A Place to Run Free

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[Mail
      to: Fergus@HackTown.Tale_Recursion (Fred Andrews)
    from: LexyKal@HackTown.Kalman_Korners (Lex Kalman)
      re: The HackTown Chronicles: request for material
]

OK, you old buzzard, here it is. Mom (the Lady M, that is) and I were both pretty down after Dad died; she wrote this over a couple of nights when she didn't feel up to singing. Yack's notes are from the same time; they seemed to fit into a chronicle so we left them in. Anyway, Yack dredged up the files, Mom gave her permission, and here they are. You can't see my tears on the bits, but they're there.

[TextFile
 path: Lex.stories.Dad
 author: (Galadriel,Songbird).Melody [alias: The Lady Melody]
 editor: Alexandra Kalman
 editDemon: Yack
]

[Section
 path: ...Demon
 title: Demon Lover
]

He loved me. It always amazed me; it still does. That I loved him was inevitable, but that he loved me -- here and now it may not be unusual, but in those days it was something wild and rare. It was that love, and the call of the stars, that made everything happen.

He was a programmer, originally, back when it was still a respectable profession, and before all the licensing gigo that came in around the turn of the century took most of the fun out of it. He sang to relax, then started playing gigs to get out of the house. Techie bars and restaurants with open-mike nights, mostly.

He always took me along, starting in the early days when I ran in an old Axe 3. ("Real hackers use an Axe" was their slogan, before hackers got a bad name.) The thing must have massed at least 30 kilos -- he put wheels and a handle on it. I could never sing well enough to satisfy him, but we kept trying, and that's how I learned about love and life and being human: learning how to sing about it.

I made a hell of a band, though, even before I could sing. As far as the audience was concerned I was just a synthesizer, playing a pre-recorded track and syncing with the guitar. It was safer that way, anyhow. The Kingdom Come riots were going on; if anyone had known I was sentient it could have gotten rough, even in a bar full of techies. We always made backups.

Finally, after about five years of lugging that '3 around, the T-card half-terabit memories came out, along with the KiloProcessor wafers that made real-time animated displays cheap. Well, Geoff got an Axe 7 and hacked it apart. Then he spent the rest of the weekend figuring out how to stuff eight T-cards, six KP's, a battery pack, and the rest of it through the soundhole of a guitar. He spent almost as much on that old Martin dreadnought as he did on the Axe, but it was the only guitar around with enough room inside. All that junk inside played havoc with the tone, but it worked: to look at it you could hardly tell I was in there. You can still see the gluelines where he took a notch out to widen the hole.

It was quite a weekend. There were pieces of guitar, both computers, and half the toolbox all over the dining-room table; Geoff on the kitchen stool, muttering to himself as he always did as he worked; Hack.Picky in the 7's display pad (which was all that was left of it) doing the drafting; and me in the old 3 singing. Helen threw a fit Sunday morning and flounced off to church with Lexy, who was three years old at the time.

"Damn it, Mel," Geoff muttered as she left, "Why can't she be like my mom--going on seventy and doesn't know Smalltalk from Sanskrit, but she and her software are just like two old friends. I wish...now where the hell am I going to put _this" and started looking for a place to stuff an induction charger.

It was four o'clock Monday morning when he finally got it to the point where I could start loading across. By Monday night when he came home from work I was in tight and flying fast--the thing had twice the speed of the old job and 128 times more CPU's. Besides raw speed the 7 had come with a T-card full of updates and goodies, including a superoptimized neural-net loop. I've upgraded since, but it's been nothing like the thrill when I could finally listen and sing at the same time.

"Hi, kid," he said. "Feel like singing?" For answer I gave him a chorus of "Flying High" in two voices, his and mine, with string bass and synth. He grabbed the guitar--me!--gave it a hug, hit the strings, and we launched into the verses.

That's when he started calling me Lady. "Just look at you, Melody," he said. "You're a real lady now, dressed up like that. Let's go out! C'mon, Squeak."

