Remaining Habitat tasks

What follows is intended to be an exhaustive list of the remaing implementation tasks in the Habitat project. They are listed in very rough order of priority, ranked in groups from most important to least important.

Generate the world --
Immense ongoing task to make the Habitat an interesting place to visit.
Priority: very high
Who: everyone
Time: open ended, needs planning for immediate next stages
Status: first piece of world is almost ready, various other pieces in various other states of design/implementation

Teleport network --
Basic long-distance random-access transportation system.
Priority: high
Who: Janet to implement teleport number lookup mechanism in host; Chip and Randy to test and debug related object behaviors
Time: less than 1 week?
Status: C64 components all work, though they haven't been tested in concert as there is no way to do this; host object behaviors are all written, but untested due to lack of number lookup mechanism; everything awaits the teleport number database and associated access routines

More heads --
We would like to have 100 or more different possible avatar heads by release time.
Priority: high
Who: Aric to coordinate; Gary and others to generate artwork
Time: variable and ongoing
Status: 20 heads and counting

Sex change device --
Aric has added sex to avatar torsos. We need a device to let players choose their avatar's sex.
Priority: high
Who: Chip to implement object; Aric to handle graphics
Time: 1/2 day
Status: undone, but trivial

Version update --
We now have the ability to update the players' object disks remotely. We need a mechanism in the host to use this ability.
Priority: high
Who: Janet to implement; Chip to advise
Time: a few days
Status: not done

Avatar death --
In theory, avatars can be killed in combat. We still need to define a plausable combat resolution mechanism and to implement the actions that take place when an avatar actually dies. This includes defining what reincarnation REALLY means.
Priority: high
Who: Chip to design, in consultation with everyone else; Chip and Janet to implement in host
Time: several days
Status: not done

Sound effects --
    All the objects need appropriate sound effects.
        Priority: high
        Who: Chris to create sounds; Chip and Randy to integrate with objects
        Time: a week or so for sounds to be finished, a day or two to
                integrate and test
        Status: roughly 60% of sounds are done, others are progressing nicely

Q-3 upgrade --
    Make it work with the latest rev of the Q-Link software.
        Priority: high
        Who: Randy to advise Quantum; various Quantum folk to implement
        Time: negligable
        Status: should just work, but hasn't been tried

Collision detect/adjacency check in host --
    Routines in host to make sure avatars don't walk through things, etc.
        Priority: medium to high
        Who: Chip to implement
        Time: 1 hour to implement, another to test
        Status: basically done, needs to be activated

Region entry and exit daemons --
    Mechanism in host to run region-specific routines on entry or exit to
    particular regions.
        Priority: medium to high
        Who: Janet to install hooks in host; Chip to implement daemons
        Time: unknown
        Status: not done

Capacity handling --
    We want the host to be able to keep track of how much memory the players'
    C64s have left, so that it can decide whether there is room for new
    objects to appear or not. This requires that the host have a database of
    the class information on the C64 object disk (it can't just keep a size
    number for each object since objects can share overlapping resources).
        Priority: medium to high
        Who: Janet and Chip to implement; Chip to provide the data
        Time: 1 week
        Status: this is a hairy pain in the you-know-where; in particular, it
                is unclear how this information will be stored in the host
                (i.e., in memory or on disk); fortunately, it is not urgent,
                as other, simpler strategies can be used to satisfice in the
                meantime

Hole and shovel objects --
    These are a couple of objects useful for Randy's initial adventure
    scenario, among other things.
        Priority: medium to high
        Who: Randy to implement C64 behavior; Chip to implement host behavior
        Time: less than 1 day
        Status: C64 behaviors basically written, needs integration with host
                and definition of objects in host database.

