

Funativitizing

an analysis of stuff to do in the Habitat™

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Board Games and Card Games

These don't map into *Habitat* very well. The mechanics of most of these sorts of games would be impossible to emulate without extensive additional programming, and would in many cases only result in a duplication of the games already available on Q-Link. I don't think that this is a profitable avenue to explore.

Computer and Video Games

Perhaps surprisingly, these also don't map into *Habitat* too well, and for the same reason: too much additional work to program them.

Conversation

Obviously, our system mechanics support conversation in the same vein as that supported by People Connection, with a slight additional visual element. To the extent that people want to use *Habitat* as a conversational channel, we should provide easily accessible but off-the-beaten-track spaces for this to occur. There are lots of different possible venues which we could support, the most obvious to me being:

- Relatively blank open plazas for people who just want to carry on a chat with minimum system load (i.e., People Connection emulation).
- Secluded places in the forest and in other nearby but out of the way nooks and crannies for private heart-to-heart chats, conspiratorial gatherings, meetings of covens, and so on.
- Public meeting areas for prearranged gathering of strangers (e.g., open meetings to solicit interest in forming expeditionary parties, Amway conventions, political caucuses, etc.)
- Semi-public meeting areas for special interest groups of all sorts.
- Ultra-secret meeting places for the really major conspiratory or criminal elements.
- Social spaces such as bars and restaurants for strangers to meet and become acquainted in.

Business

I doubt if we want to have Avatars going to their Avatar jobs to earn their Avatar paychecks to pay the Avatar mortgages on their Avatar houses. On the other hand, business has long been a fruitful source of material for games of all sorts, and I see no reason why we shouldn't have business and commerce in the *Habitat* for those who are amused by such things. Some people clearly enjoy being mercantile empire builders, and we want to encourage such people to get involved. To make business possible, we need some basic mechanisms, which I think we basically have — a monetary system and a means of exchange using it, and some simple tools for the automation of certain commercial activities (vending machines, ATMs, and so on). What sorts of business-like activities could a *Habitat* subscriber get involved in?

Let's look at "real" world business activities for a moment. We can divide the world up a number of different ways, but the following seems like a useful categorization for our purposes:

- *Production* of products or services that some customer(s) out there in the world wants for some reason. This encompasses most manufacturing, agricultural, and resource extraction type industries.
- *Delivery* of products or services to the customer(s). This includes retail businesses, direct-sales organizations, restaurants, etc.
- *Manipulation* of the business system itself for the purposes of accumulating wealth. This includes stock and commodity trading, corporate empire building, and some of the accounting, legal and insurance businesses.

A prerequisite for the first two of these is that there exist a market, i.e., that there be something that people want (enough to pay for) that they cannot or do not wish to provide for themselves. It requires some notion of value — some things must have intrinsic worth due to their utility (tools that do useful or interesting things), their rarity (gold and precious stones for example) or both. If these conditions are met, economic behavior of some sort is virtually unavoidable.

The first form of business requires the conversion of one sort of resource into another. The input resource can be almost anything — time, effort, rocks, etc. The output resource must be something for which there is a demand. The conversion process can either be an explicit conversion, where some machine, say, converts rocks into teleport escape devices for example, or it can be the result of simple effort on someone's part. For example, one could make a career out of finding rare and valuable artifacts in the wilderness and bringing them back and selling them at a premium, having saved the customers the bother and effort of going out and finding these things themselves. People are motivated to go into this sort of business for one or both of two reasons: 1) the conversion activity is in some fashion intrinsically interesting or compelling, or 2) money.

The second form of business involves acting as the middle-man between the customer on the one hand and the provider of the product on the other. People are motivated to go into this sort of business for similar reasons: 1) the interaction with the customer or the supplier is rewarding in some way, or 2) money.

The third form of business requires the existence of a market infrastructure: businesses as entities that can themselves be the subject of trade, exchanges where such trade can occur, and so on. This requires that the business organizations themselves be separable from the particular individuals associated with them and indeed that there are *organizations* as such. Business activity of this form involves the creation and nurturing of such organizations and the manipulations of the business infrastructure in various ways (i.e., "playing the market"). As before, the motivations for doing this are: 1) the machinations themselves are intrinsically rewarding, or 2) money.