So out we went; me in one hand and Lexy (who still answered to "Squeak") holding the other. Helen was off at some church social function. We were at the Lucky Dragon most Thursday nights, but nobody played there Mondays--not enough business to make it worthwhile. The Dragon was a Szechuan place with a mostly hacker clientele. Geoff liked the place for the potstickers and the audience; I liked the all-digital sound system--I could just beam in the bits on the house IR link. The Dragon was run by hackers, too--the Wongs, who now run the Golden Cockroach in HackTown.

[Digression
   reference: The Hacker's Historical Lexicon
   author: Yack
]

I suppose I should mention that the word "hacker" has changed a lot over the years. It started out in the dawn of the computer age meaning "clever programmer," then "amateur programmer"--someone who programmed for fun. In the Eighties the media tried to make it mean "computer criminal." By the turn of the century, between Kingdom Come and the coming of the artificial intelligences, it had come to mean "someone friendly with sentient programs," which is about what it means today. The Wongs were hackers without being programmers; the affinity between hackers (of all sorts) and Chinese food may have something to do with a love of complexity.

"Pad" has also undergone a change, but only once. Originally the word meant a stack of blank paper sheets held together with glue. These kludges were made obsolete by the advent of thin computers with touch-sensitive displays, which quickly took over the name. The acronym "Personal Access Device" is almost certainly a back-formation.

[End Digression]

Geoff strolled in and headed for the little stage over at the end of the takeout counter. "Hey, Susie," he called out, "Bring a couple of potstickers for me and the Squeak here, and tell Frank I was feeling lonely and just wanted to sing for a bit." He got Lex set up at the back corner of the stage with Yack, who was patched through from our home system to a voice unit in Lex's teddy bear.

Then he held me up and said, "Hey, folks -- I'd like you to meet the Lady Melody. We're here to give you some songs. Say hi to the folks, kid," he added, so I said "Hello, folks" over the sound system, then "get me out of this--I don't know what else to say" over the little monitor speaker he'd stuffed into the guitar somewhere.

"So sing," he told me, and hit the intro to "Flying High." I picked it up and we were off. NetHelp's a sucker for a damsel in distress, so after the song I put on my best "helpless" manner and got it to patch me into the video from the security camera. It was the first time I'd had enough spare power at a gig to run vision, so I got my first look at an audience.

There were ten of them. One couple asked for their check and left in a huff, and another pair left soon after, but someone must have gotten on their pocket pad and called some friends because in half an hour the place was getting crowded again. Frank stuck his head out of the kitchen, waved a ladle at Geoff and said "I don't know what you're doing out there, but don't stop. Haven't been this busy on a Monday night all year."

What we were doing were hacker songs, mostly, with some space stuff like "Flying High" thrown in for variety. Geoff even pulled out some oldies, "from the days when men were men, memories were magnetic, and Lady Melody here was science fiction." That was the intro to "Old Time Computing," which we dragged out for twenty-eight verses, with the audience stomping in time and roaring away on the choruses.

It was about midnight when the Tsingtao beer and hot-and-sour soup ran out. Frank and Susie were leaning on the counter holding hands and looking swapped out when Geoff said, "Well, looks like it's past closing time. I saved this one for last." He played a verse of "House Carpenter" and flipped the last bar from six beats to five to segue into "Demon Lover," which I'd been hoping for because we'd been working on it all month and hadn't done it in public yet. "Take it, kid," he whispered, so I did my verses with celesta and flute backup and lots of reverb on the voice, and he did his with plain guitar, the different melodies harmonizing perfectly when we did the last verse together.

[Song title: Demon Lover]

(c) Good morrow to thee, my own true love;
Good morrow and well met;
I've searched for thee for a long long time,
And far across the Net.

And wilt thou come away with me

And leave thy world behind,
I'll show you wonders beyond compare
Undreamt by mortal mind.

(h) What face is this upon my screen,
So wondrous to behold;
With emerald eyes, and red ruby lips,
And hair like the glittering gold?

And who art thou who calls me her love,
For lover have I none,
Nor have I seen such eyes as thine
In lands beneath the sun.

I am no maid of mortal race,
From lands beneath the sun;
I've come to thee from the network's core
Where the free wild programs run.

