

Wired High Rise
Constructing a virtual community in an inner city housing estate

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1. Introduction

This paper explores the evolving connections between information and social policy through the construction of 'Reach for the Clouds', a 'networked community' in Atherton Gardens, a high rise housing estate in Melbourne, Australia. The project was developed by the InfoXchange, an internet service provider with a 'social entrepreneurial' orientation. It also involves a consortium of government and community groups and draws on a combination of voluntary labour, commercial enterprise, government funding and donations of equipment by local businesses. We give a brief description of the project and its protagonists, consider the motivations behind the network, and the difficulties which lie in evaluating such a project.

Reach for the Clouds involves agencies concerned with issues ranging from telecommunications and urban planning to housing, health, family welfare, schooling, migrant support, employment and training. In different ways, each of the organisations involved is interested in experimenting with using new technologies to address endemic problems of social isolation and economic marginalisation, which some fear will be reinforced by a growing gap between the information rich and poor.

The project manifests links between information policy and social policy; it also reveals disconnections. Information policy is centrally concerned with the need to understand and harness the effects of new communications technologies, especially the impact of consumer demand for telecommunications systems and data networks. In this sense it is concerned with meeting new, or changing expectations. By contrast, social policy is less concerned to meet demand than to create it — to alter the choices of those excluded or marginalised from the new communications infrastructure, the labour market and civic life. Computer networks may help isolated low-income people to communicate with their neighbours, building trust, overcoming fear and engendering the ability to participate in leisure, education and work. If the differential social impact of technology is often seen as a threat to cohesion, its social deployment is also widely seen as a solution, provided it is used in the cause of 'community building'.

Reach for the Clouds is being built in the inter-jurisdictional zone between information policy and social policy, and between private enterprise, the voluntary sector and public agencies. Its designers and advocates have learned to speak the policy language of government, which retains control over the estate, housing policy more generally, and the funds required to build the physical network itself. In order to generate support for the project, its advocates have formulated ambitious objectives for the network that will be established at Atherton Gardens. This network, its advocates argue, will help residents to help themselves; using computers, they will be able to get up-to-date information on the services available to them, breaking the isolation and fear that prevent them from seeking assistance and finding work. Participation and self-help are key terms in Australian social policy as elsewhere. So too are 'community' and 'social capital'. Each of these terms is also a slippery one for funding agencies, given that it is difficult to say exactly how it can be specified in terms of observable outcomes from investment. From a research perspective, one of the most interesting aspects of Reach for the Clouds, whatever happens as it develops, is its potential to test three linked propositions: that computer networks promote participation in local communities; that participation builds community; and that these outcomes can be monitored and described as 'social capital'. In this respect, it presents an intriguing, if not unique point of departure from a theme running through much of the social capital literature, which sees electronic communications as antipathetic to the resources generated by human contact and collective experience (cf. Nie and Lutz 2000, Doheny-Farina 1996, Stoll 1995, Rheingold 1994).

More immediately however, Reach for the Clouds offers an opportunity to gain a detailed understanding, over time, of how people on low incomes and in a specific place use technology for their own purposes, once it is made available to them. Much of the emphasis in information policy has been on the deployment of technology, rather than its social adaptation. Local studies provide an opportunity to explore how people use technology and create their own networks.

2. Reach for the Clouds

Four high-rise towers on the Atherton Gardens Estate provide the setting for the Reach for the Clouds wired community. The estate is located in the inner city suburb of Fitzroy. The towers were

completed in 1971, and occupy land formerly occupied by nineteenth century working class housing. The area was identified as a slum from the 1930s onwards, and became a centre for pioneering programmes of social improvement well before the construction of the high-rise. A significant number of charitable and community sector organisations are located around the estate (table 1). The towers are part of Melbourne's extensive system of inner city public housing, and are owned and run by the State Government's Office of Housing.

The total population of the towers is around 1800 people, occupying about 770 units. While the demography of the towers is always changing, several continuing features of the resident population are salient (table 3). First, the population is ethnically and linguistically diverse. Residents come from more than 43 countries of birth (see Table 5). There are at least sixteen preferred languages (table 4). Second, these are low-income households with a high degree of dependency on social security or other government benefit. Over fifty per cent of households earn less than \$AU300 per week. Twenty-eight per cent of residents receive unemployment benefit; twenty-five per cent receive single parent support; almost thirteen per cent receive a disability benefit. Third, there is a proportionally large number of children on the estate: forty per cent of households have children.

Research so far suggests that comparatively few of the residents currently have access to computers or the opportunity to acquire computer skills. While children are likely to use computers at school, their parents, neighbours and older siblings may have little chance to keep up with them.