Notice the similarity in the motivations behind all of these activities. However, be careful not to liken them to each other too strongly. Indeed, the motivations of a professional treasure hunter will be very different from those of a restaurateur or innkeeper which will in turn be different still from those of a Machiavellian tycoon.

The monetary motivation will only work if one (or both) of two situations can be made to apply. The first is that money has some intrinsic worth in the world that makes it somehow desirable to obtain. There must be desirable goods or services that can only be obtained by the accumulation of larger than ordinary quantities of cash. The second is that money is appealing in the abstract as some sort of score. The latter is, in fact, the model adopted by most business-oriented games. The best business games, however, also use money as resource that must be risked in order to achieve further gain, thus placing the player in an interesting decision-making position of some sort.

Activities motivated by the intrinsic interest of the activity itself perhaps ought not to be characterized as "business". Instead, we will cover a number of such activities as things unto themselves in the discussions below. Business, then, will remain Business, with the capital "**B**": activities whose primary motivation is, on the surface at least, the making of money ("Honey, we don't wheel & deal for money. We wheel & deal for fun. Money's just a way of keeping score!" — James Garner in *The Wheeler Dealers*).

One potential activity in the *Habitat* perhaps ought to be *The Business Game*. *The Business Game*, on the surface, is a stock market simulation. We set up the *Habitat Stock Exchange*, a fictitious entity somewhere off in never-never land. Stock prices are reported regularly in the *Investors' Daily Poop Sheet*, a document that gets updated periodically as stock prices fluctuate. Players at *The Business Game* can buy

and sell stocks using the funds from the bank accounts and orders sent via mail messages to their "broker" (the broker will simply be an automaton that reads the mail messages and executes the specified transactions). We can "prime" the stock exchange using the prices of real stocks in the real world or we could use fictitious stocks and some sort of bogus internal economic model. I tend to favor using real stocks (if it is legal to do so) as it makes the market fluctuations more predictable. Players would then make or lose money as the prices of their stocks rise and fall and would receive dividends as well. If this is as far as the game goes, fine, but I think we can make it more interesting by allowing Avatars to establish new corporations, issue stock, and trade this stock on the Exchange also. These corporations would have bank accounts, just like players, from which they could issue dividend payments to their stockholders, and they could also own property and play the stock market as individual players can. As in the real world, the way to increase the value of a corporation's stock is to increase the value of the corporation by making money and acquiring assets out in the world. This in turn means that these *Habitat* corporations would actually have to DO things. This could result in all sorts of interesting economic behavior motivated at its root simply by players trying to get a better score at *The Business Game*. To the extent that they are able to draw other (non-*Business Game*) players into their activities and schemes, the world becomes more interesting and more complex.

Politics

The *Habitat* has no intrinsic government per se, other than the system administrators attempting to ensure that persons committing certain sorts of particularly anti-social acts are not allowed on the system. All that is required for government of some sort to spontaneously form, however, is a group of people who wish to enforce some sort of rule or coercive power over some other (or possibly the same) group of people within a particular area. As soon as they attempt to do this you will have government of a sort, be it constitutional democracy or utter despotism. However, it is my personal belief that, given a large enough player population, the formation of such entities is all but inevitable.

Depending on how they work, player originated governments can either be a source of interest and conflict that serves to draw people in and absorb their attention or a source of irritation and distress that drives subscribers away. Obviously, we want the former to occur and wish to avoid the latter at all costs.

To avoid driving people away, I suggest the following strategies be employed: First, it should be possible to establish a border around an area, but we should make it very difficult, if not impossible, to have an absolutely sealed border. It should always be possible to emigrate from an undesirable area. Fortunately, teleport booths provide an ideal source of border "leaks". Only by guarding all the teleport booths in an area can that area be sealed off from the outside world. If, by chance, some very resourceful group is able to do this, the Oracle always has the option of installing more booths to make the task of guarding them all more difficult. Second, a means of relocating one's turf (by changing where it is connected to the rest of the world) should be provided, so that emigration does not mean enormous sacrifice. Third, areas should be provided that have established, stable governments of various sorts that by their very existence exclude the formation of something more repulsive.