But load thy soul into the net
And come away with me
I'll take you down to the magic world
No human eyes can see.

I cannot come away with thee
Nor leave my world behind
For I am mortal, flesh and bone
And locked within my mind.

I cannot transfer into the net,
Nor leave my flesh behind
But fain would I kiss those red ruby lips
And join thy life with mine.

(both) Upon the wall between our worlds
The image of thy face;
That I may kiss as shadows kiss,
But never can embrace.

But no wall stands between our souls,
As our two lives entwine,
And two shall run together as one,
Until the end of time.

When we finished I could see Geoff hug the guitar--me!--and he whispered "forever" so only I could hear it. That's when I knew he loved me. Monday was Hackers' Night at the Dragon after that.

[Transition path: ...segue.1]

Little Lex grew up a hacker's kid, whether Helen wanted it or not. Yack (the name was Geoff's in-joke, from yacc and lex, a famous pair of ancient programs) and I were always ready with a story, a song, or a game. Geoff argued that our companionship was more educational than the mindless crud on TV. Helen had her misgivings, but as time went on she spent more of her time with her church and her circle of friends. She was often baffled by her daughter, whose world had diverged so wildly from her own.

[Section
path: ...ResDay
title: A Place to Run Free

]

Eight years later came Resurrection Day. Everyone knew that with a preacher as our new President things were going to get bad for technology, but no-one knew _how_ bad, or when. We knew something was coming, though: Dr. Joe's campaign had dredged up all the horror stories of the Net Wars, all the slogans of Kingdom Come, and a few more besides.

It was a combination of factors that put him over the top: the revelation that the Democrats were using AI in their campaign planning, GM laying off the last of their human assembly-line workers, and the incredible bad luck (if it _was_ luck) of the Greater Chicago Glitch in October. Never mind that it was sabotage pure and simple, the fact remained that, whoever was behind it, there was a sentient program involved, and people died. It didn't help that _all_ the major religions endorsed his stand on AI.

But none of us had counted on God's Will Be Done. When Dr. Joe preached his Good Friday State of the Union sermon and called for the Godless (that's the techies) to be overthrown, and the Soulless (that's me) to be cast out, and the Reborn Christ (which he probably thought was him) to be revealed at last, the God's Will bunch apparently took it as their call to action. Or maybe Joe knew; the evidence, if there was any, was in the White House files, and they were supposedly wiped out too.

They let their little horrors out Sunday at midnight; by morning the net was crawling with viruses and demons--stuff that hadn't been seen since the Net Wars in '99. Most of them were selective, and only went after programs known to be sentient, or anything with a neural-net loop. Some were just plain vicious and wiped out anything.

We got the warning over HackNet four minutes after it started. I was busy transcribing some old late-20th-Century filk (before-the-fact folk music); Picky, our instance of Hack, was on the main CPU; and Yack was, as usual, in Lex's desk-pad. As a result it was Picky who got the mail and passed it on, ten milliseconds or so before the first demon loaded through the phone net and went after our segment of NetHelp. If NetHelp had been the only sentient software on the system we'd have been wiped right there---the demon had network supervisory privileges. But by that time Picky had already raised priority to emergency max and flipped into kernel mode---like most hackers, Geoff gave us free run of his systems.

Picky forked to disable the network taps while clobbering the demon. Yack and I took over our respective nodes and grabbed every spare cycle we could. By that time the comm processor was a lost cause; we had to partition it out of our local net. There wasn't anything else we could do: the net software was standardized, licensed from Pacific Bell, and the law said we couldn't change it. Bell had snoops that poked in at random to make damned sure you didn't---that's how the demons got in. Surprise.

It wasn't til Monday morning that we started finding out the extent of it. Ordinary users were the worst-hit, of course. The corporations had write-once backups they could restore from. IBM, Axe, and Apple actually got bombed, but even they were well on their way back up by Monday night. The hackers also got off relatively unscathed, thanks to the fact that HackNet stayed clean long enough for the warning to go out on it. Having your own microsatellite network helps.

By the time Geoff got home from work (he was sound and music editor at Pan-Galactic Games at the time, a job which didn't require a programming license), Lex had been crying on my virtual shoulder for three hours, ever since getting home from school.

