

LISTSERVE DISCUSSIONS – SIMULATION SUMMIT 2004

OPENING STATEMENT

This summit will explore the ways that we understand the world through simulation-how does this enable or disable action, or consciousness?

In recent years, computer simulation has become a key strategy for representing complex phenomena within science, mathematics and society. Simulation is a growing part of cultural expression, from The Matrix to Permutation City, to computer games like The Sims to the return of historical cinema. Artists create re-enactment performances, using simulation to try to understand the past. Mathematicians and physicists simulate time and space beyond the fourth dimension. Social scientists and humanists make use of simulations as research tools to analyze historical phenomena, economic processes, linguistic occurrences and practices, historical crises and crimes. Simulation scientists are dedicated to advancing the use of modeling and simulation to solve real-world problems. This requires that the researcher first build a mental and then a virtual model. The summit will consider immersive virtual environments; simulation in multimedia entertainment; historical simulation in art and other cultural forms; next generation 3D imaging technologies and computer games. Summit participants will build a simulation of the summit as it develops.

DISCUSSIONS

From: Lantin, Maria

Date: Tue Mar 16, 2004 3:05pm

Subject: RE: Getting going

Hi Sara! Hi everyone!

I'm the viz lab manager at the Banff centre and I'll be the contact point for the simulations we'll be building.

If people can reply with some information about what simulation they'd like to build/showcase, that would get the process going. In particular you can send info on:

- what kind of data you have access to
- what kind of simulation you are interested in seeing at this event
- what kind of software you usually use to build/run simulations
- whether you plan to use the cave in the visualization lab (it's a 3-wall cave with positional sensors, and 5.1 surround sound).
- any ideas about how we could collaborate on a bigger simulation that would encompass each other's strengths

To get things going, I'll start:

My background is in biological simulation. I have software that I wrote for my PhD that simulates the growth of plants at the cellular level. I designed a language called CSPL (don't try to pronounce it), where cell types can be specified in terms of their attributes and behaviours. A starting cellular configuration is described and the rest is simulated step by step according to the different cell behaviours. It is similar to a cellular automaton but it has additional physical dynamics such as cell division, and growth. The whole thing is visualized in real-time.

I can resuscitate that software for this event and show how it works. We can create our own version of a plant for a simulation, or use pre-existing ones that I built up from real data. It's actually quite a laborious process to get data for the simulation of an actual plant, so if we build new models they may have to be artificial.

Here is a description of what we have in the lab at this point:

- a 3-wall stereo cave. each wall is 8x10ft and they are positioned at 90 degrees to each other. It is capable of passive stereo projection. The cave has an intersense IS-900 VET motion tracking system, and 5.1

surround sound.

- 2 workstations that can run either linux or windows
- a tablet pc running windows
- max/msp
- matlab (signal processing, neural network, image processing, and image acquisition toolboxes)
- phidgets (www.phidgets.com)
- crossbow motes (www.xbow.com)

Can't wait to hear from you!

M!

From: saradiamond

Date: Wed Mar 17, 2004 0:05pm

Subject: Guy -- what were you thinking of building?

Did you have a specific simulation that you wanted to collaborate on? Maria--thanks for the start up information--do you know when the technology will be in place? sd

From: guy hundere

Date: Wed Mar 17, 2004 2:21pm

Subject: Re: Guy -- what were you thinking of building?

I have several concepts that are loose and abstract. I've wanted to build environments that have multiple sources of gravity or objects whose mass can change through interactivity, places where you can float or cause levitation. I've contemplated exercises in which intelligent actors can fulfill a theoretical scenario whose remnants would be an image evaluated for aesthetic purposes - consider applying a model for the interaction of multiple species where the biological organisms are replaced with modular architectural elements resulting in an organic tapestry of concrete and steel or a blending or period styles. I have also contemplated a multi player online video game that would enact a confrontation of police and protesters at a WTO event. Players can choose sides based on political viewpoints that would be encouraged through the type of game play available - whether or not a player can employ violence, the type of atmospheric elements (music, colors, perceived appearance of opponents) and reward incentives, etc.. The player choices would be accumulated numerically and become a type of opinion poll.

All of my ideas are incomplete at this time. I hope they can find pairings with other conceptual currents that may be in attendance. I have been working in Maya where I can code the behavior of objects in a scene and then render to file. I understand that similar a project flow is available for real-time simulations using a world builder like Renderware (or VirTools) where we can place pre-built models into a scene and define their properties and how they relate to other forces both physical and perceived.

If we plan to use VirTools, how could someone become more familiar with the application to facilitate development during the summit? Is there a demo version?

guy

From: Lantin, Maria

Date: Fri Mar 19, 2004 2:30pm

Subject: RE: Guy -- what were you thinking of building?

The idea sketches that you put forward are great and all doable within Virtools. How did you encode the behaviour of objects in Maya? At the very least if you have the models ready we can import them into virtools. Encoding behaviours is then a fairly straightforward matter depending on the complexity of the behaviours. Virtools comes with some pre-packaged behaviours, and allow coding of custom ones.

M!

From: Nigel Gilbert

Date: Sun Mar 28, 2004 8:43am

Subject: Ideas ...

I'm probably an outlier at this event, because my interest in simulation is as a sociologist, and I build models as statements of (social) theory which can be run to check that it is consistent and to examine the consequences (e.g. the emergence of macro/societal level features from the interactions of individuals). My simulations are 'agent-based', that is, there are agents/objects in the model that represent individuals or organizations.

That means that most of my simulations are fairly boring to look at. But you can get some idea of the range of things that we do from the online journal which I edit:

<http://jasss.soc.surrey.ac.uk/JASSS.html>

Projects I am currently involved with are building simulations:

- to help firms involved in delivering online news and online music assess possible future business models (e.g. scenarios in which they can assume that if they make a clever move, all their competitors will rush to copy them).
- to understand how innovation (the 'successful exploitation of new ideas') works in biotechnology where firms are highly networked

Projects that I would like to be involved in one day....

- a simulation of a small town and all its inhabitants, including as much detail as possible (location, income, gender, household composition, traffic and other forms of mobility, workplaces, shops, entertainment, etc.) with agent rules determining the activities of each agent, which could be used for exploring the consequences of town planning and other decisions (a kind of mega Sim City, with more attention to making the rules realistic, rather than fun).
- a simulation of how political institutions develop in devastated societies which have been subject to war or other disasters.

Nowadays, I usually use NetLogo for my models (<http://ccl.northwestern.edu/netlogo/>), although one of the projects I am in is at the early stages of building an alternative tool which will do the same kinds of things, but using a standard scripting language rather than NetLogo's own, and will have better interfaces to Java, and possibly to visualization software.

Nigel

12 From: Sarah Cook

Date: Mon Mar 29, 2004 7:49am

Subject: Re: Ideas ...

hi simulation-reenactment cohorts,

thanks to Nigel and Guy and Maria for their intros. I am coming at the simulation summit from a slightly different angle yet again: I'm a curator and have been tracking artists projects involving re-enactment, for the last few years. I am specifically interested in how artists are using real time technologies (as simple as blogging, video, photography, sound recording costumes and real live actors!) and playback to 're-present' or represent these re-enactments as art in different cultural contexts (art galleries, television broadcasts, web-based projects). It seems that in the case of many of the projects simulation is both the concept and methodology of the work.

I am unsure of how to answer Maria's questions, as I anticipate organizing a more historical presentation of art works as part of the summit... though am looking forward to developing the simulations themselves as well as thinking about the plan for the dissemination of the results. I will talk with the artists more this week and send through any ideas.

Meantime, how is the 'straw dog' schedule coming along? Do we have the full list of invited/attendees?

thanks
Sarah

13 From: Lantin, Maria

Date: Wed Mar 31, 2004 4:11pm

Subject: RE: Ideas ...

Thanks for the intro Nigel. Your work sounds very interesting and right in line with what Sara had in mind for the reenactment team.

In particular, she mentioned possibly creating a simulation/reenactment of the simulation summit itself. What this means is not well defined at all at this point. Maybe Netlogo could be something we use for that? Say we modeled everyone in the summit as a caricature of themselves could we somehow reenact what happened at the summit, or more simply at a particular event at the summit? I know nothing about netlogo (just downloaded it but haven't had time to look at it) so you would be the person to tell me what is and is not possible in the timeframe that we'll have at the summit. Is netlogo the type of software that is easy to prototype with? Can we link it with matlab, or other viz software?

Does anyone else have any ideas on what it might mean to model/reenact the summit itself?

M!

