

*Markle Foundation Letter of Proposal*  
**The Citizens Envisionment and Discovery Corners - Citizens Corners**

EGA - Draft  
27 October, 1998

**Part One: The Purpose**

**Introduction**

This proposal is for the deployment and evolution of the Citizens Envisionment and Discovery Corners (CEDCs), whose central goal is *the search of new forms of civic discourse in the information age in order to move toward informed citizen participation*. It is the joint platform for technological innovations in democratic participation in Boulder County, Colorado, of a community based initiative, academic research, and local governments collaboration efforts. It should also serve as a nationwide model given the many healthy community initiatives presently found throughout this country. It includes the deployment of an innovative, technology-enhanced network of publicly accessible sites; the seeding and re-seeding of their content with *useful and usable* scientific information for citizens to actively participate in the constructions of future *healthy communities*, and a framework to think differently about new information and communications technologies in the context of participatory design and lifelong learning for the future.

**The Problem**

*The President's Council* most important finding about *the potential power of and growing desire for decision processes that promote direct and meaningful interaction involving people in decisions that affect them* (1996, p.7) is instantiated in the increasing trends of grass-roots, bottom-up efforts being experienced in this country to address the impacts of growth (or decline as the case may be) on the quality of life in their communities (Susan needs to get two citations for national and state trends). The nature and intensity of these impacts require hard decisions on how to manage such growth in a sustainable manner for the future. Usually, they are difficult decisions associated with tensions due to the trade-offs that need to be made between concerns related to 'people,' 'environment,' 'economy,' and 'culture and society' when reallocating limited resources to implement decisions. The great challenges of these efforts are: (a) that citizens cannot really be informed unless they participate, yet, they cannot really participate unless they are informed; and (b) that participation has limits which are contingent on the nature of citizen's situation, the issues/problems, the institutional designs; and the technology and medium to support it.

**The Vision**

How to pursue this most important finding and meet the challenges above, is the purpose behind the CEDCs. Their vision is to support a citizen-centered, inquiry-based participatory learning and design, through an innovative, technology-enhanced network of publicly accessible sites, where the citizens are supported and empowered to:

- *Discover and Envision*: Promote citizens with a sense of discovery and lifelong learning in order to be informed, think critically, prepare for citizenship and leadership, and participate with other citizens in the envisionment of sustainable and healthy futures for their communities through collaborative design.
- *Learn through Design*: Provide a leadership role in advancing knowledge and understanding through design to citizens in order for them to engage in the problem framing and solving, attain meaningful participation, and move beyond being passive consumers of information to active designers of the future.
- *Enhance Diversity*: Nurture the region's climate of inclusion, knowledge, understanding and appreciation of the full range of the human experience in order to foster a better society.
- *Use Innovative Technology*: Situate the Boulder County region to be a leader in the

*A proposed technology-enhanced network of Citizens Corners: Participation around and beyond the table*

*A Need behind the Corners idea: "How can more than 261 million individual Americans define and reconcile their needs and aspirations with community values and the needs of the future? Our most important finding is the potential power of and growing desire for decision processes that promote direct and meaningful interaction involving people in decisions that affect them. Americans want to take control of their lives" President's Council on Sustainable Development, 1996. (p.7)*

*Participation challenges to technology and media support*

*The Citizens Corners Vision is the enhancement of democratic participation outcomes through: Discovery and envisionment Learning through design Enhancing diversity Using innovative technologies*

technological transformation of the 21st Century, empowering the entire region, its communities, and citizens with appropriate links to government, business, and other institutions made possible through the technology-enhanced network of corners.