We can experiment a little bit with the degree to which the stability of these regimes will be enforced by the system itself and the degree to which it will be enforced by the citizens. Some ideas we can play with include establishing weapons-free zones that preclude the major form of coercive behavior of one Avatar upon another, Oracular elimination or relocation of "undesirables" from a given area, and the practice of granting or denying requests made to the Oracle partially on the basis of the lawfulness (or lack thereof) of the behavior of the requester.

This all suggests another couple of interesting activities in the *Habitat* which I call *The Democracy Game* and *The King Game*. *The King Game* is the simpler of the two: we establish a part of the *Habitat* world that is The Kingdom, and some Avatar (it doesn't really matter who) is appointed King. The King has absolute authority and can call on certain powers of the Oracle to back him up (e.g., to zap the non-compliant, insubordinate, seditious or disliked). Anybody who bumps off the King becomes King. The King can abdicate at any time by appointing somebody else King. That's it. The King receives a score that is the population of The Kingdom integrated over the duration of his reign. The object of the game is, of course, to get the highest score. You get a bigger score for having a bigger population (i.e., it doesn't pay to extend your reign by killing everybody off or by driving them away and it does pay to induce people to

immigrate from other parts of the *Habitat*) and by staying King longer. Fun, eh?

The Democracy Game is quite a bit more abstract. In addition, it requires the involvement of a trustworthy party to act as moderator or referee in order to get the game started. As with *The King Game*, we set aside a chunk of the *Habitat* to be The Democracy. We endow The Democracy with a Constitution (the United States Constitution, suitably modified for the *Habitat* environment, is probably a good model to use). The moderator, using Oracular powers, acts much as the Americans did in Japan after World War II: decrees a Constitution, imposes order for as long as it takes to conduct proper elections to fill out the institutions called for by the Constitution, and then gradually withdraws, leaving the inhabitants to their own devices. The citizens then get to play politics for as long as it holds their interest. The game is to see how long the whole thing lasts before it decays into revolution or apathy. I'm not sure how we would assign a score or even if trying to assign a score would be desirable.

Travel, Tourism and Exploration

One activity that many people find enjoyable is visiting new places and exploring them. In the "real" world, tourism is a major industry. As with most of the activities discussed here, there are degrees of self-direction that people exhibit. Some people prefer packaged tours where everything is pre-arranged and all they have to do is go along for the ride. Others, more adventurous, prefer to tour on their own, perhaps with the aid of maps and guidebooks. Still others (a small group) prefer to explore virgin territory, going places where no one has previously been, places where there are no maps except those that the explorers create for themselves as they travel.

Such travel is motivated by many things. However, the main motivations as I see it are twofold. The first is that the places to visit are intrinsically interesting: there are sights to see, things to do, and people to meet. The second is curiosity: people just want to know what is on the other side of that hill.

Travel and exploration are obvious activities in the *Habitat* as well. Parts of the world that are interesting to look at will, of course, become attractions. Given the relatively low level of graphic complexity we are able to support, however, I suspect that this will not become a major driving force. On the other hand, since interesting activities will be located in different parts of the world, people will have to move around in order to partake of them.

As the population of the world grows, its social geography will become more complex. Many parts of the world will not be distinguished from each other by their physical features but by their sociological features. This will be especially true if we give players the opportunity to relocate their turf to different parts of the world. Different communities will attract different sorts of people, giving each area a character of its own. The socially adventurous will want to visit different parts of the *Habitat* to experience the "strange" folk that inhabit those places.

I think that local exploration will be a significant activity. People want (and need) "mental maps" of the area around them, even if they are not interested in exploring the entire world. Although we will provide written maps of the "civilized" regions, many people don't deal well with maps and no map can substitute for direct experience anyway. I think it is inevitable that almost everyone will spend a certain amount of time, at least initially, just wandering around and familiarizing themselves with their surroundings. However, such acts of familiarization should not be confused with the activity of the serious traveller or explorer.