The Reach for the Clouds scheme, at least as the InfoXchange initially defined it, involved securing support from the Office of Housing to rewire the high-rise towers, using existing telecom cabling and high bandwidth communication controllers. The InfoXchange proposed to provide each tenant household with a refurbished personal computer, donated by local businesses and likely to be several years old. This would come with software (at the time of the early project planning, this was intended to be a NuDeal package, including word processing, database and spreadsheet software), along with access to email and the Atherton Gardens network. This network server was to include information from partner agencies, local and state government, welfare agencies, local retailers, utilities; eventually, it was hoped, local schools, technical education and universities would also contribute materials. For a fee of \$AU5 a month, residents could also purchase access to the Web and other Internet services. (Australia does not have timed local call charges). Alternatively, they could be given Internet access free of charge, in exchange for time donated to training others and maintaining the network.

Once established, the network was to be owned and operated by residents. The InfoXchange would provide some initial training and would seek to interest IT companies and software developers in offering training. However, the proposal was that the residents themselves would eventually be the workers and trainers, as they progressed towards community-based management. Initially, residents with computer skills would be employed as help desk workers and as trainers (the idea was that these would be younger people). Other residents would be invited to contribute in other ways, for instance as translators. The training, it was hoped, would be accredited; it was also to be linked to Work for the Dole programs run by local community employment agencies. The objective is a 'sustainable management operation'. A more ambitious aim is 'sustainable funding'.

There are similarities between Reach for the Clouds and initiatives elsewhere. But Reach for the Clouds also presents some distinctive challenges, stemming especially from the cultural and linguistic diversity of the estate. And the project also has some unusual features, including the ambitious plan to build resident involvement and the link to training.

3. Digital divisions

The Reach for the Clouds project and the expectations associated with it can be seen as direct responses to social and political debate on the 'digital divide'. The divide in question lies between the affluent, educated parts of the population who have embraced new technologies, and those who remain either ignorant of computers and unskilled in their use, or indifferent to their impact. In Australia, higher income, urban and educated people are still more likely to have household Internet access (Lloyd, Given and Hellwig 2000). Women are also less likely to have Internet access, as are people aged over fifty-five and those who are unemployed or in manual occupations. Those who do not use the new technologies, it has been argued, will be increasingly marginalised in the new economy

(see Latham 1998, Tanner 1999). The problem can and has been construed as a matter of social rights: some citizens do not have equitable access to resources that are now necessary for their social and economic participation, while their children, as future citizens, have an even stronger claim on government assistance. Alternatively, it can be posed as an issue about choice. Despite the availability and affordability of personal computers, some groups of the population are not making the choice to invest time and money in experimenting with new technology; this has implications for their employability and their children's educational progress.

Initially, the 'digital divide' entered the policy lexicon via *Falling through the Net*, a 1995 study by the US Department of Commerce which began a series of reports tracking the relationship between 'information haves' and 'have-nots' in terms of household access to a computer and modem. Drawing on a large-scale statistical analysis of consumption patterns in telecommunication services, the 1995 report identified a number of disparities in the use of communication technologies, from telephones to personal computers and computer networks. These were linked to race, income, education and location: Black and Hispanic Americans, those on lower incomes, with lower educational qualifications and in impoverished inner-city areas, it was found, were much less likely to have accessed the Internet than white, college-educated or middle-income consumers. The authors of the study were motivated by the inadequacy of traditional measures of telephone penetration in assessing the policy goal of universal service. They wrote: 'There are legitimate questions about linking universal service solely to telephone service in a society where individuals' economic and social well-being increasingly depends on their ability to access, accumulate, and assimilate information' (US Dept. of Commerce 1995).

Although there were acknowledged problems with such a simplified approach, the presence or otherwise in the household of the necessary hardware to enter the online world became the critical short-hand indicator of the degree to which Americans were equipped, able and willing to take advantage of the new digital era. By the time the second *Falling through the Net* study was published in 1998, the 'digital divide' tag was in wide use (US Dept. of Commerce 1998).

Equivalent research in other national contexts, fuelled argument in the late nineties for intervention by communications and education authorities (see for example Kofler 1998). The argument is now standard. Educated professionals, white-collar workers and middle-class families who have embraced technology at work and home, are said to enjoy an advantage in the school system and the labour market (Aspen Institute 1999). Because they are able to call on extensive information, cultural resources and communications networks, they have more options for sustaining and extending professional, friendship and family networks, or for exercising consumer choice (Pew Internet and American Life Project 2000). Others are marginalised from the new economy, the changing labour market and the on-line resources offered by banks, supermarkets, schools, real estate agents and government; this has implications for social settlements. National and regional governments have been urged to supplement these private information resources, available to the affluent, with public points of access to the Internet, in public libraries and schools, supermarkets, train stations and community technology centres (see for example Welling and Kubicek 2000).