**The Composition of CEDCs**

To attain the vision and to address the problem and challenges above, the CEDCs idea integrates and extends a major academic research project with a major effort of an-going community participation initiative: the research in the development of the “Envisionment and Discovery Collaboratoy,” or “EDC,” at the Center for LifeLong Learning and Design (L3D) in Computer Science and the College of Architecture and Planning (CAP) of the University of Colorado; and the recently published community indicators project, The Quality of Life in Boulder County: A Community Indicators Report, 1998, of the Boulder County Healthy Communities Initiative (BCHCI) at the University Corporation for Atmospheric Research (UCAR). Thus, the CEDCs represent an active collaboration over the past 3 years between these entities. Existing examples of this collaboration, such as sustainability games like *Mr. Rogers Sustainable Neighborhood* represent a basis to build upon for this project. In a similar manner, this collaboration is responsible for the project ‘s:

- new ways of thinking about participation related to information and communications innovations from a lifelong learning perspective through the EDC; and
- an authentic content of great relevance to the future of Boulder County urban region (and beyond) through the involvement and outcomes of a major exemplary grass roots effort in the State of Colorado such as the BCHCI.

**The Content**

The recently published indicators project provides the initial content and substantive basis for the proposed Citizens Corners. It provides citizens and institutions alike with a guide which measures progress and growth “toward” or “away“ from the vision of- healthy and sustainable futures for the region and its communities. The report’s structure grows out of the BCHCI’s vision. This 3-year effort received funded support from various governments, and other public and private institutions in the region: The Colorado Trust, The Boulder County Board of Commissioners, the Cities of Boulder and Longmont, the Centura Health Avista Adventist Hospital, and the University Corporation for Atmospheric Research.

The information to seed the CEDCs will include the report’s scientific and practical information on authentic concerns of the region and communities about the indicators on *people* (e.g., concern for the vulnerable, health care & human services, substance abuse, or public safety trends), the *environment* (e.g., natural systems and the built environment systems such as trends of air quality and vehicle miles traveled, or watershed water quality and land annexation vs. agricultural land), the *economy* (e.g., employment and income, business climate, or housing trends), and *culture and society* (e.g., education, arts and recreation, or civic life trends). Seeded with this information, the sites provide a collaborative system where citizens can be informed about the state of their communities, and actively participate in designing sustainable futures to reinforce or redirect their present positive or negative trends respectively. The Corners will also be seeded with content and capabilities of funded Markle Foundation projects to gain relative perspectives of local and regional concerns with national ones, e.g., relevant content of the *Web, White and Blue* project.

**The Media and Technology**

The project will create a network of Corners which integrate technological and media innovations, the relevant content above, with human organization support. This support will act as the human interface to introduce, use, and assess the performance of each site and the network (citizen participation, the technology, and the content). Their basic composition is based on the Envisionment and Discovery Collaboratory (EDC), a research prototype been developed over the past four years sponsored by the National Science

*The Composition of the CCs integrates the technology innovations of the EDC and the authentic problems of the Community Report Card*

*Useful and Usable Content: Seeding corners with authentic information on people, environment, economy, and culture & society concerns of the region and its communities*



*Seeding Corners with content from other Markle Foundation projects to gain perspectives of local concerns relative to national ones*

Foundation; and on complementary physical games we have been developing over the past decade to support collaborative design and planning.

The EDC is an technology-enhanced environment for collaborative learning and design. It integrates physical games, computer simulations, and dynamic information spaces. New media and technologies are used to integrate the support of face-to-face collaboration using physical and virtual artifacts with distributed collaboration via the World-Wide-Web. It serves as a catalyst and example for fundamentally rethinking what learning, working, and collaborating can and should be like in the next century. To this end, it supports problem framing and solving tasks by unifying diverse systems into two tightly integrated spaces, an action and a reflection space. These spaces are synomorphically related as participants are immersed in the use of the EDC environment. The current realization of the EDC includes a computationally enhanced table with a touch-sensitive surface which serves as the *action space*. It is flanked by a second touch sensitive whiteboard which is also driven by a second computer and serves as the *reflection space*. The respective computer for these spaces are linked using the WWW as medium. Thus, citizens can then contribute with inputs such as WWW-based surveys in a distributed fashion which become part of the information in the action space. Likewise, citizens can shared with distant sites information constructed in the action space of their Corner.