From: Sarah Cook

Date: Thu Apr 1, 2004 0:54am

Subject: Re: Ideas ...

Hi Maria and all,

the only examples i can give are those from visual art practice – ones i will be showing at the summit - and the closer you scratch them the closer you get to a not so pretty process of figuring out the differences between simulation and re-enactment (something I hope the summit doesn't get too hung up on...)

For instance, i will be screening Jeremy Deller's project, the Battle of Orgreave. This exists as a 56min video documentary filmed by Mike Figgis. The concept for the project was to re-enact (using actual historical re-enactment troupes) an incident between striking miners and the police (on horseback) which took place in Northern England in 1984. Hence the methodology for the project was within the stylistic conceits and working practice of re-enactment troupes -- costumes, set battles which are narrated by a 'caller' as they are acted out, in front of a live audience.

Would you call this a simulation? Is the video-based film (the technology recording the process) The simulation?

If we understand that simulations (as Kris's post pointed out) often entail a use-value (i.e. from my inexperience of science and medicine I understand that simulating the mutation of a virus teaches us about how it could spread), then do the socio-political-engaged aspects of Jeremy Deller's project (confronting a sore point in history, allowing the participants through a re-taking of control of their actions, to deal with their memories of the actual event) suggest it is in fact A (social) simulation? (that's without getting into the murky waters of defining the use-value of art - see Kant for that!)

Perhaps, Maria, you could give examples or descriptions of methodologies intrinsic to simulation?

Sarah

Attachment: [not stored]

From: Sarah Cook

Date: Thu Apr 1, 2004 1:14am

Subject: Re: Ideas ...

What's flummoxed me about conferences before? How many power point presentations one endures before one switches off. That the common denominator of stylistic comparison between presenters is so often shoes - with Sara Diamond's always taking the cake ;-). That coffee breaks end before one has had a chance to talk to the person one really wanted to talk to. That the screening/presentation of art works themselves (rather than information about artworks as explicated by

artists) demands a different kind of attention span, and pleasantly disrupts the flow of learning/absorption with a new flow of contemplation/critical engagement.

I'm being playful here, i'm not sure I've even wished for a model of those phenomena so that i could understand them better. Except perhaps that last one, which is itself questionable in a truth-value sense, but is something i repeatedly encounter. What is the best (most ethical, fair to the artwork) way to present an artwork in an educational/conference context?

Sarah

Attachment: [not stored]

From: Lantin, Maria

Date: Fri Apr 2, 2004 11:54am

Subject: RE: Ideas ...

I'd never really thought about the simulation reenactment difference before it was brought to my attention by this summit. In my thesis I worked with the relationship between modeling and simulation. It seems that re-enactment speaks to the scale of the simulation.

In scientific simulation one of the things you always butt up against is the complexity of emerging phenomena. At one limit we are simulating every particle, event, and interaction - an impossibility. At the other limit we are building a exact reproduction of a moment in time - an impossibility. Neither limits are very useful. Something in between is what we're after.

Methodology for building a scientific simulation of a process:

- Determine a starting point where we don't care what happened before (a simplification);
- Determine/hypothesize what particles/objects, events, interactions are relevant to the process;
- Model these at a scale appropriate to the simulation;
- Determine which factors in the simulation will be fixed and which will be variable;
- Determine a time scale (each step in the simulation is a time unit - what is that unit?)
- Run the simulation under different conditions and note results.
- Compare results with known "real-world" observations.

These days in the field of biological simulation there is lots of talk about blending different scales of simulation. There are people that are very good at simulating the mechanical effects of cell division, movement, interaction, etc. There are others who specialized in simulating intra-cell dynamics, specifically chemical interactions. For both there was a simplifications of the processes involved at the other scale. Now they are starting to blend the two scales for more accurate simulations. This is a common path in simulation practice (and other practices) - compartmentalize until you have a grasp of the complexity and then blend.

Ok enough rambling. Will answer the other e-mails later.

M!

From: Mark Hansen

Date: Fri Apr 2, 2004 0:44pm

Subject: Re: Ideas ...

hi all,

i am interested in the step "compare results with known real-world observations". this actually turns out to be pretty hard in some situations. Which aspects of "reality" match our simulation output? inevitably we rely on a reduction of some kind; a few features that someone thinks are important. These features are then compared (maybe graphs, images, etc) to make sure the simulation matches our expectations at least in these dimensions. i reckon that if the system is really complex, our ability to judge the quality of the simulation is somewhat limited.

this comes up in what Sarah wrote (hi Sarah) about "working practices" of the re-enactment troupes. if the costumes were wrong or the event was staged in Japanese, then maybe some aspects of the simulation wouldn't match "reality." and it's in this mismatch that we might learn something new about where our simulation was deficient, or, more interestingly, about the "real-world observations" to which our simulations are meant to refer. or not. i didn't get a lot of sleep last night.

M.

From: bnmi2004

Date: Mon Apr 5, 2004 4:01pm

Subject: Brad's suggestions for a presentation

I'll be showing some of the information designs and explorations that I've put together in the last twenty years as a practicing designer and more recently, as an artist. I'll show the ones that people reacted to most strongly; partly to soothe and entertain, but partly in the hopes that some of the techniques I apply might be useful in presenting the simulation processes and results of other attendees. To that end I'll present a simplified Knowledge Acquisition Pipeline, a kind of designer's checklist that has been valuable in guiding my students and me while creating information-rich displays and user interfaces. It helps organize the wide variety of techniques available to us as information designers. But more--it helps us understand why they might work, where they might be useful in a design, and even what types of information can best be shown with which techniques. It works as a generative guideline as well as an intellectual framework. I'll tie parts of the examples back to this pipeline to show how it works in practice. The application of this pipeline to visualization work suggests that as a field we are getting good value out of our understanding of the earlier processes--those having to do with sensation and perception. But later processes still have a lot of room for exploration: the visual attributes we use to represent data can often be made more specific, and therefore both more communicative and easier to decode. The world is richer than we can describe with circular nodes and linear links. And when we can get a visual vocabulary from the target audience, their own higher level semantic relationships may also be more easily absorbed and manipulated. I suggest that what such "illustrative information displays" lose in generality they more than make up in ease of interpretation and viewer engagement.

Best,
Brad

From: Warren Sack

Date: Tue Apr 6, 2004 9:00am

Subject: warren sack: introduction

hi all,

i've written several papers about simulation. here are pointers to two of them:

(1) "painting theory machines," about a set of painters and the difference between a Baudrillard understanding of simulation and a Deleuzean understanding, appeared in the journal art and design:

<http://web.media.mit.edu/~wsack/painting.5.1.html>

(2) "artificial participation," an "artist interview" with me done by joe dumit @ mit, an anthropologist (one of Donna Haraway's former students); i put "interview" in quotes because it was more a co-authored article fitted into a dialog format in which we discuss philosophical, psychoanalytic, Foucauldian, and theater forms of participation and simulation.

<http://symptom.mit.edu/information/dumit-sack-artificial.pdf>

in general i am interested in the non-utilitarian, reflective potential for technologies of simulation. philosophically i am interested in what made Plato so mad about the sophists whom he called "simulators" and whether contemporary technologies of simulation are offspring of the sophists Plato hated.

when i was first beginning to program, in the late-1970s/early-1980s, my first few projects were simulations (written in FORTRAN) for chemical engineers (simulating paper-making processes) and agricultural scientists (to simulate the effects of wind, water and soil conditions on wheat crops). i was fascinated, even then, by the "make believe" and

"just make it up and try it out" aspects of computer simulations. I remain interested in the "make believe" and reflection inspired by simulation.

-warren

From: Lantin, Maria
Date: Tue Apr 6, 2004 0:25pm
Subject: RE: Ideas ...

Yes this step is tricky. It is quite possible that a simulation reproduces a process to an adequate degree but that the mechanisms by which it got there are different than the real thing. In that case we may come to the wrong conclusions. If A then B, doesn't mean if B then A - a classic problem. The only thing we can say for sure is the mechanisms we simulated are one way to get at the results, taking into account all the starting assumptions (which may be inaccurate). This is why in scientific simulation, there is usually a whole set of in vivo experiments to verify the assumptions and results of the simulation. It is not enough to simply publish a simulation and claim the results apply to the real organism. The simulation directs the flow of scientific investigation. And vice versa.