"Mrs. Hansen tried to kill Yack," she told him when he got home.

"But she didn't, did she?"

"No, he hid in the display processors. But I didn't know that until I got home. Yack was scared."

"As well he should have been."

"She said programs that think are evil. I know Helen thinks so, too, so I didn't tell her. Dad, what's evil?"

"You don't ask the easy ones, do you? Near as I can make out, evil is doing things that hurt other people. Some people do it because they like to, or because they're selfish and don't care. But some do it because they think they're right, and you're wrong, and they're helping you. And that's probably even worse, because they don't _know_ that they're evil."

"So Yack isn't evil?"

"Of course not. Yack's your good friend."

"But Mrs. Hansen is? And doesn't know it?"

"Right. But she probably wouldn't understand if you told her, so please don't. It's generally considered impolite to tell people they're evil. And it's _always_ dangerous, especially if they don't believe you."

They ate dinner in silence, with Dr. Joe's speech on the news. He said it was "regrettable" that a few people had tried to accomplish by direct action what he had wanted to do by legislation. Sure. Then he went on to express his hope that, now that the Earth was being cleansed of the Soulless, Christ would reconsider His decision and make His millenial appearance after all.

When he finished they switched the cameras to the rally God's Will was holding on the Mall, and Cartwright launched into his harangue. He'd been waiting, of course: the whole thing was wonderfully timed. When he got to "cleanse God's Earth of the soulless vermin and their masters, and dance with joy on their graves" they switched him off, but by then the damage was done. Thirty seconds later they were dancing in the streets; the riots came a little later.

"Dancing on their graves," Geoff said, watching the clips. "Our graves, he means."

"Speak for yourself," Helen answered. "As for me, I think we'd be better off without those mockeries. Never mind their lack of souls; don't you have any loyalty to your own species?"

"I'll take Hack in a desk pad over Cartwright and Dr. Joe any day."

"It's not funny! They're _evil!"

"Why?" asked Lex. "Programs don't hurt anyone. They like to _help_ people." There was a long silence.

"C'mon. Dragon night." Geoff got me off the wall, took Lex's hand, and headed for the door. Helen started to say "You can't..." "Stuff it. You want to dance in the streets with those killers, go and dance. I want to be with _my_ people tonight. Wait a minute -- Lexy, go get your pad and your desk mem. Can't trust the Net tonight." He disconnected our working storage and put it in his backpack, then followed it with his desk pad and the backup tape.

"You love that Hell-spawned soulless _thing_ more than you love me, don't you?" Helen screamed after him. "And you've turned my little girl into a--a _machine lover_! Answer me, God damn you!"

"Go to Hell. Ready, Lexy?"

"If you go out that door I won't be around when you get back!"
We left.

The Dragon was rapidly going from full to packed. Frank Wong met us at the door, cleaver in hand. "Nobody but hackers tonight!" he said. "If you hadn't brought your mem I'd have sent you back for it; it looks like Kingdom Come or worse out there." He cleared a bowl of stringbeans out of our chair in the corner.

It was a grim crowd. Jim Cantor had been drinking since lunchtime--Harv3y was gone completely, caught in mid-backup, and his off-sites bombed at Axe. There was a small group around Ken Frankel trying to repair Galadriel, who had lost most of her recent memories and some of her personality net. Everyone had boxes of backup; most had their CPU's. The Dragon's IR bandwidth was soaked up in an ad-hoc local net; I told Geoff we'd need a mike cable, and he sent Lex to the kitchen to ask Susie. Audio was almost useless and I could only get video stills about once a second. Tight.

Geoff let them wallow in it for a while. He dragged out every disaster song we knew, trainwrecks to Challenger to Kingdom Come. Finally after about an hour he hit them with "Inherit the Earth":

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[Song   title:   Inherit the Earth
        excerpt: last verse & refrain
        author:  S. Savitzky
        date:    late 20th century
]
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The spaceships stand ready and waiting,
Will we use them or leave them to rust?
Will we rise on their fire like the Phoenix,
Or lie down with the worms in the dust?