The physical games we have been developing provide a motivating framework for approaching complex problem-solving tasks in urban planning situations. These games provide the structure guiding the interactions (through game rules and protocols), and representations (through a language of pieces) that engage people in discussions grounded in specific contexts and concerns of the Boulder County Healthy Communities Initiative. We have also explored these games in the context of bottom-up approaches to neighborhood revitalization in the City of Denver’s Cole Neighborhood. Our experience includes many examples in which the physical models provide certain strengths not found in the computational models. In this manner, the entire EDC environment of a Corner, through the immersion of users the representations the problem-framing or learning task at hand, creates an integrated human-computer system grounded in the physical world.

**CDECs Composition at Different Locations**

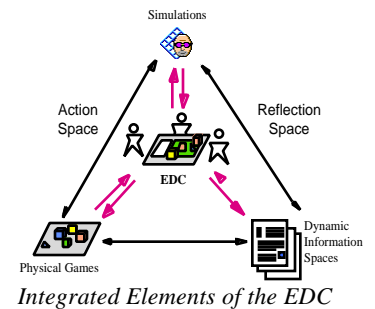
Therefore the Corners will integrate both in their composition, EDC functionality and the physical games affordances. However, their composition will take different forms to reflect the nature of their deployment locations. These locations in different towns will range from a full EDC with physical games and simulations at public libraries or community centers for example, to kiosk types without gameboards in commercial and public pedestrian malls, to computers with some physical games at coffee shops or bookstores, to a portable version of the EDC for town hall meetings or workshops at schools. Different compositions will provide different capability levels of support for individual and group collaborations in synchronous, asynchronous, and distributed citizen interactions. This support spans from unaided face-to-face discussion to aided interactions through physical games and computers, to WWW interactivity, to a full support of all types of interactions.

**Part Two: Plan of Action - Deployment of the CCs**

If our experience with technology in other domains is transferable, it is inappropriate to think that technology alone will enhance democratic participation. It is important to ask how can we effectively think about the design and deployment of the corners that will facilitate participation of neighbors and citizens.

**Locations**

The deployment of the corners will be across a network of sites in publicly accessible and highly frequented locations, in a selected number of Boulder County communities, including larger-plains cities, like Boulder; to remote, small-mountain communities such as historic Gold Hill. The selection of the participating cities will be based on criteria such as growth-rate impacts on concerns about people, the environment, economy, or



*The EDC's Current Realization*

*Composition of the Corners will reflect the nature of their location sites. For example in libraries, physical games may be included as vehicles to support discussion and to a staged introduction of content and technological innovation of the Corners*



*Citizens and students playing the Indicator Game developed for the BCHCI*

social/cultural aspects of the region and its communities, as well as other criteria such as accessibility to participation forums or infrastructure such as community centers.

The deployment of the Corners, in addition to reflect different compositions with respect to location sites, will include the idea of a *staged innovation* over three phases, or roughly three years. The deployment of the corners includes: the media and technological innovation development, support and assessment by the L3D Center and the College of Architecture and Planning, and the complementary organizational support and resources of BCHCI and UCAR for the introduction, use, and assessment of the Corners throughout the three phases.

- Phase One - three individual sites will be deployed initially in the City of Boulder (county seat). Each will include computers, projectors, a smart board as pictured in the EDC above, along with selected physical games we have developed at the College of Architecture and Planning. These sites will have the simulation systems we have developed at the L3D Center which will support citizen interactivity across the WWW. During this phase indicators information will be seeded in the technology and games for each site. An initial assessment will be developed to understand impacts on participation, and the support media design and human organizational approaches.
- Phase Two - Study the results from the initial sites to assess their performance and make the necessary adjustments in content, technology, and organizational support to guide further deployments. We will study the integration of the technology and the human systems, the motivation of citizens to use the sites, and to what extent the educational goals of the BCHCI are achieved. Additional Corners will then be deployed in additional cities in the region (one “mountain” and two “plains” communities). These Corners will be in the form of kiosks. Assessments will also be carried out for the adjustments and the expansion sites in this phase.
- Phase Three - Based on the results of participation assessments this phase includes the upgrading of one site in each of the cities selected to have full EDC capabilities for citizen participation and the development of a mobile corner to support participation in the communities without sites, and to enhance participation in town hall meetings or for the inclusion of special populations such as children and the elderly.