It is true that simulations that give results different than one intended can be a source of knowledge. I found in my own work that when things went awry, I always blamed my software first ;) It was hard to trust that I had all the little mechanisms modeled just right. The smaller the scale of mechanisms, the more an error compounds over time. For example, if there was even a small floating point error in the positioning of a cell wall for division, the whole structure could end up wildly different over a 100 steps. But of course, the smaller the scale, the easier it is to get it right for individual mechanisms. It's a balance.

The example you give about reenacting in Japanese with the wrong costumes is great. Related to this, simulations have been used to disprove what was an accepted fact. It is also possible to vary the starting conditions and underlying assumptions to see which parts of the simulation remain unaffected. All of it is information.

M!

From: Diamond, Sara
Date: Tue Apr 6, 2004 10:17pm
Subject: RE: Ideas ...

I am also very interested in the line between visualization and simulation, tending to think one work from data and the other from the imaginary, or model or abstraction...

From: Mark Hansen
Date: Thu Apr 8, 2004 6:27am
Subject: Re: Ideas ...

hi

I've used simulation in at least three contexts and they involve "reality" in different ways.

i) when I was at Nasa, I helped with simulations that modeled the heat a spacecraft might encounter as it "bounced" through our atmosphere during reentry. Here the simulation was used as a piece of data, evidence that the idea would or wouldn't work, the starting point for more simulations or actual experiments. We performed several sets of simulations, each corresponding to different atmospheric conditions, different likely "realities" in the upper atmosphere. maybe in the context discussed so far, this is simulation as rehearsal rather than reenactment.

ii) back in the mid 90's i worked on a legal case involving the u.s. census and whether or not the 1990 counts should be adjusted to "correct" for known undercount occurring in big cities (federal aid to cities depends on these numbers).

the adjustment procedure proposed by the census bureau depended on taking a second mini-census called the post-enumeration survey (pse). as part of our case, we simulated outcomes of the pse's, different equally likely versions of "reality". in these realities, we knew the truth about the census counts and could both perform adjustment and evaluate whether it was doing a good thing. we then used the variability in these simulations to make inferences about the actual adjustment based on the actual pse. simulation was used to create other likely outcomes (realities) to judge the one we actually experienced.

iii) a couple summers ago i had a student working on modeling web traffic; how do people browse web sites? here we had data from hundreds of thousands of "visits." models for navigation were proposed to provide us with a simpler view of the data, a kind of summary that might help us understand something about navigation. our models were "generative" in the sense that they could be used to simulate traffic, users. how can we evaluate our model? how can we decide if it's too simple, leaving out some important fact about navigation; or too complex, modeling "noise" in the data. the easiest kind of model check involves simply simulating users, simulating people browsing the site, and seeing if the simulated users "look like" the actual users. did the simulated visits last as long as real visits? dig as deep into the site? view as many unique pages? begin and end in similar kinds of locations. there is such unbelievable variety in browsing behavior... and comparing simulation with reality helped us find some amazing things.

in the last simulation context, we had a model of reality that we wanted to evaluate based on simulated outcomes. if things seemed to match, we might (although I'm not a fan of this) suggest that we've "explained" reality with our model. i would probably not go so far but maybe use the model to construct more hypotheses that we could test with new data, new simulations.

anyway, this is much longer now than i wanted. sorry.

M.

From: Jaanis Garancs

Date: Sat Apr 10, 2004 5:20am

Subject: introducing myself + some proposals

Dear people at simulation reenactment group

I am little bit late joining the list, as my public email account initially blocked yahoo groups & yahoo.com messages by default (because of my own 'exclusive policy' against some of the big 'free-in-return-for-advertisement' services.

Anyway, I am very excited about the up-coming seminar ...

briefly about myself: I am artist, working in the areas of interactive installations, Internet, Virtual Reality and multi-media performance. As related to the theme of the seminar i could mention some of my recent, ongoing and upcoming projects:

installation Simulacrum Populi (2002-2003/2004) premiered at the Arts Electronica Festival (subs-scene: MultiCultureMolecular Humans) in 2002 and

(info: <http://cellulae.x-i.net/simulacrum> <http://cellulae.x-i.net/humans>

else: upcoming project "metaSpongia" together with the V2_Lab, Rotterdam may/june 2004 within the P.E.R. exStream collaborative project: http://lab.v2.nl/air_program/exstream.html <http://cellulae.x-i.net/spongia>

else i am also working on a group-project together with the Locative Media Lab for the hybrid installation for the ISEA 2004 (on ferry cruising the Baltic Sea and exhibition space in Helsinki) – visualizing a 'landscape' of 'locative packets', generated by mobile participants.

To realize this project, I am continuing my work on a meta-database which potentially would register, organize and forge 'memetic molecules', that would consist of individuals' entered interests, registered online collaboration activities and

modelled/simulated developments of potentially explorable areas of shared information space. Perhaps some of the aspect or technical solutions could be useful if we are willing to create or develop a collaborative tool for the 'simulation of the workshop' (as written in the event info poster)... The product of this could be (meta)database, interactive 3d scenes in VRML, static exchangeable 3d scenes and video - using e.g.. MySQL, PHP, VRML, Java as the tools.

Well, describing it in words is not my favorite way, so I wonder – would it be possible to have the technical conditions to give a demo, using stereoscopic projection and surround sound at the lab /or other venue at Banff, some time during the seminar days? Question for the Visualization Lab: would it one possible to have a PC (2 GHz / 1 GB RAM or better) hooked up to passive stereo screen for one wall projection (from dual-head card output)? I would use VRML Browser (BS Contact VRML) on a PC, the VGA card (128mb nVidia GeForce FX) I can take with me.

best regards -
Jaanis Garancs

From: Elizabeth Bruch

Date: Sun Apr 11, 2004 11:17am

Subject: Re: Ideas ...

Hi everyone,

I wanted to chime in on this discussion of simulation models and reality, and also introduce myself.

I'm a sociologist/demographer who studies residential segregation and neighborhood change. I'm currently developing an agent-based (microsimulation) model of the movement of individuals among neighborhoods in Los Angeles to show how income inequalities among race-ethnic groups and neighborhood racial preferences affect residential segregation and the formation of high poverty neighborhoods.

The model is grounded in "real world" space and time (that is, the model "people" live on a map of LA Census blocks, and their movement across the urban landscape in model time can be mapped to days, months, or years). We have data on how individuals (of varying races and incomes) responded to neighborhoods of varying race and income composition. We also know what happened to neighborhoods in Los Angeles between 1990 and 2000. However, we don't understand (observe) the underlying process of neighborhood formation and change - what links the individual behavior to the aggregate outcome - for instance, did racial segregation decline because people became more tolerant of integrated neighborhoods, or because economic inequality among race groups declined? Or something else?

One of the goals for this project is to simulate neighborhood turnover in LA between, say, 1990 and 2000, and then compare the output of the model to what actually happened in LA during this time period. We'd like to get information on where our model went wrong (e.g., our model may predict that between 1990 and 2000 Beverly Hills becomes predominantly Hispanic) to try to better understand the dynamics of neighborhood formation and turnover, and (hopefully) to improve the simulation. I think this is similar to what Mark described in (iii) below.

A second goal is to perform various "thought experiments" and counterfactuals - for example, what kind of neighborhoods would form if all race/ethnic groups had the same response to the race and income composition of neighborhoods, but there was no income inequality among race groups (that is, minorities were not poorer on average than whites)? Would we get more or less racial segregation? Here, the idea is to generate new information. I think this is similar to what Mark outlined in (ii) below.

Hope this isn't too long. I'm very excited about the seminar.

Elizabeth

From: Lantin, Maria

Date: Mon Apr 12, 2004 3:49pm

Subject: RE: introducing myself + some proposals

Re: demo capabilities of the viz lab. All the cave cluster PCs are 3Ghz, 1GB of RAM, and have dual-head cards (nVidia GeForce4 Ti 4600). We can do passive stereo display on the cave screens. The only issue is that we are waiting on some screens that are better at maintaining light polarized. I hope these screens will be in place for the summit. If not, we will still have passive stereo but with ghosting. The cave has surround sound. We also have specialized sound software for use with headphones.

What other software should be installed here?

M!

From: Mark d'Inverno <M.dInverno@w...>

Date: Tue Apr 13, 2004 8:12am

Subject:

hello everybody

a few words about what I do ...

essentially, I have been working in computer science by using a branch of mathematics, called formal methods, to build models of different kinds of system. The reason we have used formal methods is because there are systematic ways to build implementations of the theoretical structures we propose. Many mathematical models, (especially in agent-based systems which is my major interest), are not computationally useful as it is difficult to build computer programs that correspond directly to those mathematical models. Indeed lots of mathematical models in this field go as quickly as they come because they serve no practical purpose.