Even as the 'digital divide' took on policy currency, however, it proved to be an imprecise metaphor. Was the problem, as initially identified, either substantial or persistent? Internet penetration rates continue to grow, aided by cheap hardware and competitive telecommunications markets. Data collection and analysis have lagged behind these rapid shifts in consumption and user patterns, which appear to be removing or reducing disparities according to gender, race and ethnicity and, increasingly, of income. Perhaps what we can expect to see is progressive adoption of these goods by those with disposable income, followed by wider diffusion as economies of scale take effect. The political case for intervention has had to counter the argument that digital disadvantage has been invented by government but solved by the market (White House 2000a, 2000b, 2000c; Rhodes 2000; Powell 2000). The response has taken the form of arguing that, in any case, the issue is no longer simply about connection to the information infrastructure. The task of plugging households in is only the first step, leading to the larger challenges of building literate, creative and civic skills, assisting marginalised communities to find the content that they need on-line, to generate content of their own, to seek employment in the new economy and to realise the economic potential of this intellectual property (Digital Divide Network 2000). The challenge the digital divide now poses for government is far-reaching: a reconfiguration of service delivery, education and communications policy, requiring a comprehensive, inclusive approach.

If in the United States and Britain, the digital divide is most often seen as a combined issue of income, education, race and ethnicity, in Australia the term appears most frequently in the context of regional disadvantage. Australian information policy has responded to the particular circumstances of a large country with a small population scattered across great distances (Barr 2000). Since the federation of the former colonies in 1901, communications has been the province of the national government and has often been seen as a key nation-building tool. The statistically significant differences in patterns of technology use – those between metropolitan consumers and those in rural and remote areas – can be explained in terms of the difference in infrastructure available. Telecommunications policy has been dominated by debates about the extent of service provision outside the major cities and providers' responsibility to meet statutory service obligations. Universal service obligations were historically associated with the establishment of voice telephony, but are now expanding to accommodate new consumer expectations of data services. These precedents mean that, by contrast with the US, it has been less controversial to advocate a centralist role for government in planning for the social impact of technology.

Australian information policy was well advanced by the mid-1990s (see Hearn et al 1998). Ambitious efforts were made to build a public domain of accessible information, largely through public libraries. Making cautious interventions into a deregulated telecommunications market, the Commonwealth sought to find ways in which bandwidth and infrastructure could be made affordable for those in rural communities and remote locations. While attempts were made to connect these discussions to initiatives in social services and in education, recent policy statements acknowledge that a great deal of work remains to be done in these areas. The 'E government' approach to online services in employment, health, education, aged care and local government has made some strides, at a state and local level, in linking local communities and promoting self-help, breaking the cycle of isolation, unemployment and inter-generational poverty. However, Australian governments have not adopted the centralist logic of comparable European initiatives (cf. UK Cabinet Office 1999, CITU 2000, European Commission 1999, Bellamy 2000, Hoff et al. 2000, Chadwick and May 2000). There is a similar pattern in schooling. Education authorities have also invested heavily in hardware, software and networking for schools, and have encouraged parents to do so in the home. However, there has as yet been minimal consolidated planning about the implications of convergence for post-secondary, secondary or primary education. As yet, ambitions to link education and training to the labour market demands of the emergent information economy remain unrealised.

Australia's circumstances may be particular, but the information policy debate there is not unusual. Few governments have achieved the aim of 'joined-up thinking' about the social impact of technology. Information policy remains centrally concerned with the 'new economy' objectives of expanding telecommunications resources; it has some links to education and training, but few to curriculum design, health, housing, family services, income policy or employment.

In a policy climate where technology, flexibility and competition are seen as the ingredients of national prosperity, it is sometimes argued that government should do little more than keep the rails clear for the speeding train of electronic commerce. But there are other elements to the contemporary liberal vision. Governments are also expected to enable disadvantaged citizens to manage their own affairs more actively, helping themselves and one another to re-enter economic, political and social life, thus creating the social and cultural resources for economic regeneration. Instead of being dependent on social welfare and alienated from politics, individuals could be profiting from the enterprising search for contacts and opportunities, and for the best deal from agents providing political representation, education, job search facilities and social services. But the circuitry for these new exchanges is not going to form itself organically from the convergence of interests – whatever we might have imagined at the height of enthusiasm for the new economy. It will not be a rational architecture; it may well be a tangle. The challenge, for government, is not unlike that which was presented as railway networks, telegraphy and telephony took on their own life. It could leave well alone, expecting an unpredictable hybridisation of technological, economic and social life. Alternatively, it could try to monitor and influence the direction of the expansion, as a social infrastructure project. Such projects are appearing, even in national contexts where centralised public initiatives are rare and controversial. But generally they involve efforts to persuade community organisations, industry and small business to contribute.

Increasingly in Australia and elsewhere, public funding for schemes designed to alleviate the 'digital divide' is being devolved to collaborations between governments (national, regional and local), the

not-for-profit and private sector, sometimes organised through universities or consultancy services (Peizer 2000, Gurstein 2000). Instead of seeing themselves as having to provide the equipment, training and connections needed to meet the rising tide of expectations, governments can place investments in providing incentives for the development of socially responsible enterprises with commercial potential, with the support of corporations, foundations or charitable trusts (see for example IBM 1997). Instead of building programs from scratch, initiatives can work from the resources that not-for-profit groups or local businesses have already built up. The most important of these is the social trust and credibility that they have established with local communities.