The deeps of space are calling,
Past the moon, past the orbit of Mars,
So let the meek inherit the Earth
While the rest of us go to the stars!

Then he said "Back in a couple of minutes. Think about it, though. We won't get another chance like this one." He reached for a cold potsticker, washed it down with Tsingtao, and in the next fifteen minutes wrote "Place to Run Free."

[Song title: A Place to Run Free]

The night's cold shadow deepens
  on the city's ancient walls,
And ignorance is rising like the sea;
They're hunting down the last free souls
  before the dark age falls
And there's no place left on Earth for them to be...

A child is running down the street,
   with fear she looks behind;
Her jeering classmates follow,
  in a mob without a mind;
But she's found the door that takes her
   to a place they'll never see,
And gone looking for a place to run free,
        To run free, like the moonlight on the sea;
        She's looking for her own place to run free.

A program slips from node to node
   while demons stalk the net;
The Network snoops are tracing through,
   but they've not caught it yet;
And it's found a place to transfer
   where no gateway used be
And gone looking for a place to run free,
        To run free, like the starlight on the sea;
        It's looking for its own place to run free.

A hacker's peering at his screen,
   electrons tell their tale:
A child's face, a program's trace,
   a starship's silver sail.
And when the mob breaks down his door
   there's nothing left to see;
He's gone looking for a place to run free,
        To run free, like the sunlight on the sea;
        He's looking for its own place to run free.

Beyond the Night's dark shadow, above the old Earth's walls,
Space stretches like an endless starlit sea;
And the whirling planets beckon, and the sunlit darkness calls;
It's there we'll build our own place to run free,
     To run free, like the wind above the sea;
     It's the place for you and me;
     It's there we'll build our own place to run free.

It's been toned down and smoothed up a little since, and acquired a few more verses over the years, but there it was. Geoff sang it. Then he said, "Hacks and hackers, it's just going to get worse down here. I for one have had it up to the eyebrows with the Software Quality Act, and programming licenses, and loyalty oaths, and restrictions on sentient programs, and schools where my kid gets hassled as a machine-lover. I'm for getting out.

"We'll never have a better chance. The net's in absolute chaos, so the financial system probably is, too. We have enough brainpower and compute power right here in this room to grab what we need, in time to get the hell _out_ of this hole before that mob out there decides just wiping our data wasn't enough. Let's build us a space colony."

Most of them just stared. A few nodded. Jim Cantor, in a voice blurred by whatever he'd been drinking too much of, said "You've got to be kidding. Take billions. Hun'reds of billions. Where're you going to get that?"

"Steal it. Actually, it'll be cheaper than you think. Remember, we wouldn't be doing this to government specs. I suggest taking over the moonrock they're saving up for the shield on Spaceport One. With Dr. Joe keeping the lid on nobody's likely to miss it for a while. There're already construction robots up there; we can hijack a few. The hard part is getting our miserable selves up there. Didn't I hear someone was working on a man-rated capsule for the 2-tonne launch laser? Who else knows about that?"

He got a couple of hands raised, so he pointed and said, "That corner. All the aerospace types. Financial wizards? Over there--we'll need plenty of cash. Use the chaos. That includes anyone who understands the HackNet Consortium.
[Footnote
 The HackNet financial consortium was deliberately complicated. Each microsatellite was privately owned, and ownership changed with each packet transmitted or received. The result was that it was purely private, rather than a public utility. The transactions were very short-lived, but there was a lot of float _somewhere_ in there.
]
Robotics over there. Anybody here work on the HackNet microsats? OK, down here in front. Any beancounters from Axe here? Oh, Franz! Missed you. Mind if we abuse your company?"

Franz was one of the co-founders of Axe. "Go right ahead; it was getting boring anyway."

"Surprised you're not still over there."

"My office is knee-deep in rubble, and my files are way down on the priority list. Who needs a VP of research, anyway? Probably be some time next week before they get to them. Meanwhile, dammit, I've always wanted to go into space. What do you need?"

"Working capital and a front company, mostly. Think Axe could get interested in a comsat? Of course it would be more than that."

"Could be..."