I have typically been concerned with modeling agents and agent-based systems. Broadly, the kinds of things we are interested in are how the agent models it world and other agents, how it reasons, acts, perceives, interacts, communicates, etc, and what it means for agents to be part of some "society" with social laws and norms. In particular, with Michael Luck at Southampton, I have developed a formal framework that attempts to build models of agents and related concepts.

Significantly, one of the key things that has guided us in the development of our work was trying to model/simulate what we observed about each other and the way we with interacted with each other. Much of this has found its way into a book ... Understanding Agent Systems, d'Inverno and Luck, Springer, 2004.

What I'm going to talk about at Banff (unless Sara directs me otherwise) is using these approaches (agent-based, formal methods) to model, simulate and visualize stem cell behaviour. Just over a year ago, I became involved with a multi-disciplinary team, which included stem cell researchers, an artist, an Alife programmer and a curator, to look at new theoretical and experimental developments of adult stem cells. I'll talk about the project in general, but will look specifically at why simulation is of such importance in this field, what role a formal model has in building the simulation, why an agent-based approach is appropriate, the impact of having a multi-disciplinary team on ideas and process, and what steps we are taking to make sure the simulation has some practical (medical/scientific) value.

too may words again

see you there

Mark
Professor Mark d'Inverno
Research Centre Director
Cavendish School of Computer Science
University of Westminster
9-18 Euston Centre
London NW1 3ET

email dinverm@w...

tel:+44 (0) 20 7911 5131
fax:+44 (0) 20 7911 5876
http://users.wmin.ac.uk/~dinverm/

From: Lantin, Maria
Date: Tue Apr 13, 2004 5:33pm
Subject: Focusing the task

Hi all,

I am enjoying this listserv conversation very much -- it's obvious it's going to be a very good summit. One of the goals of the summit is to create a simulation. This can be whatever we want within the time/technology constraints we are working with. One of the ideas is to simulate the workshop itself. Other ideas are welcome. The simulation can be built with netlogo, or virttools, matlab, or custom software that people are bringing.

During the summit itself, there will be about 6 hours allocated to building the simulation. That number can change and your input is valuable in that respect. It would be good if we had an idea about what we want to do before the summit. We can then brainstorm with the whole group on the first day and following that session, the reenactment team will get together and build the simulation.

Let's answer the following questions in the next few days:

- What do we want to build?
- What is realistic to build during the summit?
- How much time do we want to allocate to the process?
- How graphical do we want the simulation to be?
- Which tools are we going to use?

M!

From: Kris Cohen
Date: Sun Apr 18, 2004 3:37pm
Subject: Re: Focusing the task

What if we drew, on the floor somewhere, a rough map of the Banff Simulation conference grounds. Then invited people, at the end of each day, to place post-it notes on the places where they met new people. The post-it notes would list the names of the people who had met, the time and date of meeting, and a brief description of the outcome of the meeting. We could then use this low-tech record of events as the basis (or data) for a simulation of social networking, or the origins of collaboration, or the place-sensitivity of interaction, or etc. The simulation itself could then be much higher-tech, if it made sense to do that.

kris and ben

From: Diamond, Sara
Date: Sun Apr 18, 2004 8:37pm
Subject: RE: Focusing the task

Perfect timing! I have been working away on the agenda...which looks great and was going to ask this question once I finished it!

Here are some concrete things to take into account:

1. I am allocating two hours in the first day to brainstorm the simulation that we are adding to, transforming, building
2. Maria will need to be in and out of the conference. She will work on coding but will not be able to go full out on this.
3. We want to build the model, I think, with criteria and suggestions, before the event kicks off and then add to it. I think if we do some surveying before the event, we can get this into the works and like the listserv, for those who participate, it begins to shape positions. (see my comments below on the kind of data we could gather)

4. I really hope we can do something that is graphical so we can COMPARE the "real" with the graphical and other media. (I built a simulation of another event that we had at Banff for its launch in 1997 that was pretty successful and looked a social networking. But we did also use it to assign groupings to people and then they could reassign themselves (we gave them fish identities--sharks, bottom fish, etc.). This could be fun here, but people could just self assign – identity characteristics (artist/scientist is boring but could be interesting)

Anyhow, the things that we could do before hand:

1. Where they are from
2. One word to describe their profession.
3. A key word to describe one of their simulations (we can do all kinds of things with this)
4. Their position (y/n/maybe on key debates) I will post the questions that frame the workshop below and we could pick a couple party stoppers for people to reply to.
5. Who they would like to meet at the workshop.
6. Who they would like to debate at the workshop.

We can map clusters, ratio of answers, place people into a proximity map on the basis of answers, predict if they will change position. Then, at the workshop we could do what you suggest, and place the results against the prediction. We would have to ask them if their role changed. Then we can work with the things that you suggest measuring when they are here...it would produce two geographical maps, proximities of people, popularity, etc. We would also want to ask about changes in position on topics (re-ask during the event and keep measuring throughout it)... There could be a voting system on whether the meeting was useful, pleasurable or both. But also, interesting to look at which people have the most encounters and of what type. Also, WHO initiates the meeting is interesting. And whether they got to meet the people who they wanted to.

What do you think? Maria, what is possible?

Here are the questions that we could choose from, simplify and make into polls...

- How does the use of simulation shape our understanding of complex phenomena?
- How can we achieve a shared understanding of a model? What are the stages of building a metaphor from phenomena?
- Where does the original model fit into this (artist's model or computer artifact)?
- How can simulations be best applied to social problems and structures? What are the social applications of simulations in promoting democracy, stimulating debate?
- How can we meaningfully express the scale of the unseen? How can we express infinite/minute scales? Can simulation help to blend scales of simulation?
- If scientific realism is powerful because of its realism, then what is powerful about artistic recreation?
- How can simulation extract the unseen from language? What might these approaches tell us about an original, non-linguistic model?
- What are the aesthetics of simulation? Is data expressive? Is realism and reality the goal of all simulations, of some? How can simulation be used in predication? Can results be compared against know real-world observations? What simulation media are appropriate for specific phenomena?
- How do we understand the new, hybrid, simulations that link the digital to the biological, or which are biological? Can and should we simulate the human body or mind?
- Are we living in a simulation? How do simulations and the unseen shape our sense of space and time within physical reality? How do simulation games operate as experiences? Do participants understand the game as another reality?
- What have we learned about how we understand the world through simulation-how does this enable or disable consciousness? What are the limits and failures of simulation?

From: mark hansen

Date: Mon Apr 19, 2004 7:18am

Subject: Re: Focusing the task

hi

so i'm interested in the model component of this. i can certainly help with "mapping clusters" or rather applying common projection-type visualizations or fitting/representing mixture-based probability models.

one thing that I might add to the list of questions is something about existing social ties... I know Kris and Ben from Banff... I know Brad and Elizabeth, not in a Banff-context... I know Maria through this list. this may be getting a bit "social network"-y, but possibly useful. perhaps it is better worded in terms of what i know about someone's "positions" in hypothetical debates, and how strongly i think i know this in terms of actual implementation... maybe it's interesting to use the data collected together with some informed opinions from one of the sociologists, to create a kind of "prior" distribution on possible outcomes. Then as we collect data over the course of the event, we can update that prior and improve our estimation of likely outcomes.

here's an example... we could use this model to simulate the outcome of events that we have planned for future sessions of the workshop... who will take what position, etc. then we see what actually happened, compare the simulations, and ultimately use the new data to refine those predictions for the next session, and so on. ok, this is a bit wobbly and maybe too jargon-packed... it was a late night (and I have to be alert and upbeat for a group of 65 pre-med undergrads in 1.5 hrs!!)

M.

From: Diamond, Sara

Date: Mon Apr 19, 2004 7:26am

Subject: RE: Focusing the task

Nice! I think this is good process & progress. I agree re social networks, I was trying to say something like that in clumsier ways. You nailed it... I have done the schedule and you will receive it in formatted form later on today and I have included clumps of working time on this---but we have to start before the event for it to work. I think Maria is likely eager to do just that!

sd

From: Mark Hansen

Date: Mon Apr 19, 2004 7:38am

Subject: Re: Focusing the task

great. again, part of what i was suggesting was a simulation tool based on your proposal. suppose we have some simple well-defined categories. we can either specify them or "learn them" by an initial clustering. we can then use these together with the connection data and the "survey" style data you are collecting to create a model for who might "agree with" whom on certain issues, who might participate a lot, who might be quiet, who is likely to head to the spa for a massage on the afternoon of the final day... that sort of thing. as these models are probability distributions over outcomes, we can simulate (draw from the distributions) a series of events... we can then compare it to the real situation afterwards and update the probabilities... this is precisely what you were suggesting, I was just suggesting a formal structure under which we could actually implement it. the wobbly part is figuring out what we want to use to characterize our meetings and how that connects to the observed data. I'll read over your post again and see what I can come up with too.