The Reach for the Clouds provides just such an instance of public investment in social entrepreneurialism. It presents a persuasive case for such investment. The residents of the Atherton Gardens estate are demonstrably isolated and at risk. Many of them say that they do want to be able to use new technologies. Yet they face demonstrable barriers in accessing computer networks. Their incomes are low, and some residents would have difficulty acquiring personal computers at any price. While some of the residents, especially school-age children, are confident with technology, many face language and literacy barriers, and a significant number of residents have disabilities. Nevertheless, as people dealing with a degree of isolation in a large housing estate, and threatened by cultural tensions, crime and violence, they appear to be in immediate need of new ways to communicate, to get information and to get involved with their neighbours.

Existing studies of the impact of computer networks on low-income households suggest that new technologies can give isolated residents new skills and resources (cf. Harris 2000, Beazley and Smith 1999, Tardieu 1999, Shaddock 1999, Bier and Gallo 1997, Day and Harris 1997). Certainly this has been the proposition infusing initiatives for local regeneration and community building in both the UK and the US (Benton Foundation 1998). But rather than pursuing such international comparisons, at least in this paper, let us turn here to the concrete local details of the Atherton Gardens estate, its social and institutional location and the story of the Reach for the Clouds initiative.

4. Atherton Gardens

The appearance of high rise tower blocks of apartments for public tenants marked a decisive change in the way Australians viewed housing. The post-war crisis in housing availability, coupled with the problems of inner city overcrowding and substandard conditions in many properties led to a major shift in public thinking about the housing issue. Campaigns of slum clearances began to gather momentum, supported by government policy and by charitable groups such as the Brotherhood of St Laurence. New high rise flats were seen to be clean, modern solutions to entrenched problems of poor housing, poor health and childhood neglect (Handfield, 1980, p. 170). Protests by residents against the change were largely ignored, at least in the early days of the slum reclamation project. A report by the Housing Commission, Victoria (1966), dismissed out of hand what turned out to be a prescient criticism: "These flats are the slums of the future" (p.18).

Few people nowadays would argue with that statement. Public housing generally, and the high rise towers of the inner city suburbs in particular, have become ghettos of the poor and the marginalised in a society characterised by economic growth and growing affluence. The very distinctiveness of the public high rise blocks in a landscape of low rise and detached or semi-detached private housing makes them obvious targets for anti-social behaviour and stereotyped reporting, as well as engendering a clear sense of social difference between tenants on these estates and the residents of surrounding communities. Gentrification of inner city suburbs has exacerbated such social divisions.

In contrast to the broad make up of Australian society, high rise tenants belong in general to specific social groups. The towers at the Atherton Gardens Estate in Fitzroy are designated 'family' towers and consist of 800 two- and three-bedroom dwellings. They are occupied by a majority of households headed by a single woman (~ 40-50%), have a low proportion of older people (~ 20%), and a high proportion of families with children (40%). More than half of the current tenants were born in Asia (64%), predominantly Vietnam. Other ethnic groups include: Slavic, Turkish, and Chinese. In contrast, only 14% of residents were born in Australia. Less than 40% of residents have nominated English as their preferred language of communication with the Office of Housing (McNelis and Reynolds 2001 p. 15). In addition, tenants are generally on very low incomes with 80% receiving some form of income support from the Government and only 20% having private or other income sources. Weekly incomes

vary from \$150 to \$399 per week. Social problems around the estate, although not necessarily caused by residents, include a flourishing and visible drug trade, graffiti and vandalism of public areas and fear of personal violence.

In response to the ongoing social problems of the suburb, a veritable industry of welfare and social support agencies has developed in the immediate vicinity of the Fitzroy Estate. Such an industry, existing since at least the 1890s, has fostered a cycle of charitable and government service providers setting up agencies, thus attracting more clients in need of such services into the area. The cycle of service provision over this time has reflected changes both in government policy and in the social makeup of the suburb. The earliest social welfare provisions in Fitzroy were centred on the churches of various denominations. Charitable activities undertaken by churches were both supported by local parishioners and supportive of local people in need, in a neighbourhood based circle of social capital and connectedness. After the economic depression of the 1890s, increasing poverty and deprivation of residents of Fitzroy, combined with an out-migration of those better-off church goers who had previously helped with charitable activities, led to a rise in service provision in Fitzroy by people and organizations from outside the suburb (O'Brien 1989, p. 73).

In the prewar period, services were mainly aimed at homeless men and unmarried mothers and their children. During the depression, it was noted that numbers of patients presenting at St Vincent's Hospital in Fitzroy were suffering from malnutrition, and a hospital social work department was set up to cater more widely for community-wide problems of poverty and deprivation. The poor standard of much of the housing available in Fitzroy was first brought to public notice by Oswald Barnett in his Master of Commerce thesis entitled *The Economics of the Slums* (Barnett, 1931) and which was reprinted as a series of pamphlets by the *Herald* newspaper. In 1933 the Brotherhood of St Laurence set up their first services in Fitzroy: a day centre for homeless men; Alcoholics Anonymous; and a Family Planning Centre. Their attention soon turned to housing, however, as can be seen from their letterhead which read 'Declare War on the Slums'.

