# Remaining Habitat tasks (7/25/86)

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

1. Generate the world -- 0 (ongoing (all))
   Immense ongoing task to make the Habitat an interesting place to visit.
   - 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.
   - Unresolved issues: File transfer to host for realm descriptions remains a problem.

2. Teleport network -- 1 (c=1/2 a=0 r=1/2 j=1)
   Basic long-distance random-access transportation system.
   - Who: Janet to implement teleport number lookup mechanism in host; Chip and Randy to test and debug related object behaviors
   - Time: Janet estimates <1 day for lookup engine; 1 day for C64 integration.
   - 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
   - Unresolved issues: none

3. Mail system -- 1 (c=1 a=0 r=1 j=2)
   Basic mechanism for person-to-person and broadcast non-real-time communications.
   - 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: 2 days
   - 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
   - Unresolved issues: none

4. Messenger -- 1 (c=1 a=0 r=1 j=3)
   Basic mechanism for person-to-person on-line remote communication.
   - Who: Janet to implement interprocess message structure; Chip to implement object behaviors in host; Randy and Chip to implement object behaviors in C64
   - Time: 3 days
   - Status: not done
   - Unresolved issues: none

5. Cursor flash -- 1 (c=0 a=0 r=1/4 j=0)
   The C64 cursor should flash or somehow change to indicate when the command interface is locked out awaiting communications with the host.
   - Who: Randy to implement on C64
   - Time: <1 day
   - Status: not done
   - Unresolved issues: none

6. Identify avatar function -- 1 (c=1/2 a=0 r=1/2 j=0)
   Add an 'identify avatar' function that will enable players to determine the identity of other players in their region.

Who: Randy to implement on C64, Chip to implement on host
Time: <1 day
Status: not done
Unresolved issues: none

7. Q-3 upgrade -- 1 (nil (r))
Make it work with the latest rev of the Q-Link software.
Who: Randy or Quantum
Time: negligible
Status: trivial, can be done any time
Unresolved issues: none

8. Sex change device -- 2 (c=1/2 a=0 r=0 j=0)
Aric has added sex to avatar torsos. We need a device to let players choose their avatar's sex.
Who: Chip to implement object; Aric to handle graphics
Time: 1/2 day
Status: undone, but trivial
Unresolved issues: none

9. Version update -- 2 (c=3 a=0 r=1/2 j=3)
We now have the ability to update the players' object disks remotely. We need a mechanism in the host to use this ability.
Who: Janet to implement; Chip to advise (LFL to provide data)
Time: unknown; Janet needs more information
Status: not done
Unresolved issues: it is somewhat unclear whether track/sector update is too blunt an instrument

10. Sound effects -- 2 (c=0 a=0 r=2 j=0)
All the objects need appropriate sound effects.
Who: Chris to create sounds; Chip and Randy to integrate with objects
Time: 1 more week of sound creation; 3-4 days for sound integration
Status: roughly 3/4 of sounds are done, others are progressing nicely
Unresolved issues: none

11. Twiddle upgrade -- 1 (c=0 a=0 r=0 j=1)
The Twiddle program, which allows us to manipulate the host databases, needs to be revised to enable the creation and removal of objects.
Who: Janet to implement
Time: 1 day
Status: not done
Unresolved issues: none

12. Gr_state fix in host -- 2 (c=1 a=0 r=0 j=0)
The host's notion of the "gr_state" variable has to be made consistent with the C64's.
Who: Chip to implement on host
Time: 1 day
Status: not done
Unresolved issues: none

13. Oracle -- 2 (c=0 a=0 r=0 j=3*)
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.
Who: Janet needs to implement the host stuff for this; may be done by Janet's new assistant
Time: a few days
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

Unresolved issues: operator interface needs to be defined

14. New user signup -- 2 (c=0 a=5 r=1/2 j=1)

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.

Who: Janet to implement new user turf/avatar allocator; Chip to implement new user behaviors on host (if any); Randy and Aric to implement new user customization dialogue program.

Time: 1 day for new user turf/avatar allocator; 3 days for new user customization program.

Status: not done

Unresolved issues: none

15. Chairs -- 2 (c=1 a=1 r=0 j=0)

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.

Who: Aric to implement graphics; Randy and Chip to implement C64 behavior code; Chip to implement host behavior code

Time: 1-2 days

Status: on hold

Unresolved issues: none

16. More heads -- 2 (ongoing (a))

We would like to have 100 or more different possible avatar heads by release time.

Who: Aric to coordinate; Gary and others to generate artwork

Time: variable and ongoing

Status: 35 heads and counting

Unresolved issues: none

17. Collision detect/adjacency check in host -- 2 (nil (c))

Routines in host to make sure avatars don’t walk through things, etc.

Who: Chip to implement

Time: 1 hour to implement, another to test

Status: basically done, can be activated any time

Unresolved issues: none

18. Bandwidth reduction -- 2 (nil (rj))

Cheap trick to cut communications bandwidth requirements 25%-50%.

Who: Randy to implement on our end; Janet to implement in host

Time: trivial

Status: already done, can be activated at any time

Unresolved issues: we just have to set a mutually convenient point to do this.