M.

From: Lantin, Maria

Date: Mon Apr 19, 2004 9:25am

Subject: RE: Focusing the task

Phew! I'm really glad this conversation is happening.

For my part I need to know which tools we will be using. My experience is in physically-based cellular automata. I have some experience with stochastic simulations. I can program some infrastructure we'll be needing before the event so we can get going quickly. If we want something graphical, either we go with Maya and program in Mel, or with virttools (which I still don't have but will have this week some time), or with custom graphical output. We can also build a simulation non

graphically and then re-enact it using generated data with graphical software. This might be an interesting option as we can then play with putting on different skins.

I know netlogo has been mentioned in this forum. Anything other software that would be appropriate for the simulation proposed so far? The less I need to program the better as I'm quickly running out of time.

M!

From: Diamond, Sara
Date: Mon Apr 19, 2004 11:02am
Subject: RE: Focusing the task

I strongly suggest you, Maria, IMPOSE a tool set on us! Please! Whatever you feel comfy with and have access to!

From: Warren Sack
Date: Mon Apr 19, 2004 11:19am
Subject: Re: Focusing the task

starlogo is netlogo's sibling. when Uri Wilensky wrote netlogo for his dissertation work, Mitchel Resnick wrote starlogo for his: <http://education.mit.edu/starlogo/> mitchel also has a nice book on this; <http://www-mitpress.mit.edu/catalog/item/default.asp?ttype=2&tid=5368>

but, it sounds like we need a fast clustering algorithm and a means for visualizing the clusters. some clustering software has been done by genomics researchers and, if you search some on the net, api for various languages (python, perl, etc.) can be found even though it is written in c: <http://bonsai.ims.u-tokyo.ac.jp/~mdehoon/software/software.html>

-warren

From: Elizabeth Bruch
Date: Mon Apr 19, 2004 11:23am
Subject: RE: Focusing the task

Hi Maria et al.,

I use Repast for all my simulations (<http://repast.sourceforge.net/index.php>), which is Java based. Repast has available libraries for modeling social networks(<http://repast.sourceforge.net/modules.php?op=modload&name=Sections&file=index&req=viewarticle&artid=18&page=1>). I've never used the network libraries in my own research, but between the available demos and how-do documents it's (usually!) fairly easy to get up and running. Repast has built in graphics capabilities, too, so it's straightforward to display pictures of the data, make charts and graphs, etc.

Elizabeth

From: Elizabeth Bruch
Date: Mon Apr 19, 2004 11:50am
Subject: Re: Focusing the task

Just to add to Mark and Sara's remarks..

It would be interesting to also consider how spatial proximity and social interaction may affect these behaviors (over and above the effect of individuals' traits such as profession and where they are from).

For example, does who you sit next to during the introductory summit meetings (or over breakfast) have an impact on later interactions and level of participation? E.g., do all the talkative participants tend to sit together during breakfast or

during the meetings. Does a person who was quiet one day become louder if he or she sits next to a talkative person? Well, these are trite examples. But the idea is that the structure of people's interaction affects the outcomes over and above their personal characteristics such as profession or where they are from.

From: Jaanis Garancs

Date: Mon Apr 19, 2004 2:29pm

Subject: Re: Focusing the task

Hallo -

my suggestions could be:

we use a system of mixed/shared(public)and private(individually specific) simulation object reference - and as we have some common inter-reference system, we can 'collide'/ compare various simulation systems ...say - an object should have at least 2-3 'shared' property references and the rest if up to specific simulation owner's(creators)

1) that we agree on some basic principles - that could be common for several 'simulation' criteria -probably the most obvious could be:

- * time line (timed/timestamp of the object/event)
- * personal relationship to the object/event
- * weight/intensity of relationship to abstract (shared of individual/unique) categories

then other things (what i have heard)

* localization in various scales - global geography (participants?), Banff campus or room(s).

* media: textual, visual, aural, spatial, still, moving, stable, unstable, co-efficient of randomization, etc ...

* other more specific stuff - like object abstract entity projection focus, simulation vectors, level of abstraction, simulation metaphor is the up to the participant/groups.. if we are to register, store and analyse the entered and modified data - eg. in one shared database or registrations system (how I understand)

2) technically:

perhaps ecould agree on a data sharing / exchange format: would not the XML (RDF) format be a good compromise for the time being? One could use this in script for Maya, virtools, etc? (eg. myself: can generate dynamic, interactive audio visual scenes with VRML).

regards -
Jaanis

From: Lantin, Maria

Date: Tue Apr 20, 2004 2:23pm

Subject: Synopsis of simulation proposed

Hi all,

Ok I've spent some time analyzing what people have said and here is what I can see in terms of objects in the simulation. I'll send out another e-mail about the dynamic model we want to use.

Comments?

M!

People: Static attributes (for the purpose of this simulation): name where from profession role in summit (speaker, attendee, moderator, etc) type of simulation pre-existing social-ties

Dynamic Attributes:

social ties

would like to meet

would like to debate

positions on key questions

level of participation (shyness level)

Events:

Meeting (who, what, when, where)

Summit event (title, when, where, who attends)

Speaking (formal presentation) (who, where, when, what)

Outburst of passion (who, where, when, what)

Acts of God (don't know what that might be but can be loosely defined as things outside our control that affect the dynamics of summit)

Visual Support:

Conference grounds (3D-model not necessarily extremely accurate but having some co-ordinate system so we can map events)

visual caricature of people in simulation

Other supporting visuals (input welcome here)

Data Collection:

polls on key questions

voluntary (post-it notes, web app to enter data, etc)

spies (people who notice more loose attributes like peoples' level of engagement, or when someone ducks out, etc.)

Visualization of data:

Social networks

Clusters of like-minded

Re-enactment of events

Prediction:

Which people are likely to meet next

Which people "should" meet

Which people are likely to change their mind on key question

Positions likely to be taken (if previously unstated)

Slant of discussion for particular summit event

From: Lantin, Maria

Date: Tue Apr 20, 2004 2:32pm

Subject: Dynamic Model

Hi again,

In order to be able to predict something from our simulation, we'll need a model of social dynamics. This is not my area of expertise (beside having been somewhat social for 30+ years). I am familiar theoretically with extraction of rules from databases but since we don't have previous summit simulation data, which rules are we going to use for prediction? From the data that I've outlined in my last e-mail what intelligence can be mathematically applied? What format should the data be put in so we can apply these rules?

From: Lantin, Maria
Date: Tue Apr 20, 2004 4:26pm
Subject: Some decisions

Since I don't hear any dissention :) I will impose that we use repast. If need be we can output some xml to put various graphical front-ends onto the simulation. I have 2 programmers and one 3D modeler working on this with me to put together whatever we can before the summit.

Tomorrow there will be a spam to the listserv asking for information on you (the attendees) so we can begin populating the agent database.

Again, please continue contributing. It's very much appreciated.

M!

From: Elizabeth Bruch
Date: Tue Apr 20, 2004 4:51pm
Subject: Re: Another question

Hi Maria ,

My sense is that Repast would work fine. The structure of the simulation models in Repast is (stated loosely):

- you have a bunch of "agents" with fixed characteristics (e.g., name, where from, profession, role in summit, preexisting social ties, etc.) and/or characteristics that change over time (e.g, social ties, level of participation)
- in each time interval (for example, a day of the summit, one particular session of the summit, an hour of the summit, etc.) one or more events happen, like a session or an act of god, and agents respond in diverse ways (e.g, one or more agents give a presentation, skip out and get a massage, etc.).. the same events do not have to happen in each tick.
- agents can respond to the behavior of other agents, and update their dynamic characteristics accordingly ... and Repast can display pictures of what is happening.

For the predictions, you just have to simulate the process forward, based on some sort of rule(s) for how you expect individuals to act given the events and how other people are behaving. You can output data from the model, and compare this to what we actually observe.

Hope this helps!