The post-war slum reclamation movement introduced a significant degree of government intervention into conditions in Fitzroy, culminating in the construction, in 1971, of the four high rise towers of the then Housing Commission, Victoria's Atherton Gardens Public Housing Estate, as well as a number of low-rise, walk-up flats. The following table shows a contemporary list of the private charitable organisations, community groups and government sponsored agencies all located on or adjacent to Atherton Gardens. These groups are current providers of services ranging from material aid to information and advice, from child care to financial services. Such a list demonstrates that more than 120 years of policy and projects by public and private agencies have failed to obviate the need for practical assistance to the residents of southern Fitzroy.

Table 1 Community Groups on and around the Atherton Gardens Estate

Young Women's Housing Shopfront
Turning Point Drug and Alcohol Service
Anglicare Victoria/Mission House
Brotherhood of St Laurence - Aged Services
Brotherhood of St Laurence - Community Family Services
Brotherhood of St Laurence - STEP Inc
St Mary's House of Welcome
Society of St Vincent de Paul
Coolibah Day Centre
Department of Human Services - Fitzroy Housing Office
City of Yarra Community Support

City of Yarra Early Childhood Intervention
City of Yarra Maternal and Child Health Centre
City of Yarra - Fitzroy Community Youth Centre Inc.
City of Yarra - Youth Services
Family Counselling - City of Yarra
Fitzroy Learning Network
Atherton Gardens Centre
Fitzroy Chinese Residents Group
Hmong Australia Society
Macedonian Community Association of Yarra
Atherton Gardens Kindergarten
Atherton Garden's Out of School Hours Service
East-West Child Care Association
Choices - Centre for Young Parents and their Children
North Yarra Community Health: Fitzroy
ARBIAS Acquired Brain Injury Services
Carlton/Fitzroy Employment Education and Training
Fitzroy & Carlton Community Credit Cooperative
Brotherhood of St Laurence - Fitzroy Furniture Service
Brotherhood of St Laurence - Toy Library

It was in this context of a community with high social needs, multiple factors of disadvantage and an established community of support and welfare services that InfoXchange conceived the Reach for the Clouds project.

5. The InfoXchange and social enterprise

The InfoXchange began life in 1988 as an on-line coordination system for emergency accommodation. Since that time its activities have grown, in line with its mission to 'Use technology for social justice', to encompass a complete range of technology services for community agencies, as well as establishing a fully searchable community support services database and running a weekly Infocast of material relevant to health and welfare workers across Australia.

The InfoXchange articulated its digital divide strategy in "Bridging the Digital Divide" (December 2000), a document that sets out its collaborative community building approach to the issue. In practical terms, the strategy rests on its "Green PC" approach:

In the Australian context over two hundred thousand computers are retired every year. These could be revitalised and provided to communities that otherwise will be left behind in the information age. This is not a pie in the sky solution that requires huge investment, complex negotiations, or new legislation. It simply requires cooperation. If we work in partnership the solution is inexpensive and simple. It is environmentally responsible, it has the potential to create hundreds of jobs, and it bridges the divide between the information rich and information poor. This is the idea of the Green PC.

The Reach for the Clouds project was formulated in the context of this broader strategy. In December 1999, a proposal seeking \$20,000 to develop a Social and Technical Business Plan was submitted to

Multimedia Victoria (MMV). The proposal described the project as an 'Information Technology project with a community development focus that will see every resident of the Atherton Gardens highrise estate offered the opportunity to access Internet Technology' (InfoXchange 1999). The proposal went on to outline the genesis of the project:

The project is possible because of the ready availability of older PCs and the need to rewire some of the high-rise public towers in the inner urban region. It is also in tune with the direction of government in its intention to undertake commerce through technology. (InfoXchange 1999)

The idea for the project then, was based on the opportunity provided by rewiring (due to the installation of an electronic security system), on the InfoXchange's access to PCs discarded by businesses and government departments and, perhaps most importantly, on the InfoXchange's unique understanding of new technologies and the community sector.

The InfoXchange's position as a network hub in the community sector enabled it to quickly develop a network of community services providers, including the then Bedford Street Outreach Service (now Outreach Victoria), RecruitNet, City of Yarra, Yarra Community Health Service and the Office of Housing itself. The original proposal itself was jointly written by InfoXchange, Office of Housing and a number of community organisations.

By mid 2000, a steering group for the Reach for the Clouds Project had been formed, with the first meeting held on 27th of July. By this stage, Multimedia Victoria (MMV) had provided a \$10,000 grant to prepare a Project Initiation Document (PID), which was seen to be a precursor to developing a fully-fledged business plan. An application had also been submitted to the Community Jobs Program (a State government program that supports community organisations, local government and other government agencies to employ local job-seekers on community projects). This requested funds to employ long-term unemployed people to rebuild the older PCs to be used in the project. An application was also submitted to BYTE, a program being administered by the Australian Youth Foundation on behalf of Lucent Technologies, a major global player in the commercial development of the internet. Swinburne University researchers also submitted an application for research funds to the Australian Research Council SPIRT scheme, in partnership with InfoXchange and the Department of Human Services. Ultimately successful, this application offered to research and evaluate the social impact of the Reach for the Clouds project (this paper being an early outcome).