LRU memory reclamation --
    A more clever algorithm to determine which old data to throw away when
    more memory is needed in the C64.
        Priority: medium to high
        Who: Randy to implement

Time: 1/2 week
Status: not started; a lot of work to debug

Oracle --
The host end of the oracle needs to be implemented. The oracle takes a number of forms, most notably the fountain and the genie in the magic lamp.
Priority: medium to high
Who: Janet needs to implement the host stuff for this
Time: unknown
Status: all the C64 stuff is there, and the host object behaviors are there; we are missing the host software to allow operators to communicate directly through the oracle and for things said to oracles to be logged for future attention

Hall of records --
The hall of records will probably wind up being a book of records instead, but in any case the records to be kept need to be defined and the mechanisms to collect the information required to keep them up to date and the database required to store them must both be implemented.
Priority: medium to high
Who: Chip to decide on records to be kept, in consultation with the rest of the crew; Janet to implement record collecting and storage facilities on host; Chip to assist in host implementation to the degree this is possible
Time: several days, though ongoing since we could think of new records to keep at any time
Status: not done

New user signup --
When a new user signs up to play, several things need to be done: he needs to pick a name (for mailing purposes, if nothing else) and a sex, he needs to be assigned a turf, his avatar needs to be generated and any other worldly goods generated and placed. This all happens in the host, though some sort of dialog at the Q-Link level is probably best for getting the name and sex choices.
Priority: medium to high
Who: Janet and other (unknown) Quantum folk to implement
Time: unknown
Status: not done

God --
Various tools are required to give the host-based operators control over the goings on in the world. The C64 already has a means of arbitrarily creating and deleting objects on command from the host, though we still want to add a way to arbitrarily fiddle with an object’s state from the host. We also need to implement the hand-of-god object on the C64 to allow operators to zap things dramatically. The host needs a set of routines to command these various capabilities, and some sort of interactive utility to allow the operators to monitor the activity in any region and to invoke the special command routines.
Priority: high to low, depending on the piece in question
Who: Randy to implement the state twiddler behavior; Aric and Randy to implement the hand-of-god in the C64; Janet and Chip to create the command routines; Janet to implement the region monitoring routines; unknown Quantum people to implement the interactive operator utility
Time: a few hours for the state twiddler, a 1-2 days for the hand-of-god, 1-2 days for the command routines, an unknown amount of time for the other host-based facilities

Status: most of the pieces are laying around, they need to be glued together though; the design of the operator's utility needs to be more carefully thought out.

Region transition --
Implement some sort of sequence to occupy the time it takes to get from one region to the next. Current plan is to blank the screen and play an appropriate sound effect (e.g., footsteps when walking, whizzy flying-through-the-ether sounds when teleporting).
Priority: medium
Who: Randy to implement; Aric may have to help with screen blanking (maybe not as is simple); Chris to do sound effects
Time: less than 1 day
Status: I believe the sound effects are already done

Chairs --
Code to allow chairs and other seat-like objects to work as containers (i.e., so that you set things on them) and to allow avatars to sit down in them and get up again. Required to make chairs something more than just decorations.
Priority: medium, but possibly these ought to be removed from the design?
Who: Aric to implement graphics; Randy and Chip to implement C64 behavior code; Chip to implement host behavior code; Janet may have to change the host database engine slightly.
Time: several days
Status: awaiting, among other things, a design decision as to whether we even should bother

Bandwidth reduction --
Cheap trick to cut communications bandwidth requirements 25%-50%.
Priority: medium
Who: Randy to implement on our end; Janet to implement in host
Time: minutes to hours
Status: already done, but currently de-installed in order to ease debugging of other things; should just work

Operations procedures --
Create a guidelines document for system operators, geek gods, and similar folk that lays down the rules for managing the universe.
Priority: medium
Who: Chip to create; others (both here and at Quantum) to advise
Time: several days
Status: just thinking about it for the time being

Mail system --
Basic mechanism for person-to-person and broadcast non-real-time communications.
Priority: medium
Who: Janet to implement mailer in host, including address lookup mechanism; Chip to implement object behaviors in host and C64; Randy to assist with C64 behaviors
Time: 1 week?
Status: building blocks on our end are the paper and mailbox objects; the former is done, the latter is done but untested, awaiting unimplemented host mailer mechanism

Final manual --
We need to generate the final draft of the manual.
Priority: medium