19. Avatar death -- 3 (c=1 a=0 r=0 j=0)

In theory, avatars can be killed in combat. We still need to implement the actions that take place when an avatar actually dies.

Who: Chip to implement in host

Time: 1 day

Status: not done

Unresolved issues: combat resolution mechanism could be better

20. Hole and shovel objects -- 3 (c=1/4 a=0 r=0 j=0)
    These are a couple of objects useful for Randy's initial adventure scenario, among other things.
        Who: Randy to implement C64 behavior; Chip to implement host behavior
        Time: <1 day
        Status: C64 behaviors basically written, needs integration with host and definition of objects in host database.
        Unresolved issues: none

21. God -- 3 (c=1 a=1 r=1 j=1)
    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 manipulating objects on command 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.
        Who: 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: 1 day for the hand-of-god, 1 day 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
        Unresolved issues: the operator interface needs to be more fully defined.

22. Orientation in change region -- 3 (c=1/2 a=0 r=0 j=1/2)
    We need to change the change_region routine in the host to get the Avatar's new position and orientation correct based on the old position and orientation.
        Who: Janet to install "hook", Chip to provide routine to calculate new position
        Time: <1 day
        Status: not done
        Unresolved issues: none

23. Improved patterns -- 3 (c=0 a=1/2 r=0 j=0)
    The present set of patterns we have is kind of yucky. It would be nice to create better looking and more useful patterns.
        Who: Aric to install; Aric and Gary (?) to design
        Time: <1 day
        Status: not done
        Unresolved issues: design

24. Region entry and exit daemons -- 4 (c=1/2 a=0 r=0 j=1)
    Mechanism in host to run region-specific routines on entry or exit to particular regions.
        Who: Janet to install hooks in host; Chip to implement daemons
        Time: 1 day to set up mechanism. Daemons as needed.
        Status: not done
        Unresolved issues: none

25. Capacity handling -- 4 (c=5 a=0 r=5 j=5)
    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).
    Who: Janet and Chip to implement; Chip to provide the data
    Time: 1 week+
    Status: uncertain.  needs clearer definition.
    Unresolved issues: this item needs considerable further study

26. Hall of records -- 4 (c=1 a=0 r=0 j=1)
    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.
    Who: Chip to decide on records to be kept, in consultation with the rest of the crew; Chip and Janet to install statistic monitor routines; Janet to write daily update program
    Time: 1 day to implement daily update program, 1 day to install record statistical monitors.
    Status: not done
    Unresolved issues: set of records to be kept needs to be defined

27. Region transition -- 4 (c=0 a=1/2 r=1/2 j=0)
    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).
    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
    Unresolved issues: none

28. Independent object motion -- 4 (c=1/2 a=2 r=0 j=0)
    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).
    Who: Aric to implement graphics; Chip and Randy to implement C64 behavior code to use it
    Time: 2-3 days
    Status: not done
    Unresolved issues: none

29. Night and day -- 4 (c=1/2 a=0 r=1/2 j=1/2)
    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.
    Who: Randy to integrate graphics; Chip to implement appropriate host behaviors; Janet to implement time-based elements (i.e., day vs. night according to a clock) in host.
    Time: 1 day
    Status: Randy is working on it
    Unresolved issues: what is the day/night cycle for the host, if any?

30. Stun gun object -- 5 (c=1/2 a=0 r=1/2 j=0)
    Will provide an alternate (less deadly) means of conflict between avatars. Useful for mock battles and the like, among other things.
    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
    Unresolved issues: what is the result of being stunned?

31. Shouting -- 5 (c=1/4 a=0 r=0 j=1/2)
    We figured out an extension to the player interface to allow players to talk to adjoining regions by "shouting".
        Who: Janet needs to add some interprocess stuff in the host to make this happen
        Time: <1 day
        Status: not started
        Unresolved issues: none

32. Region specific object sets -- 6 (c=0 a=0 r=2 j=1)
    Mechanism to enable object disks to be swapped, allowing different parts of the world to have radically different object sets.
        Who: Randy to implement; Chip and Janet to handle region terrain-type transition in host
        Time: 1-3 days
        Status: on hold
        Unresolved issues: disk layout

33. Music -- 6 (c=0 a=0 r=1 j=0)
    Need music player mechanism and music for the jukebox and tape player objects.
        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: <1 day for music driver, arbitrary time for composition, 1-2 days for behaviors
        Status: on the back burner for sure
        Unresolved issues: not relevant

34. Grenade timer -- 6 (c=1/2 a=0 r=0 j=1/2)
    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.
        Who: Chip to implement in host; Janet to advise on timer-driven events in the Stratus; Randy or Aric to supplement in C64 if necessary (probably won’t be)
        Time: <1 day
        Status: not done
        Unresolved issues: this is currently an experimental element

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

36. Final manual -- background (ongoing (c))
    We need to generate the final draft of the manual.
        Who: Chip to rewrite; Gary to do some artwork; other Quantum people and LFL people to coordinate design and production; Chip to produce errata and addenda update for beta users
        Time: a few days to rewrite
        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
        Unresolved issues: none