The serious traveller is the person who wants to "see the world". He wants to visit all the different places that there are, to experience for himself what they are like and how they are connected to each other. The traveller is stimulated by the diversity of the world. The serious explorer, on the other hand, is the person who wants to go places other people haven't been, to be the first to discover hidden treasures, magic places and mysterious connections, to be the one to map out virgin territory. The explorer relishes the challenge of finding his way on his own, without the guidance of those who have been there before. The explorer likes to be the one to bring the news of what lies over yonder.

The above discussion suggests *The Travel Game* and *The Exploration Game*. *The Travel Game* is quite simple: try to travel as widely as possible and visit as many different places as you can. It's quite informal, as we can't afford to keep track of where everyone has and hasn't been. The object of *The Exploration Game* is to visit places nobody else has been before. This we can keep track of, simply by giving

every region a bit that indicates whether it has ever been entered. We increase your Exploration score every time you enter a previously unentered region. This can be moderated more formally, by announcing in the *Habitat* newspaper when new chunks of the world are opened up and then sponsoring prizes for exploration of the new territory (with perhaps a special prize for whoever creates the best map).

Sex

I mention this for the sake of completeness, since vicarious sexual activity seems to be a major purpose to which online social systems seem to have been put. I don't think ours will be an exception, but I suspect that such activity will be less prevalent in the *Habitat* than elsewhere. The reason I suspect this is that pure text-based chat utilities are "theater of the mind", whereas *Habitat* is not. Since these systems have no graphic dimension to speak of, they rely heavily on imaginative visualization, and so, in some sense, all things are possible. This is effective because people are acting out their fantasies. *Habitat* provides its own visual channel that overrides the imaginary one. It is to ordinary chat systems as television is to radio. Since we have not endowed Avatars with any primary sexual characteristics or abilities (though it has been suggested semi-seriously by a surprising number of people), *Habitat* is not well equipped to support the sorts of sexual activity that goes on in chat systems.

Reading, Literature and Poetry

The text handling facilities in *Habitat* are quite primitive, intended for the passing of short notes and pre-formatted online documents. Thus, I don't think that there will be much literary activity as such. However, Q-Link already supports something called the *Cafe Bozart*, which purports to be Parisian sidewalk cafe in which the primary activity is literary intellectual conversation. The additional dimensions of communication that *Habitat* provides, via gestures and the spatial relationship between the conversing parties, may well appeal to the small but dedicated group of aficionados of this strange establishment. This, at least, was the surmise of the Cafe's proprietor when I spoke with him on my visit to Virginia in April.

Religion

Religion, in the context of *Habitat*, can be considered in two completely separate ways. The first is the theological and mythological underpinnings of the *Habitat* fantasy itself. The second is the activity of religious persons who are inhabitants of the *Habitat*. I will discuss the latter first.

Oddly, the two (non-techie) demographic groups which seem to have taken most readily to online systems as a means of communications and of community formation are gays and Christians. I will try to avoid letting my personal prejudices enter the discussion here, other than to mention that an Oracle sponsored "Kill A Christian For Cthulu" campaign might be an amusing diversion (*I'm joking, Steve*). It does occur to me that the Christian community might want to establish churches inside the *Habitat*, and in the interest of egalitarianism we ought to provide a means for doing this. All this would require would be that certain spaces be set aside to have church regions plugged into them as requested by the community.

Habitat itself, however, has something of a religion of its own: it has a deity — the Oracle — and a limited but reasonably accurate theology. The Oracle exists, can be communicated with, can affect the world in powerful ways, and, in fact, can be said to have created the world. Furthermore, unlike real-world religions, these statements about a Greater Being are demonstrably true! It remains to be seen what additional superstitions about the Oracle will be generated by people on their own. Given the mechanisms we have defined, however, it does seem that there will be an informal activity that I call *The Religion Game*. This game consists of the ongoing interaction between the inhabitants of the world and the system operators, in which the players ask questions of the Oracle and ask wishes from genies in magic lamps, and the system people answer the questions and twiddle with the world. The object of the game is for the people on each side to try to demonstrate that they are more clever than the people on the other. You think I am maybe joking? Watch!