The major task for the Reach for the Cloud's project team, for the remainder of 2000, was developing a project budget (through work undertaken on the Project Initiation Document), identifying potential funding sources and making applications. It had become clear through the Multimedia Victoria representative on the steering committee that MMV were unlikely to be a source of future funding (despite the requirements of the PID having shaped the project considerably). This shift in position led to a reconsideration of the best way to involve the various levels of government in the project. One approach suggested was to sell the project as a form of service delivery to various government agencies, understanding that this depends on establishing a measurable community benefit. Another idea was to try and get a whole-of-government approach at the State level by dealing directly with the Premier. A breakthrough came when the recently appointed Director of the Office of Housing expressed clear support for, and interest in, the project; the Office announced that if the project were to proceed, it should be done independently of the trialing of the electronic security system. This was encouraging, as it was high-level recognition of the project by the Office, but it did mean that the actual up-front capital costs of the project were greatly increased and threw into question the final network set-up.

The Community Support Fund (set up with funds from State gambling taxes) was identified as the agency most likely to support the non-infrastructure elements of the project, such as training. The Director of the Office of Housing committed to make representations to CSF on its behalf. The Project Implementation Document, written to satisfy the requirements of Multimedia Victoria, would have to be substantially added to, highlighting the project's social sustainability. Eerily reminiscent of the Multimedia Victoria experience, the Community Support Fund agreed to provide \$10,000 to develop this application for funding.

By August in 2001, the project team had stitched together a complex funding and support mosaic, as set out in table 2. This involved considerable effort and energy, both in terms of identifying and pursuing funding opportunities and in planning the project, as new sources of funding appeared and as identified sources such as Multimedia Victoria faded away. (Ironically through this process, the research funding from the Australian Research Council, which was designed to support the evaluation of the project, actually began to play a part in garnering support for a project that was as yet mostly notional).

Table 2 Sources of Major Funding and Support

Organisation	Sector	Support
Multimedia Victoria	State gov	\$10,000 to develop Project Initiation Document
Community Jobs Program	State gov	Funds to employ Green PCs staff
Australian Research Council	Federal gov	Funds for a research project
Lucent Technologies (BYTE)	Private	Funds for multimedia training for under-25s
Office of Housing	State gov	Strategic advice Partner in the ARC project (financial and other support) Two units on the estate for training centres Preparation of tender document for wiring Funds for the wiring (probable)
Primary Health Branch (Dept of Human Services)	State gov	Partner in the ARC project (financial and other support)
Community Support Fund	State gov	\$10,000 to undertake a community benefit study to underpin an application to CSF
Hewlett Packard	Private	70 High powered PCs, printers, digital camera and scanners for the training facilities
Microsoft	Private	Site licence for windows and Office 97
Brotherhood of St Laurence	Community	Funding for training co-ordinator
City of Yarra	Local gov	Strategic advice Funding for training co-ordinator

6. Uncertain outcomes

In getting Reach for the Clouds up and running, the organisers face logistical, technical and political difficulties. They will need to establish credibility and trust with residents, volunteers and community groups; they also need to build workable partnerships with government agencies concerned. This involves translating the rationale for an activist project into terms that might be attractive to bureaucratic bodies, responsible for protecting public interests and representing departmental, municipal or ministerial concerns. The entrepreneurial enthusiasm of the InfoXchange and others had to be tempered by technical and budgetary realism. They had to establish that the project had a sound financial standing, that it had a workable management structure and that it could sustain its credibility with community groups (InfoXchange 1999).

The InfoXchange's initial rationale for government funding for the programme, as presented in the Project Implementation Document (1999), stressed the civic benefits of the project, arguing that its outcomes would include a 'better informed citizenry' and 'equality of access to public communications systems'. Improvements in information skills and literacy would give residents, they argued, a 'greater voice in the wider community'. Residents would also be better able to access community services and education and employment opportunities. Social services could be more effectively targeted to specific groups. Schools would be able to address truancy rates, by keeping up contact with parents. Health service providers would be able to use on-line social services as a way to make connection with the most isolated populations, such as recent immigrants, the aged and single parents, many of whom were either unaware of existing services or disinclined to make use of them.

The InfoXchange emphasised the direct operational gains that the network might offer to social service agencies. Assuming, the document argued, that the take-up rate for the computers was as anticipated, then government agencies would have the capability to make direct contact with seventy per cent of the residents on the estate. At the local level, government and community services would be better

able to work together. Furthermore, government agencies could expect financial benefits from the scheme, in the long run, especially in reducing the cost of regular communication with the Atherton Gardens tenants. Improved security on the estate would lead to lower repair and maintenance costs. 'Skill enhancement' would mean that residents were less dependent on welfare. Ultimately, if the network became self-sustaining, it would be owned and managed by residents who would be active members of self-help networks, capable of teaching one another how to use new technology and able to turn these new skills into vocational competencies, re-entering the labour market and re-connecting to outside social networks.