The assessment of performance will be the most important activity in each phase for the advancement of the deployment. The Corners provide an opportunity to integrate and use existing projects funded by the Markle Foundation. For example, utilized findings from projects such as Boston University’s “Electronic Groups” under the Interactive Communication Technologies Program to develop criteria for assessing the performance of Corners; or to integrate groups participating under that project with CEDC’s groups in Boulder County to discuss sustainability and the health of their communities.

*Deployment of the Corners will be over three phases utilizing use, assessment, development cycles for each phase*

*Assessments will provide opportunities to link this project to other Markle projects, e.g., use of the “Electronic Groups” to develop performance criteria*

**Part Three: Preliminary Budget**

Categories	Y <sup>1</sup>	Y <sup>2</sup>	Y <sup>3</sup>	Totals
Personnel	160	165	175	\$500,000
Travel	8	8	8	\$ 24,000
Equipment	120	100	80	\$300,000
Administrative	40	45	50	\$135,000
Overhead	40	48	55	\$133,000
Total				\$1,092,000

*Budget: \$1.1M over 3 years*

**Part Four: Relevancy**

The relevancy of the CC’s idea will be reflected in social, scientific/technological and practical outcomes. Socially, the project’s relevancy can be seen in the designing *useful* and deploying *useable* technologies that translate and contextualize information to foster the democratic discourse of citizens as an approach to:

- help individuals and communities help themselves, by becoming engaged and by solving *their* problems;
- create partnerships, collaborations and civic participation that are central to improving

*Relevancy of the Project: Social, Scientific/technological and Practical*

- the future of a region; and
- assure sustainable social change patterns to conservation (e.g., shift unsustainable consumption).

To this end, the CC's support citizens in being active designers, rather than passive consumers of information through participation. Further, the goal is to insure that citizens through participation have access to a high-quality, and lifelong formal and informal education that first, enables them to understand the interdependence of economic prosperity, environmental quality, and social equity—healthy communities—and second, prepares them to take collaborative actions that support all three. This is the relevancy to collaborative learning and participatory design.

Scientifically, the project's relevancy is seen in its research challenges, impacts and benefits of the technological innovations being introduced. For example, challenges creating an environment for supporting group creativity, or creating tools for expressing ideas about processes for non-technical people. The project also promotes the critical interdisciplinary integration to provide the linking of theory, development of innovative intelligent systems, practices, and assessment. In this manner the project will allow for the development of new paradigms for collaborative learning and design. Much of our work indicates that new ways of allowing individuals and groups to interact with computational environments are needed.

The practical relevancy is to support BCHCI move participation beyond the approximate 1,000 stakeholders who had been motivated to participate in different BCHCI-generated activities in their communities. The goal is to provide opportunities to include anyone who desires to do so of the approximate 260,000 citizens living of region in an active, on-going dialogue from which they can (a) gain awareness in the progress “toward” or “away” from the vision of BCHCI, (b) provide input about concrete actions either reinforcing or redirecting these trends, and (c) collaborate in the refinement and evolution of the vision. Finally, its relevancy is based on its scalability since there are many healthy community initiatives in the country similar to BCHCI. The CEDC's idea if proven as expected, can then be transferred to the benefit of other regions and communities nationally.