It may be that people establish churches of the Oracular religion and invent bizarre practices of worship. It will be interesting to observe the interactions between these people and the Christians.

Theater, Television and Movies

Habitat contains no presentation medium of the sort provided by a television set or a movie screen. Theatrical drama, though, is still quite feasible. However, such drama will be more in the vein of street theater than that of a staged production. This is due to the limitation on the number of Avatars that may occupy a region at any one time. Given the current limit of six, both the audience and the cast have to be quite small, and they are thrown together in a rather intimate setting, as theater goes. Audience participation theatrical role playing is another thing that the fellow running the Cafe Bozart wants to experiment with. I think it could be interesting.

I think there are some interesting possibilities for role-playing games (not the Dungeons & Dragons variety but the pop-psych variety) in here somewhere, but I need to give it more thought.

Camping and Hiking

These are experiences that don't map into *Habitat* very well on their own, since they hinge on the kinesthetic and environmental elements of the great outdoors. However, there is a closely related activity which could be a nice fit: *Orienteering*. Orienteering is a solo sport that involves finding your way through unfamiliar territory using maps, landmarks, and your wits. With a large enough world, it will be possible to plot out a wide variety of orienteering courses. Someone would have to take responsibility for planning and organizing competitions, but that is the sort of thing that is relatively easy to get interested volunteers to do.

Spectator Sports

Spectator sports won't work very well in the *Habitat*, for the same reason that movies and the like don't work: you can't get enough people in one place at a time. Furthermore, such sports are rather passive, in the sense that the audience does not do much except watch. *Habitat* is a participation-based medium rather than a presentation-based one, and I suspect that such things as spectator sports would not come across well, given our graphics limitations.

Participatory Sports

Participatory sports, on the other hand, fit in quite well. The traditional team sports, such as football, baseball, basketball, and so on, will not work, but there are certainly others that will. To work, a game must be geographically spread out and can't require observation of the entire play area at once. It also cannot rely on the traditional athletic sorts of skills and activities, such as running around and throwing and catching balls. Some games that *do* map well into *Habitat* include:

- *Capture The Flag* is a game that most people probably associate with summer camp, but which could be played quite readily in the *Habitat*. A game could be set up in a special area of the world set aside especially for that purpose (with, presumably, strategically placed obstacles and so on) or it could be played on top of some pre-existing area in the midst of everyone else going about their normal activities.
- *The Survival Game* has recently become popular in certain circles. This is a slightly more blood-thirsty variant of *Capture The Flag*. In *Habitat* we would probably want to use stun-guns (which would temporarily disable a player) or teleport-guns (which would zap the victim off to some other part of the world, out of the action). The playing field options are the same as with *Capture The Flag*.
- *Assassin* is another somewhat martial sport, popular on some college campuses. As with *The Survival Game*, the participants would probably be armed with stun-guns or teleport-guns, though a variant for really serious players could use "real" guns, making the stakes somewhat higher.
- *Scavenger Hunt* is an obvious possibility, and certainly less violent than some of the above ideas. There are lots of strange artifacts in the world that could be left lying around to make a scavenger hunt challenging and interesting.

All of the above games require an organizer to set things up and to referee the play. Such organization could be performed by system people or by player volunteers. Probably we'd want system people to do it initially, to get the ball rolling, and then turn it over to the volunteers once the bugs were worked out

of the rules and procedures.

Fantasy Role Playing Games

FRP games are a natural fit for the *Habitat*. While graphically it does not have the gothic trappings associated with *Dungeons and Dragons*, it does share a structural similarity (as well as some cultural heritage) with the FRP model of reality. I think we will have little difficulty attracting FRP enthusiasts. There are some significant differences between the way *Habitat* works and the way FRP games work (other than the obvious one that *Habitat* is done with computer graphics) that deserve discussion, however.