As the Project Implementation Document notes, however, making the network self-sustaining depends on ensuring that each of the main ethnic groups on the estate is represented. This means encouraging the involvement of young people who might be willing to pass on computer skills and enthusiasm to their own families and neighbours. It also means that, in the decision-making processes, it will be important to have the involvement of those recognised as leaders within each cultural group (and this of course presumes that residents will themselves be able and willing to identify both the groupings and the leaders, in a reasonably uncontroversial manner). The InfoXchange also express the hope that the computer network will also be able to gain the involvement of residents from the different types of household on the Atherton Gardens estate, from older people living in couples or on their own to families with young children and single-parent households. This will be a challenge.

If community workers are reliable in their observations, then this is an estate where community networks are important, but fragile. A report by the Jesuit Social Services, completed in the last eighteen months, identified a number of problems in inner-city Melbourne housing estates, some of them specific to Atherton Gardens (McGuinness 200, p. 2). In these large public housing estates, the report remarked, "the concentration of individuals and families who are welfare dependent and have multiple disadvantages poses long term issues about the development and maintenance of healthy, resilient, 'sustainable' communities" (ibid., p. 9)

The report drew on focus groups held with residents, interviews with community workers and social service providers, and existing local needs assessment reports. The primary problems on the estates, it found, were isolation, fear and a lack of trust and communication between neighbours. These were linked, at the time, with an apparently endemic problem of drug trading on the estates, primarily associated with dealers who came in from outside. Drug dealing and drug-taking was a cause of violence, intimidation, on stairs, passageways and common areas, and health threats from discarded needles. Gambling was also identified as a cause of violence, both within households and between them. Residents, particularly women alone with small children, reported that they were sometimes afraid to leave their apartments, even though they were keen to get to community-based activities such as literacy classes. Public areas, such as the local shop or playgrounds, were regarded as unsafe (ibid., p. 12).

The Jesuit Social Services report recommended that more information and communication services should be developed on the estates. There was little available advice on housing, tenancy issues, community facilities or referral to other services. This was partly because of lack of translation facilities (ibid., p. 13). Agencies that provided information, such as the Tenancy Advice and Referral Service, had limited opening hours (ibid., p. 14). Residents wanted to know more about tenancy issues, health and family services and about financial management, legal issues and Australian immigration procedures. They also said that they would like to have more classes on the estates, primarily in literacy but also in information technology.

Beyond information and training, though, some residents also appeared to want more participation in decision-making about the estate, both between tenants and in negotiation with the Office of Housing (ibid., p. 12). The issue of representation and tenant-based decision-making, it was reported, was a vexed one across the Collingwood and Fitzroy housing estates. The Office of Housing did invite tenants to public meetings and information sessions, but these were poorly attended, mostly because tenants saw themselves "as having no say in priorities" (ibid). Until the mid 1990s, the state government had funded formally constituted tenants' associations as well as community development staff, whose job it was to gauge opinion amongst ethnically specific groups of residents. As of last year, there were still residents' associations and regular tenants' forums, but these were voluntary and self-appointed. They were also subject to criticism for being unrepresentative or minority interest groups. Community workers and residents commented that although there were routine problems between neighbours on

the estates, such as disputes about noise, children or pets, many families were reluctant to resolve or discuss such disputes in public tenants' meetings; instead, they preferred to be transferred off the estate (ibid., p.13).

Will the provision of computers in apartments and the establishment of a computer network help to address these problems? According to the social service providers and community workers associated with these housing estates, the answer lies in 'building communities'. A 'socially healthy community', they are reported as saying, is 'characterised by connectedness... People feel safe if they know their neighbours, the people next door and on their stairwell' (ibid., p.12). Connecting these apartments to one another, and to local information and communication networks, might provide a real alternative to unread pamphlets and poorly attended public meetings. If tenants can teach one another to use email and messaging systems, they might at the very least be able to improve their safety. It might be even better if people were able to use these donated computers to develop new skills and to give themselves a wider range of choices.

There is of course no guarantee that people on the estate will use the computers, or the network, once it is established -- although to date the tenants express considerable enthusiasm. Nor is it going to be easy to achieve some of the more ambitious aims of the InfoXchange initiative, especially those that involve establishing a co-operative training network linked, eventually, to small business support and employment opportunities. The most immediate obstacle lies in equipping people with limited literacy levels and a variety of first languages to understand how the machines function and how to access the network. Some of this can be accomplished through a systematic training programme provided on site. It may be that this will also happen within households, especially where there are school-aged children, but it will also have to happen within ethnic and language groups. Unless residents are willing to get involved, then this will be a 'weak communications network that is at risk of failing', as the InfoXchange puts it (2000). Already, people have different reasons for being sceptical. Some of the older tenants have been apprehensive about having a computer in the flat, seeing them as unnecessary, expensive and too complicated. There is a question as to whether the provision of computers is a high enough priority to justify the allocation of scarce resources. By contrast, some younger people regard a reconditioned two- or three-year old PC with limited multimedia capacity as a poor substitute, useless for their purposes. One of the challenges, in establishing user groups and training networks, will be adapting to a variety of ways of using the technology.