Who: Chip to rewrite; Gary to do some artwork; other Quantum people and LFL people to coordinate design and production
Time: a few days to rewrite, who knows how long for the rest?
Status: we have the basic manual complete, it just needs some revisions and illustrations to bring it up to date to the current concept of the system

Key object "do" behavior --
This will provide a means for distinguishing one key from another, for those people who have lots of locks.
Priority: medium
Who: Chip or Randy to implement in C64
Time: less than 1/2 day
Status: not done

Stun gun object --
Will provide an alternate (less deadly) means of conflict between avatars. Useful for mock battles and the like, among other things.
Priority: medium
Who: Chip or Randy to implement in C64; Chip to implement in host.
Time: 1 day
Status: this *may* be doable with a special case of gun behavior with no change at all to the C64 software; otherwise unimplemented

Independent object motion --
Graphics to allow objects to change location on the screen independent of avatar animation. Needed for throwing to look right, and to make possible certain other minor objects (e.g., windup toys).
Priority: medium to low
Who: Aric to implement graphics; Chip and Randy to implement C64 behavior code to use it
Time: 2-3 days
Status: not done

Telephones --
Basic mechanism for person-to-person real-time remote communication.
Priority: medium to low
Who: Janet to implement interprocess communications structure and telephone number database lookup mechanism; Chip to implement object behaviors in host and C64; Randy to assist with C64 behaviors; Aric to add choreography for phone handling.
Time: 2-3 weeks?
Status: interprocess communications paths figured out, underlying host code otherwise on hold and unimplemented; host and C64 behavior code written but never tested

Failure recovery --
We would like the C64 to be able to recover from certain catastrophic failures by (essentially) rebooting and getting all-new region description information from the host.
Priority: medium to low
Who: Randy to implement; Chip to kibitz
Time: a few days
Status: this is one of those things that looks better in the abstract than in the concrete; we probably won't do it, since 1) any error bad enough to require this is probably bad enough to mess the C64 up enough that it can't do this even if it wanted to, and 2) such errors shouldn't occur anyhow.

Night and day --

We have figured out a simple graphics trick to make it look like night in any region. This is useful for implementing a true day/night cycle as well as for darkening caves and the like.

Priority: low to medium
Who: Aric to implement graphics; Randy to integrate graphics with behaviors; Chip to implement appropriate host behaviors; Janet to implement time-based elements (i.e., day vs. night according to a clock) in host.
Time: 2-4 days
Status: on hold

Improved patterns --

The present set of patterns we have is kind of yucky. It would be nice to create better looking and more useful patterns.

Priority: low
Who: Aric to install; Aric and Gary (?) to design
Time: less than 1 day
Status: not done

Region specific object sets --

Mechanism to enable object disks to be swapped, allowing different parts of the world to have radically different object sets.

Priority: low for now, high later
Who: Randy to implement; Chip and Janet to handle region terrain-type transition in host
Time: several days
Status: on hold

Music --

Need music player mechanism and music for the jukebox and tape player objects.

Priority: low
Who: Randy to implement music driver; Chris to advise; Chris and ? to create music (music creation can be an ongoing activity once the mechanism is installed); Chip to implement behavior code to use it
Time: less than 1 day for music driver, arbitrary time for composition, 1 or 2 days for behaviors
Status: on the back burner for sure

Bus system --

A form of collective transportation...

Priority: low, probably will remove from design
Who: Janet to implement basic mechanism in host; Chip to implement behaviors in host and C64
Time: days and days
Status: not done, probably not worth doing

Shouting --

We figured out an extension to the player interface to allow players to talk to adjoining regions by "shouting".

Priority: low
Who: Janet needs to add some interprocess stuff in the host to make this happen
Time: days?
Status: not started; may not be done, as is a lot of hassle for relatively small return

Grenade timer --

After some thinking, we finally devised a very clever mechanism to be the

timer for the hand grenade object. This needs to be installed in the host.

Priority: low

Who: Chip to implement in host; Randy or Aric to suplement in C64 in necessary (probably won’t be)

Time: less than 1 day

Status: not done