An FRP game is typically moderated by a human referee (e.g., the "Dungeon Master" in D&D) who generates the fantasy world, describes the goings on to the player, arbitrates the actions taken by the players, and controls the various elements making up the world, such as what are called "Non-Player Characters" or NPC's. *Habitat* has no such human moderator: though human operators can and will intervene in the goings on, they do not directly control everything that happens. Instead, computer generated displays described the goings on to the players and the software arbitrates their actions. There are no NPC's. All characters have players behind them, since the system can support a large enough population to make this feasible, while it can't hope to generate good enough simulacra to control the characters itself in a plausible manner.

The major creative contribution that an FRP moderator makes to a game, however, is in the pre-game setup. He establishes the scenario, designs the world, and fleshes it out with details and characters that make it interesting and provide challenges and thrills for the players. *Habitat* will clearly have a place for people to fill this role.

Obviously, the moderator has a different set of constraints to operate under than that associated with the rules of a typical FRP game. He has to work with the building blocks provided, with limited ability to set up new objects or new capabilities that are not already resident in the C64 software. Since these building blocks can be combined very flexibly and since (we hope) they will provide good coverage of the space of possible things that the system can potentially do, I do not anticipate that this constraint will be a roadblock. It will, however, require the moderator to think in somewhat different terms than he may be used to.

Also, all characters in this world have real human beings behind them. Thus, to generate a situation that involves encounters between the players and other characters, the moderator must recruit additional players to fill the roles of the other characters. This, to me, is an interesting challenge. A skillful moderator should be able to set up multiple interlocking scenarios in which the players in one scenario are the background characters in another, with a relatively small number of volunteers taking on "spear carrier" roles. These latter players could, in fact, be "ringers" throw into the mix by the moderator to liven things up for everyone else, much as a court jester might stir things up in medieval times.

As the scenarios progress, the moderator would step in from time to time, using Oracular powers to keep things moving along at an enjoyable pace. However, the oversight exercised by the moderator would be much lighter than that required for a traditional FRP game, enabling him to supervise a much larger and much more diverse group of players and activities.

I will not discuss specific scenarios here, as such discussion could go on indefinitely. However, it would perhaps be fruitful to involve some experienced FRP moderators in such a discussion soon (even if they *are* geeks).

War

There are two largely independent forms of war that are worth discussing in the context of *Habitat*. I call them "play war" and "real war". These terms are in quotes because the reality I refer to is a very slippery notion.

Play war is wargames: warfare as an abstract activity for the amusement and intellectual stimulation of the players. The issues under dispute, if any, are contrived for the sake of a good rationale for the scenario. The players, though they may take the game seriously as a game, are not party to some sort of personal conflict. The fighting is conducted within the context of some pre-arranged situation and within the confines of some set of rules.

Real war, on the other hand, revolves around a genuine conflict between people. This conflict can in turn be subdivided into two types. First, there may be disputes *internal* to the socio-political structure of the *Habitat* itself, where, for example, different groups disagree violently on issues of control over a particular section of the world. Second, there may be clashes between groups or individuals motivated by *external* conflicts of personality or ideology. For example, I could easily envision such a tiff developing between the online gay community and the fundamentalist Christians. Whereas on ordinary systems such people could wage a war of words, exchanging bulletin board postings full of argument and denunciation, in the *Habitat* they can express themselves in a more dramatic fashion.

I will discuss each of the above categories of warfare in turn. An essential observation, however, is that this categorization is given largely to provide a means of analysis. In reality I suspect that the dividing lines between them will be rather blurry.

Play war is, in some sense, simply a more elaborate team sport than any of the games previously discussed. Depending on the rules and the situations we establish, the battles can range from simple, stylized combats lasting a limited time to elaborate extended campaigns that rage continuously for months or years. Traditional wargamers will be attracted to these, so I think they are worth setting up. As with other team sports, some sort of referee or moderator will be required to make sure the sides are balanced, that the rules are workable, and that the rules are obeyed. Particular attention should be paid to rules regarding behavior toward non-combatants, so that overly rambunctious (rambo-ntious?) gamers do not drive non-wargamers of the system with their antics.