Elizabeth

From: Diamond, Sara
Date: Tue Apr 20, 2004 9:15pm
Subject: RE: Synopsis of simulation proposed

This is a great framework--how are you going to get the basic information from each participant? Maybe you need a little form for each of us to fill out...sd

From: Nigel Gilbert
Date: Tue Apr 20, 2004 0:11pm
Subject: Re: Focusing the task

May I jump in? (apologies for not doing so earlier - I am in the middle of giving Part 2 of a week's course on social simulation; in this second week the students each come with ideas for a model and we work on those ideas in small groups. Fascinating stuff - today we were designing a model to represent the market relationships between Norwegian fishing boar owners and the fish processors who buy their fish!).

Perhaps there is a useful distinction between two kinds of simulation (maybe one could be called a simulation and the other a reenactment?) . On the one hand there are models that are mainly descriptive and try to reenact as closely as possible previous 'real' events. Often these kinds of models are used to try to do extrapolations or predictions. Then there are models that are purposely a great simplification or abstraction of any particular event. Often these kinds of models are used to specify and/or refine a theory, and to understand the theory's implications. Because of the degree of abstraction, it is not usually possible to use the simulation to make direct predictions. Granted that this dichotomy is exaggerated for effect, which kind of model is being considered for the simulation of the weekend?

Nigel

PS I'll bring some NetLogo models to demo against the Repast and StarLogo ones...

From: Lantin, Maria

Date: Wed Apr 21, 2004 9:49am

Subject: RE: Focusing the task

What we are building is closer to the re-enactment/prediction kind of simulation. The objects and events in our simulation are based on what's happening (at some level of granularity), and the predictions are based on a model of social interaction during summits. This model will be fine-tuned as we go along I suspect. Any suggestions for starting points are welcome (see some later e-mails about the data we'll be working with).

M!

From: Neal Thomas

Date: Wed Apr 21, 2004 0:01pm

Subject: RE: Synopsis of simulation proposed

Howdy;

I'm enjoying the banter here as you all figure this out, I'm going to be listening in as a conference reporter, having a neophyte interest in social systems theory, and the interpretation of computer simulations from a media-ecological/communications perspective.

Might it be interesting to ask participants to submit a list of keywords in advance, that form a kind of thought cluster of what they're into on top of their profession and role in the summit? It would allow you to be a bit more idiosyncratic as parameterized identities. If we wind up mapping who talks to whom in what venue, then I could foresee these individual clouds of keywords combining in interesting ways, and that for someone who wanted to get value out of the simulation we wind up producing, plugging these overlapped clouds of keywords into Google maybe would yield some interesting resources.

Just a thought, thanks,

Neal Thomas

Asst. Professor, New Media

University of Lethbridge

<http://people.uleth.ca/~neal.thomas/>

From: Jim Parker

Date: Wed Apr 21, 2004 0:13pm

Subject: Re: Focusing the task

I guess I'm jumping in too. I have been 'lurking', as I said to Maria, partly being out of town and partly last week+ of classes. I also do not use 'yahoo', so I might be missing a few items. I am a computer scientist, musician, and other things I guess, who has worked on simulations since 1977 - discrete event models, mostly. For the past 6 years or so I have been teaching and then researching computer/video games; game technology, audio, and design, specifically for the purpose of training/teaching. A game is, of course, a simulation, albeit one that runs interactively in real time.

As such I am not sure what to do with the simulation that is being discussed here. I am not just being 'linear' when I say that time will seriously limit what can be done during the actual event. I suggest (if it is not too late) that we create an envelope or 'environment' with a set of loose rules that can contain all of the actual simulations that each of us create. We then create our individual simulations later and submit them, whereupon they will become part of the environment. When all are received the simulation will instantiate all of the models, which will interact with each other as we have coded them. The result could be quite interesting, but will not take final shape until well after the meeting. We can also adjust things until we are OK with what we have. Or has this been suggested already? This seems to be similar to what is being discussed below ...

Dr. J. R. Parker
<http://www.cpsc.ucalgary.ca/projects/vision/welcome.html>
Digital Media Laboratory parker@c...
University of Calgary 403-220-6784
ICT 715 403-284-4707 (FAX)

Also: University of Gent University of Calgary
Department for Applied Mathematics Faculty of Kinesiology
Biometrics and Process Control
Coupure Links 653, 9000 Gent
Belgium

From: Kris Cohen
Date: Wed Apr 21, 2004 0:16pm
Subject: RE: Synopsis of simulation proposed

I think that's a really good idea. I've been looking for ways to upset the necessary reductiveness of characterising people as sets of parameters. As a bad social scientist, and a worse scientist, I worry a bit about the relationship between people and their simulated representations (in that fretful way that is good-spirited enough, but helpful to almost precisely nobody). Neal's suggestion seems like a pretty good way to re-vivify things.

In general, and slightly off the productive, pragmatic track we've been on:
How do the people here think about the role of reductiveness in their simulations? Necessary evil? Something that can be gradually complexified over time and iterations? Or am I wrong in characterizing the simulations as reductive?

kris

From: Lantin, Maria
Date: Wed Apr 21, 2004 4:46pm
Subject: I need some help for the key questions

Hi everyone,

I was going to figure this one out on my own but I think it would be more fun if more people are involved. We need to format the questions that Sara outlined in the agenda (listed below), into yes/no/maybe questions. This needs to be done so the simulation data can be processed without natural language processing abilities.

So for the questions listed below, pick one or several, and restate in a way that is yes/no/maybe and captures the essence of the discussion that would happen around the topic.

GO! :

- How does the use of simulation shape our understanding of complex phenomena?
- How can we achieve a shared understanding of a model? What are the stages of building a metaphor from phenomena? Where does the original model fit into this (artist's model or computer artifact)?

- How can simulations be best applied to social problems and structures? What are the social applications of simulations in promoting democracy, stimulating debate?
- How can we meaningfully express the scale of the unseen? How can we express infinite/minute scales? Can simulation help to blend scales of simulation?
- If scientific realism is powerful because of its realism, then what is powerful about artistic recreation?
- How can simulation extract the unseen from language? What might these approaches tell us about an original, non-linguistic model?
- What are the aesthetics of simulation? Is data expressive? Is realism and reality the goal of all simulations, of some? How can simulation be used in prediction? Can results be compared against known real-world observations? What simulation media are appropriate for specific phenomena?
- How do we understand the new, hybrid, simulations that link the digital to the biological, or which are biological? Can and should we simulate the human body or mind?
- Are we living in a simulation? How do simulations and the unseen shape our sense of space and time within physical reality? How do simulation games operate as experiences? Do participants understand the game as another reality?
- What have we learned about how we understand the world through simulation—how does this enable or disable consciousness? What are the limits and failures of simulation?

From: Lantin, Maria

Date: Wed Apr 21, 2004 4:58pm

Subject: RE: Synopsis of simulation proposed

In my experience, once you choose a level of granularity for describing the objects in a simulation, it's hard to progressively refine it later. This is because the processes involved change quite a lot depending on the refinement of the objects they operate on; and vice versa. So for example, when I tried to introduce tropism in my biological simulations I discovered that my cell walls were not detailed enough to allow for movement without complete cellular breakdown. So I either had to redesign the cells which meant redesigning all the processes or I had to simplify the effect of tropism.

My (very hurried) 2 cents,
M!

From: Lantin, Maria

Date: Wed Apr 21, 2004 6:19pm

Subject: RE: Focusing the task

Maybe I'm the one being linear :) What do you mean by an "environment" and "loose rules"? Concretely what would you need to change in the data format proposed to achieve that? What new or different kind of data would you need?

M!

From: bc_a1

Date: Wed Apr 21, 2004 11:29pm

Subject: Post it notes

Hi everybody

Just to introduce myself...my name is Ben Coode-Adams. I am an artist and I work with Kris Cohen. I really like the way things are panning out. Our original impetus in suggesting the post-it note documentation was to show the invisible

interactions of the conference, because they are really fun and important. We like the way that using post-it notes creates a physical visible object that would probably be quite abstract, but might reveal interesting things like, actually all the real discussions happen in the ladies loo (something we have suspected for a longtime but not been able to prove!).

In this context of making quite an abstract object I really like Neal's clouds of interest idea. And I think Peter is right about time. My inclination with both the post-it notes and the computer simulation is to make a beautiful thing that might be Useful rather than a useful thing that might be beautiful. So I would go for simple elegant parameters for both the simulation that people will think is a laugh to participate in. These could be quite apparently insignificant like eye colour, favorite ice cream flavour, etc. I actually think that these are the types of things that people bond over anyway. It would take the pressure off. It would be great if both simulation and documentation could be visual because looking at things out of the corner of the eye is always good. I particularly dislike the idea of spies, someone mentioned way back.