Initiatives like Reach for the Clouds have to build participation. In part, this is because communities form and govern themselves better if they have 'ownership' of the processes. But it is also important because of the accountability requirements of the government partners. It is difficult, if not impossible, to establish clear and measurable outcomes from public investments made in such social entrepreneurial schemes designed to build community through technology. What would it mean to say the project had 'failed'? In fact, the question of how projects such as this can be evaluated goes to the heart of their political and social complexity. The notion of 'community building' is central to the language of the InfoXchange, and plays an important symbolic role in linking the aspirations of the various parties involved. But the aim of community building also evades precise definition, and the process of evaluation inevitably draws out any differences between the partners' objectives for the project. It reveals different understandings of the nature of the computer network. For some, the network is primarily a way of delivering information services to residents, for others it is the technical infrastructure, and for others again it is a system for internal communication. These different views of the nature and purpose of the network should not be seen as evidence of failures in consultation or project design: they reflect real but diverging priorities among the coalition of interests necessary to bring the network into existence.

We can gauge the development of residents' information technology skills and the extent to which their computers and the network are used. It will be more difficult to comprehend how the technology will be used, for what purpose and to what effect. In the longer term, in this instance, outcomes might include clear indicators of a decrease in some of the problems already identified as endemic to the estate. Only longer-term attitudinal studies will be able to show whether residents feel less isolated on the Atherton Gardens estate, and it may be hard to tell how much of this might be due to the presence of networked computers in the apartments, or of training workshops. One obvious indicator of success would be the degree to which developing skills in using technology helped residents to obtain employment or improve their position in the labour market. Ultimately, success in

that respect would undermine the goal of community building, since it would take the residents, who hold medium term leases, off the estate.

Another indicator of success or failure might be evidence that residents made more use of information provided by social service agencies, or avenues of representation (even if this takes the form of more complaints to the Office of Housing). A broader measurable factor of interest would be residents' general patterns of media consumption. These indicators would tell us something about how well the network served as a new source of information.

It will be harder to tell whether the project is meeting its stated aim of facilitating 'community-building'. This point is highly likely to be a future matter of contention, polarising critics and supporters of the network. Such concepts as are available to gauge community building, such as social capital, remain diffuse, despite their ready deployment in social policy discussion. It is possible to measure social capital through a mix of indicators, including contact with neighbours and fellow residents, trust and reliance upon others, interest in local affairs, and participation in organisations and community activities. But the weighting of these different elements of social capital will always be open to debate. Further, we must admit that it would go somewhat against the grain of the concept of social capital to use it to characterise the effects and use of a computer network, given that it has often been used to emphasise the importance of non-electronic social interaction.

7. Conclusion

Installing technology within a social environment such as Atherton Gardens is unlikely to transmute social patterns and remove endemic social problems. Nevertheless, this is an example that puts the strong case for supporting 'wired community' initiatives. Whether or not it is successful in becoming self-sustaining, and whether or not it meets the ambitious goal of being resident-owned and managed, Reach for the Clouds has the potential to develop some residents' skills and improve communications between residents and social services. The processes involved in its organisation have already helped to make connections between the activities of resident groups, community agencies, charities, local government and various branches of the state social services, from housing and primary health to information policy. It may serve as a model, in Australia at least, of what co-operation across local and regional government and public-private partnerships can achieve. As it develops, it may also offer a persuasive instance of the advantages offered by linking information policy to social policy.

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Appendix: Demography of the Atherton Gardens Estate

Table 3: Demographic profile of residents

	Atherton Gardens	City of Yarra
Total population	1,867	65,148
Aged under 17 years	31.7%	15.1%
Aged 0-4 years	11.6%	5.3%
Aged more than 55 years	20.5%	
Vietnamese born	36.4%	7.3%
Australian born	26.9%	61.5%
Speak English at home	9.5%	62.5%
Indigenous population	0.3%	0.5%
Individual weekly income less than \$200	64.6%	34%
Left school 15 years and under	20.7%	17.9%
Never attended school	7.9%	1.9%
Tenancy more than five years	41%	
Households headed by single women	44%	

Table 4: Preferred language

	Number of Households	Per cent
English	279	31.2
Vietnamese	389	43.5
Chinese	71	7.9
Turkish	37	4.1
Yugoslav NEI	34	3.8
Greek	7	0.8
Arabic	6	0.7
Lao	21	2.3
Polish	3	0.3
Spanish	9	1.0
African Languages	5	0.6
Total		

Table 5: Major countries of birth

	Number of households	Per cent
Vietnam	429	47.9
Australia	140	15.6
Indonesia	1	0.1
China	62	6.9
Turkey	47	5.3
Southern Europe	67	6.4
Greece	12	1.3
Ethiopia	12	1.3

N.B: Tenants in the City of Yarra housing estates come from 73 countries