* provides an alternative, innovative and spectacular presentation of information thereby creating an experience for the visitor that is unusual, fun, thought-provoking and memorable.

INFORMATION VISUALISATION AND REPRESENTATION

DATAmap draws attention to a broad definition of the decision-making structure by presenting information on the number of men and women in a wide variety of bodies that may not typically be associated with political decision-making. For example, presenting information on government institutions is to be expected, but presenting information on bodies such as the Gas Board and Arts Council, bodies that also make decisions that affect the citizen draws attention to the wider decision-making sphere.

The use of animation facilitates the presentation of complex information as it allows three layers of information be presented in one, presenting data in the form of numbers, percentages and the creation of a unique scenario that gives the visitor some information on the activities of each organisation. The use of familiar locations in the design of the animations draws the visitor's attention to the significance of the information in their locality or community. The use of humour and familiar locations brings the data to life, makes it more appealing and personal to the visitor, therefore, has a stronger representation in the person's mind. The arbitrary assignment of gender generated much discussion, and this also served to encourage people to explore the room as they were curious to see how the other decision-making bodies are depicted.

INTERACTION WITH INFORMATION – THE MAP OF IRELAND AS AN INTERFACE TO INFORMATION

The map of Ireland, as a metaphor to engage with information from around the country, serves as an accessible framework that conceptually and geographically situates visitors in a landscape that is familiar to them, It is a strong visual and spatial cue to the visitor that they are being presented with information of local, regional and national relevance and helps visitors relate to their own area while also keeping an eye on the general national situation. The interaction with the space and information proved easy to learn as people could orient themselves in a space they already understood. Visitors to the space engaged quickly with the landscape and often would move immediately to a location that was familiar to them (where they lived or were born).

Providing visitors with an intuitive way to understand how to access the information was another concern in the design of *DATAmap*. In designing an interactive work with a physical interface other than the conventional mouse and keyboard, there is typically a concern that visitors may not understand the in-

terface. As the light sensors are mounted at the same location as the information point, visitors understood how to access information. The large amount of light sensors embedded in the map draws attention to the points of information and people naturally uncovered the interactive element simply by walking across the map.

The playfulness of the presentation encouraged visitors of all ages to physically engage with the information by moving and exploring the rich terrain of information. As they discovered information on a location, they became curious to discover the information in other locations to compare and contrast the information. Overall this interface provides an intuitive and familiar metaphor for visitors to understand what the space is presenting and how to interact with the information.

FACILITATING A GROUP EXPERIENCE OF INFORMATION

The scale of the room is intended to facilitate groups of up to forty people. The non-linear presentation and interaction with information through the use of sensors meant that visitors were free to move around the space and not be attached to a computer presentation. To encourage conversation and collaboration, the animations present one point of information at a time. As people waited for their turn to interact with the system, they would begin to talk to one another and this encouraged people to collaborate with each other in discovering the information. Groups of people, often strangers to each other, would begin talking to each other and discussing the animations and numbers. People would begin explaining the artwork to visitors who were trying to understand the piece. It was also observed that people would work together to compare data from different locations around the room. This collaboration seemed to reinforce the experience of the information.

A SPACE FOR REFLECTION

A crucial consideration in the design of the room was to create a large comfortable space where people feel encouraged to congregate, spend time and reflect on the information presented and interact with others visitors. The design of the space meant that the visitor was immersed in a rich visual experience. The only light in the room came from the projected animations and the light sensors. This drew attention to the visual spectacle of the animations and illuminated floor and created a strong feeling of immersion.

5 Conclusions

The role of the artist as an author of information is apparent in *DATAmag*. The artist exploits the possibilities of multimedia and new technologies to create a space for experiencing information and encouraging a playful discovery of that information. The artist exploits the possibilities afforded by multimedia and technology to maximize the impact of this information and thereby creates a new way for citizens to engage with information. There is also a conscious effort on the part of the artist to bring the artwork to the community. In doing so, the space not only represents a place for experiencing information but it also becomes a platform for congregation, reflection and discussion on issues pertaining to the community. The artwork becomes a locus for interaction and discussion and allows people to have a rich experience of issues around Active Citizenship.

References and Notes:

1. *Democracy Commission, Disempowered & disillusioned but not disengaged – Democracy in Ireland* (Dublin: New Island Books, 2004).
2. *Democracy Commission, Engaging Citizens - The Case for Democratic Renewal in Ireland* (Dublin: New Island Books, 2005).
3. *Irish Times* “Taoiseach appoints Task Force on Active Citizenship,” *Government Press Release*, 18 April 2006.
4. *More information is available at www.artofdecision.net (accessed September 8, 2011).*
5. *National Women’s Council of Ireland website, “Put More Women in the Picture,” 2003, http://www.nwci.ie/our_work/political_equality/women_in_decision_making. (accessed: September 8, 2011).*