Sarah Cook, Kris and I have been discussing, with various levels of enthusiasm dressing up as a component of historical re-enactment and wondered if there might be an opportunity for fancy dress at the conference. The only period that I think we could re-enact successfully is the late Roman Republic. Togas! Which led me to thinking that we could re-enact the famous toga party scene from Animal House, of which I only have the haziest memory.

Looking forward to meeting you all Ben

From: Jim Parker

Date: Thu Apr 22, 2004 6:16am

Subject: Re: Focusing the task

I refer to a software environment in which our representations interact. We would create the sorts of contact that would be possible and interactions that can be undertaken, but not *how*. 'Agents' that represented us would be set loose in this environment, which will also have a graphical and audio rendering.

The idea is like that of the 'java challenge' at the ACM programming contest. The students code a 'player' that competes with the others. Can of course cooperate too, or whatever. Anyway, the environment is the program/software environment in which the models/agents execute. <http://icpc.baylor.edu/jc/JC2004.pdf>

We would be able to define our character completely, instead of having a tool do that for us based on data. So, in fact, no data needed at this point. May be too complex, but the agents would actually do something that we wanted. I am not sure, in the current situation, what the model of me will be doing when I send in my data. Control freak that I am (programmer thing) I guess I worry that my 'representative' will do non-jim-like things. Would it not be out of my control and in the hand of the tool developer? What would be my contribution to the simulation, in fact?

From: Diamond, Sara

Date: Thu Apr 22, 2004 11:15am

Subject: RE: Focusing the task

Maria, I think the kinds of structure we were thinking of would allow you to start building the sim like Marc and some other suggested. Then, if Jim wants to run another set of rules against it, that would be fun too. But keep going at this point, cause time is chargin'!....Jim, you think of your rules from the data we are collecting which has been on the list serve...sd

From: cakewalk_intotown

Date: Thu Apr 22, 2004 1:27pm

Subject: Re: I need some help for the key questions

Hello,

Below: some possible questions. While I know next to nothing about computer-based simulation (I'm an interpretive writer and exhibit developer, interested in= simulation experiences in museums), I can't leave a call to formulate questions

unanswered. Not sure, though, that these questions will result in sufficient individualization and humour. I think the lighthearted questions about personal characteristics and preferences that Ben proposed may produce more intriguing results. But how to state these to solicit yes/no/maybe responses? Not sure yet.

Looking forward to seeing where this goes.

Best,
Randi Robin

- How does the use of simulation shape our understanding of complex phenomena?

Do those who model social interaction have a better time at cocktail parties?

- How can we achieve a shared understanding of a model? What are the stages of building a metaphor from phenomena? Where does the original model fit into this (artist's model or computer artifact)?

Do more people than not perceive the world as you do?

- How can simulations be best applied to social problems and structures? What are the social applications of simulations in promoting democracy, stimulating debate?

Would you run a simulation to decide on a course of action?

- How can we meaningfully express the scale of the unseen? How can we express infinite/minute scales? Can simulation help to blend scales of simulation?

Do you have a satisfying notion of what a photon is?
Can you envision a light year?

- If scientific realism is powerful because of its realism, then what is powerful about artistic recreation?

Do highly realistic graphics make the outcome of a simulation more credible?

- How can simulation extract the unseen from language? What might these approaches tell us about an original, non-linguistic model?

Do written words leave more to the imagination than spoken words?
Do you prefer to represent yourself with images?

- What are the aesthetics of simulation? Is data expressive? Is realism and reality the goal of all simulations, of some? How can simulation be used in prediction? Can results be compared against known real-world observations? What simulation media are appropriate for specific phenomena?

Do tactile components enhance the appeal of a simulation? Should a simulated encounter ever take the place of a real encounter? Is there a place you would rather experience through a simulation than "for real"?

- How do we understand the new, hybrid, simulations that link the digital to the biological, or which are biological? Can and should we simulate the human body or mind?

Would access to a simulated human mind or body improve your quality of life?

- Are we living in a simulation? How do simulations and the unseen shape our sense of space and time within physical reality? How do simulation games operate as experiences? Do participants understand the game as another reality?

Has your understanding of what is real ever been tenuous?

• What have we learned about how we understand the world through simulation—how does this enable or disable consciousness? What are the limits and failures of simulation?

Would you be willing to undergo a course of study that involved no human contact?

From: Lantin, Maria

Date: Thu Apr 22, 2004 4:03pm

Subject: RE: Re: I need some help for the key questions

Thanks Randi. That's awesome! The positions on key questions will only be a one part of the simulation data. Soon I will have the questionnaire finished and it includes more personal whimsical data points. These will be used in the simulation but also in creating graphical representations of the participants.

M!

From: W Bradford Paley

Date: Fri Apr 23, 2004 8:59am

Subject: Re: The proposed questionnaire

My answers are interspersed.

See you soon!

Brad

What is your usual daily rhythm?

Night person

What is your favourite animal?

indifferent

List up to 6 words that describe you?

tall thin middle-aged average-looking male

What is your eye colour

hazel

Do you like clowns?

Do you like parties?

yes

Who do you know that is coming to the summit

Ken Perlin

Mark Hansen

Sara Diamond

Who would you like to debate?

Who would you like to meet?

all

What type of simulation are you interested in?

social

financial

physical

biological

for the questions below please give an answer from 0-10, 0

is no, 10 is yes, 5 is maybe>

Do those who model social interaction have a better time at cocktail parties?

5

Can simulation drive us to conclusions that are far from where we started?

8

Do more people than not perceive the world as you do?

0

Does modeling the world to simulate it beg its own question?

0

Will we achieve an adequate shared model for the simulation of the summit?

0

Would you run a simulation to decide on a course of action?

10

Are simulations of social problems convincing enough to produce policy changes?

3

Do you have a satisfying notion of what a photon is?

5

Can you envision a light year?

0

Is the blend of simulations at different scales the search for the "unifying" equation? Do highly realistic graphics make the outcome of a simulation more credible? Can an artistic recreation be used side by side with scientific realism for a combined effect?

10

Do written words leave more to the imagination than spoken words?

8

Do you prefer to represent yourself with images?

5

Is there an original non-linguistic model? Do tactile components enhance the appeal of a simulation?

10

Should a simulated encounter ever take the place of a real encounter?

5

Is there a place you would rather experience through a simulation than "for real"?

10

Would access to a simulated human mind or body improve your quality of life?

6

Can you envision a simulation that can answer the question "what should I do" for everyone individually?

0

Would you trust a simulation to assess the risk of an impending surgery on your body?

8

Has your understanding of what is real ever been tenuous?

9

Can we simulate ourselves out of the "brain in a vat" question?

0

Would you be willing to undergo a course of study that involved no human contact?

5

Can you credibly create a simulation that proves any point of view?

0

W. Bradford Paley

From: W Bradford Paley

Date: Fri Apr 23, 2004 9:05am

Subject: Re: The proposed questionnaire

Oops.

Please pardon the mass-mailing; it was meant just for Maria.

With Chagrin,

Brad

From: Lantin, Maria

Date: Fri Apr 23, 2004 11:57am

Subject: RE: The proposed questionnaire

I think having the answers optional is one way to reduce the onus. Should we add more personal characteristic questions? Like favourite ice cream colour, favourite season, so on?

M!

From: Warren Sack

Date: Fri Apr 23, 2004 2:53pm

Subject: Re: The proposed questionnaire

hi all, if we are going to get more personal with the questions (favorite ice cream, etc.) perhaps we should use all set up profiles on something like friendster and then we could web-crawl our profiles and the profiles of our immediate friendsters and colleagues?

the questions about simulation sound like interesting discussion questions for the summit, but like pretty dry material for a simulation. would such a simulation built on these responses be a simulation about our opinions about simulation?

if we are going to do a social simulation, it might be interesting to use some of the work that has been done in political science. Stephen Slade's work from 1996 and before was an interesting qualitative model of political influence, social networks and congressional decision making: <http://pages.stern.nyu.edu/~sslade/vote/>

I am surprised that our discussion has not really touched on the many artistic investigations into simulation from Duchamp's readymades, through various spoofs, ironic reconstructions and counterfeits of everyone from Sherry Levine to Jeff Koons to the look-alike websites of c5's Brett Stalbaum and other net.artists (cf., <http://www.theamericancenter.net/>). don't we want to explore this territory too?