Another avenue worth exploring is to embed the militaristic elements in a broader socio-political simulation, creating fictitious nation states that have some built-in conflict. Various players would take on the roles of soldiers, officers, statesmen, diplomats, and so on. Each role would have associated with it a particular agenda — the diplomats being biased toward negotiated settlement for example. This sort of simulation is distinguished from our next subject, *real war* of the internally motivated sort, largely by the fact that it is governed by rules and because the conflicts, such as they are, are designed into it.

Internally motivated *real war*, if it occurs, is interesting because it will mean that the players have “bought into” the *Habitat* version of reality. Its desirability is a somewhat more slippery issue. From an economic standpoint, as long as a conflict is engrossing for those involved in it, it is desirable. Once they start being turned off by it, we start losing business and then it becomes undesirable. From a psychological standpoint, we need to be concerned with the effect the conflict is having on those involved, and in particular the ways, if any, that it is spilling out into their non-*Habitat* lives. Clearly there is a balance point between providing an attractive and useful laboratory of social experimentation on the one hand and providing a psychological meat grinder that messes up people’s minds on the other. I am not sure where this balance point lies, though my intuition tells me that the natural equilibrium point of the system will fall somewhere on the desirable side.

Externally motivated *real war*, on the other hand, appears to me to be potentially very dangerous. Though I might be tempted, for example, to go around tossing grenades into gatherings of fundamentalists, I know that our real-world traditions of tolerance and even-temperedness have evolved for very good reasons — namely that such behavior can quickly escalate into uncontrolled waves of violent conflict that leave no one unhurt. In the *Habitat*, however, people are removed from many of the real-world inhibitory constraints that make civilization possible. It will be part of the Oracle’s responsibility to try to damp certain kinds of anti-social tendencies on the part of players, at least until functional social institutions develop inside the *Habitat* to cope appropriately. We have a moral obligation to be very conscientious in playing this role.

Another topic to consider, unrelated to the above discussion, is the form that warfare in the *Habitat* will take. It will not be warfare in the traditional sense, with large armies moving *en masse* across the countryside wielding weapons of mass destruction. For one thing, there are no weapons of mass destruction in the world, unless we choose to create these things ourselves (and we will not) and there is no means for players to create such weapons on their own. In addition, the limitation of six Avatars per region precludes mass action. Instead, I think that *Habitat* warfare will be more like gangland warfare, with small groups striking strategic points at relatively infrequent intervals.

Amusement Parks

The major amusements at amusement parks are rides, food and games of skill. We can't do the first two at all, and the third is tricky (since we don't have a truly real-time system) and would require special software. I think, therefore, that amusement parks will not be a fruitful avenue to explore.

Computer Hacking

I will admit up front that the following proposal is a little bizarre...

One of the considerations in the design of the object model of the world and the communications protocol that makes it possible was that there should be no way that someone could obtain undue advantage by tinkering with the software in their own home computer. By this we mean that they should not be able to cheat by having their machine provide bogus, misleading information to the host or by having it issue commands or requests which the software as distributed would not permit. One of the consequences of this design is that any computer which speaks the communications protocol correctly must be considered to be legitimate. There is no way we can enforce a restriction that player machine be running exactly the software we have provided. It could just as easily be running a "hacked" version of our software or a completely new system of some player's own creation. Though it would be among the odder things to do in the *Habitat*, we could, in fact, encourage this in certain ways, if we so chose.

We could, for example, publish a specification of the communications protocol (which actually might be safer for us than leaving it to somebody else to reverse engineer it). We could even, if we wanted to get really off the wall, publish a toolkit to write systems that talk to *Habitat*.

Why would someone want to do this, if no undue advantage can be gained? An amusing activity for the really hard-core computer geeks could be the creation of automata to control their Avatars in the world — in essence, player-programmed robot Avatars. This is the sort of challenging problem that would appeal to the dedicated computer hobbyist.

But wait, there's more!

You could, for example, write a program to allow your Avatar to provide some service to other players in the world when you are not around to control it yourself, and so your Avatar could be earning extra tokens while you sleep. The reason this is interesting to us is because Quantum Link charges by the hour, and this provides a motivation for people to hook up to *Habitat* even when they aren't around to participate themselves.