### **Part Five: Collaborators and Principal Staff**

This project brings together a unique consortium of collaborators. Its members include the Center for LifeLong Learning and Design (L3D) at the Department of Computer Science at the University of Colorado-Boulder; the College of Architecture and Planning (CA&P) at the University of Colorado-Denver; and the Boulder County Healthy Communities Initiative (BCHCI) at the University Corporation for Atmospheric Research (UCAR);. It brings an existing, successful collaborative experience which has already begun to develop and test the EDC technology and the games that constitute the creative interaction support, and sustain their activities over long periods of time. The members roles and responsibilities for the development, deployment, and assessment of the project are:

- L3D - development, deployment, and assessment of innovations in communications and information systems, and overall coordination of the project.
- CA&P - games development in planning domains related to sustainability to seed the Corners and their systems for citizen participation.
- UCAR & BCHCI - Human interface in the introduction to and use of Corners by citizens for participation in collaborative design and learning about sustainable and healthy communities. Assessment of the impacts on participation from awareness to actions.

#### **Personnel Supported**

##### *L3D and CA&P*

Ernesto Arias, Professor of City and Regional Planning, L3D Associate Director  
 Hal Eden, Research Associate, L3D Associate Director  
 Gerhard Fischer, Professor of Computer Science, L3D Director  
 Alex Reppenning, Research Faculty in Computer Science, Member of L3D

*Relevancy to the Citizen:  
 active designers, rather than  
 passive consumers of  
 information through  
 participation*

*Scientific and Technological  
 Relevancy:  
 Discovering new ways for the  
 collaborative framing and  
 resolution of problems through  
 innovative technologies in order  
 to enhance human competence  
 and what citizens do best in  
 designing the futures of their  
 communities.*

*Practical Relevancy:  
 Opening opportunity to BCHCI  
 participation beyond its initial  
 stakeholders to all citizens of  
 the region.*

*Scalability:  
 Transferring the Citizens  
 Corners to other regions and  
 communities in the country*

*A Unique Collaboration  
 Consortium:  
 Integrating academic research  
 and community concerns  
 through L3D, CA&P, UCAR ;  
 BCHCI, and city governments*

*L3D - Technology, Deployment;  
 Assessment and Coordination  
 CAP - translation of content and  
 development of Games  
 UCAR & BCHCI - content,  
 community liasons and  
 organization support in  
 deployment and assessment*

*The Interdisciplinary Group  
 brings significant experiences  
 and major contributions from*

Eric Scharffe, PhD Candidate in Computer Science, Member of L3D  
One Graduate and One Undergraduate Student at CAP

*their respective fields*

*BCHCI and UCAR*

Susan Foster, Director, BCHCI  
Cindy Schmidt, Director of Development, UCAR  
Andria Jacob, Indicators Project, BCHCI  
BCHCI staff  
Molly Dessenville, Neighborhood Liaison, City of Boulder

Success and Sustainability of Deployment

In addition to the personnel assembled for the project, institutionally the involvement of the BCHCI in collaboration with the L3D Center and the College of Architecture and Planning provide assurances that idea will be sustainable because:

- BCHCI is the result of some 400 stakeholders (from farmers to mayors, scientists to business people), yet there are some 260,000 citizens from the various communities in the Boulder County Region whose participation needs to be included;
- BCHCI's involvement brings an exiting human systems and community network which has been developed and proven in the region over the past four years which will provide a complementary interface between the citizen and the introduction and use of the technological innovations; and
- the objective of the indicators project is not just to have more information, but to have information that is *useful and usable* by citizens if they are to be empowered to *actively and meaningfully* participate in the envisionment and construction of sustainable and healthy futures.

*Assurance of Success and Sustainability*

In this manner, the collaboration insures that the implementation of the network of Citizens Envisionment and Discovery Corners will not just "gift wrap" traditional views of participation with technology, but that it will support *real and meaningful* democratic participation of its citizens on authentic problems of their communities through the new technology and media innovations of the L3D Center.