-warren

From: Lantin, Maria

Date: Fri Apr 23, 2004 3:31pm

Subject: RE: The proposed questionnaire

I like the idea of using friendster but I'm afraid (given the low response on the listserv these days) that it would not happen. The summit topic questions are there for two reasons:

- we mentioned being able to predict the slant of a particular session
- as data points to have some sense of shared academic interest. This will then be used to influence the probability of meeting someone, debating someone, joining a discussion group, walking away, etc.

I am ok with putting more personal questions in, with most being optional. The ones marked with a star will be necessary to answer. It's better to have more data than we need.

The programmers are very hard at work on this and as time is advancing things have to be nailed down quickly. Mostly we need data points for the agents so we can start building some good preliminary rules for the simulation.

M!

From: Lantin, Maria

Date: Fri Apr 23, 2004 6:43pm

Subject: Spam:Finalized Questionnaire (please respond!)

Here it is. Please please make an effort to at least respond to the ones with stars. For the key questions (the ones with an answer from 1-10) when you don't answer we will assign an answer of maybe. For the other ones, it will just be empty.

Thanks!

M!

From: Diamond, Sara

Date: Sat Apr 24, 2004 7:13pm

Subject: RE: The proposed questionnaire

The role of the questions was just one thin part-it was to see how people might position around certain key issues. The other questions need to be demographic and I agree, more personal. A few weeks ago when we started this, we talked about where people were from, perhaps why they chose to come to the simulation, did they know people who were attending, one thing they wanted from the event--who they wanted to meet. What kind of meeting?

Warren, can you lift the Friendster stuff out?

And, yes, artists simulations are critical to the event and the discourse....I suspect that there will be lots of debate about where these fictions/memories sit within scientific knowledge.

From: Warren Sack

Date: Sun Apr 25, 2004 8:25am

Subject: Re: The proposed questionnaire

here's a webcrawler for friendster if we want to download stuff from there automatically. i haven't used it, but i've heard it works fine: <http://www.washedashore.com/people/friendster/friendster2.html> author: ben discoe steve dietz recently mentioned him in his weblog entry on "six-degrees" and social networks: <http://www.yproductions.com/WebWalkAbout/archives/000377.html#more>

-warren

From: Warren Sack

Date: Sun Apr 25, 2004 8:37am

Subject: Response: : Finalized Questionnaire

*What is your usual daily rhythm?

cyclically unstable

What is your favourite animal?

cat

*List up to 6 words that describe you?

www.media.mit.edu/~wsack

www.sims.berkeley.edu/~sack

www.ucsc.edu/~wsack

*List up to 6 words that describe your interests?

art and technology, media theory

What is your eye

don't know

What is your favourite ice cream flavour?

Swiss almond vanilla

Do you like clowns?

yes

Do you like parties?

yes

*Who do you know that is coming to the summit

sara, sarah and mark

Who would you like to debate?

*Who would you like to meet?

everyone at the summit

*What type of simulation are you interested in?

artistic and philosophical

for the questions below please give an answer from 0-10, 0

is no, 10 is yes, 5 is maybe]

Do those who model social interaction have a better time at cocktail parties?

10

Can simulation drive us to conclusions that are far from where we started?

0

Do more people than not perceive the world as you do?

5

Does modeling the world to simulate it beg its own question?

10

Will we achieve an adequate shared model for the simulation of the summit?

0

Would you run a simulation to decide on a course of action?

0

Are simulations of social problems convincing enough to produce policy changes?

0

Do you have a satisfying notion of what a photon is?

0

Can you envision a light year?

0

Is the blend of simulations at different scales the search for the "unifying" equation?

0

Do highly realistic graphics make the outcome of a simulation more credible?

0

Can an artistic recreation be used side by side with scientific realism for a combined effect?

0

Do written words leave more to the imagination than spoken words?

0

Do you prefer to represent yourself with images?

0

Do tactile components enhance the appeal of a simulation?

0

Should a simulated encounter ever take the place of a real encounter?

10

Is there a place you would rather experience through a simulation than "for real"?

10

Would access to a simulated human mind or body improve your quality of life?

0

Can you envision a simulation that can answer the question "what should I do" for everyone individually?

0

Would you trust a simulation to assess the risk of an impending surgery on your body?

0

Has your understanding of what is real ever been tenuous?

0

Can we simulate ourselves out of the "brain in a vat" question?

0

Would you be willing to undergo a course of study than involved no human contact?

10

Can you credibly create a simulation that proves any point of view?

0

From: thenoisyghost

Date: Mon Apr 26, 2004 8:22am

Subject: Re: The proposed questionnaire

What is your usual daily rhythm?

Both a morning and a night person, oddly. Haven't cycled in three years. Was inside a stable once.

What is your favourite animal? (cat, dog, bird, love them all, hate them all, indifferent)

There are some animals I like to hang out with and other animals I like to eat. Which makes the whole issue very confusing and fraught.

List up to 6 words that describe you?

"Only the shallow know themselves." (Wilde)

What is your eye colour

Brown

Do you like clowns?

Yes, quite a lot actually. I like that they are the most funny when they are being the most serious.

Do you like parties?

Yes!

Who do you know that is coming to the summit

Brad Paley (who is much better looking than he admits in his response).

Sara Diamond (who is maybe the coolest person I know).

Who would you like to debate?

George W. Bush

Who would you like to meet?

John Kerry, Joss Whedon, Johnnie Depp (but not in that order)

What type of simulation are you interested in?

I would be interested in a simulation that combines all of those!!

for the questions below please give an answer from 0-10, 0 is no, 10 is yes, 5 is maybe

Do those who model social interaction have a better time at cocktail parties?

10

Can simulation drive us to conclusions that are far from where we started?

10

Do more people than not perceive the world as you do?

0

Does modeling the world to simulate it beg its own question?
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Do you have a satisfying notion of what a photon is?
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Can you envision a light year?
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Is the blend of simulations at different scales the search for the "unifying" equation?
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Do highly realistic graphics make the outcome of a simulation more credible?
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Can an artistic recreation be used side by side with scientific realism for a combined effect?
10

Do written words leave more to the imagination than spoken words?
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Do you prefer to represent yourself with images?
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Is there an original non-linguistic model?
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Do tactile components enhance the appeal of a simulation?
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Should a simulated encounter ever take the place of a real encounter?
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Can we simulate ourselves out of the "brain in a vat" question?

0

Would you be willing to undergo a course of study that involved no human contact?

10

Can you credibly create a simulation that proves any point of view?

0

From: chris creighton-kelly

Date: Mon Apr 26, 2004 7:55pm

Subject: please bring a 35 mm slide on Saturday morning

a warm hello to all:

note: would you please bring a 35mm slide to my presentation on Saturday morning.

I am Chris Creighton-Kelly, an artist, writer and critic.

I have keenly followed the ongoing discussions about our collective "simulation" that we are undertaking. a couple of weeks ago there was brief mention of 'simulating absence' --what was not being said, discussed, debated openly at the summit. many of us have had the experience of going to a conference/gathering/symposium and talking in the bar, the washroom, over a meal about the 'real' issues. then someone gets up enough courage to bring this up with 20 minutes to the end...most everyone applauds...the organizers briefly respond and there is a kind of frustration in the air.

i know that Sara d. tries to create gatherings that address this upfront, so i feel comfortable bringing it up again--can we model absence?

for me, 'absence' is not only about somehow modeling what is not said; but also who is not there and why; what assumptions/paradigms/worldviews are not present; how does our work effect (or not) these not present "others."

that's my small contribution for now.

PLEASE BRING THAT 35MM SLIDE WHEN YOU COME. THANK YOU IN ADVANCE.

warm regards,

Chris

From: Machiko Kusahara

Date: Mon Apr 26, 2004 8:18pm

Subject: Re: The proposed questionnaire

Hi everyone,

Sorry that I haven't been able to join the discussion, or even following the discussion fully. In Japan the new academic year and teaching starts in mid April. You know how it is during the first two weeks.....

I have a question, since friendster is brought up. For the past month I have been receiving quite many messages from my Japanese friends, all of them in media art or cultural studies, inviting me to join their Orkut network. It seems this idea has been widely accepted among them. On the contrary, so far I haven't received any email from my friends outside Japan. I wonder if it is just by a coincidence, or if there are different ideas on Orkut. This is also something related to the idea of simulation, and other issues such as identity, privacy, security, cyberspace, fun, etc. Does anyone has any idea?

Machiko

From: Julie Tolmie

Date: Tue Apr 27, 2004 5:06am

Subject: Re: The proposed questionnaire

some interesting comments about privacy:

Jeremy Zawodny's blog <http://jeremy.zawodny.com/blog/archives/001504.html>