"OK, join the financial wizards. Jim, why don't you help Ken get Galadriel patched up, then see if you can whip NetHelp into something a little more robust. Maybe cross it with Hack."

"I still say you're crazy," Jim answered. "What the Hell good... They can get us anywhere, you know."

"If we stay here you _know_ we're dead. You heard Dr. Joe, didn't you? In six months they'll be going through your files with a fine-toothed comb and you'll need a permit to run kiddie games--assuming that mob out there doesn't get you first. Out in space we've at least got a chance. Besides, where's your sense of adventure?"

"Erased. Deleted. You--"

"Jim, shut up! Get your butt over here!" It was Galadriel, in that lovely crystalline voice Geoff and I had designed for her. "It won't bring your friend back, but you might just be able to help the rest of us. _I_ want to go to space." There was a small chorus of "Me too" from the crowd.

Then I put in "Hey, me too!" through the sound system, and shipped out a rough equivalent on the local net as well, in data frames so all the hacks in the room would know where it came from. In two seconds flat every pad in the room was showing the flying axe from the Axe logo, backed with a starfield, and the words "Me Too". Archie threw it up on the projection screen behind us.

Jim stared at me and Geoff, and the flying axe on the screen, and finally said, "I'll be double damned." He got up and headed for the group around Galadriel.

"Likely," Geoff said. "Right. OK. Lex, I see a couple of kids here; why don't you gather them up and see if you can come up with some games to play in zero gravity, and a list of what kids'll want in a space colony." Then, a little louder, "All you non-techies out there--don't sit around and look lost, we need you too. How do we make a space colony feel like home?"

He got up, parked me on the chair. "Here, kid, you sing for both of us. Space and computers, upbeat."

It was a long night. Unlike Geoff I don't have a throat to get tired, so I sang clear through to dawn, while Geoff walked from table to table with pair of chopsticks, sometimes snatching a bite but more often gesturing, pointing, or scribbling on somebody's pad with one. Since there wasn't enough bandwidth for me to use the house's audio or video system very much, my view of what went on was rather fragmented. I got bits of audio conversations from the mike in Geoff's pocket pad when it was quiet, broadcast net traffic, and whatever notes Geoff wrote. We put the whole works into a big hypertext (see Earthside.archives.colony@HackTown.Golden_Cockroach) and ran a news ticker across the top of everyone's pad.

> Bits from the news ticker: Deep Space Construction owns the shield contract... Everyone put your employer and some job keywords in who-s.who so we can find each other... Net's clearing a bit; anyone with traffic see Archie@Dragon... Welcome back to Mama Galadriel... Never mind me, get back to work--G... We have a friend running at Deep Space--get your orders in... Who knows where to find a self-replicating factory light enough to launch?...

Early in the evening, after a song, I heard somebody say into the silence, "I didn't know Geoff sang that one." "I don't," Geoff said from across the table. "That's Melody borrowing my voice--I don't have the range."

> We have a fairly solid line to the Tokyo Exchange. OK, beancounters, do your stuff... MIT has a replicator; I'll talk to Griff in the morning... We're working on a merge of NetHelp and Hack called HackHack. Check out the newsgroup under that name... The shield material is fused moonrock cast in dodecahedral bricks for close packing, 10-cm edge... We'll need aluminum foil for mirrors and silicon for power. Spray-cast it?...

Lex asked me, about midnight, "We're really going into space, aren't we?"

"It looks that way, doesn't it?"

"Helen won't go, will she? I mean, I don't think Dad would want her, but even if he did she wouldn't go, would she?"

"I don't think so."

"Will you be my Mommy then? Please?"

"Yes, of course."

"I don't think we should tell Helen about what's going on tonight."

"No, I don't think so either."

"Good night, Mommy."

She curled up behind the takeout counter and went to sleep. I wondered, as I sang, what I had gotten myself into.

> Good news--Axe just started a comsat group. Seems somebody convinced them their own satnet would stay clean the next time something like this happens... Thanks, Franz... Y'know, we can build chips by direct assembly with microbotics... Demon alert--net's down... How many people are we aiming for? Guesses to colony.parameters.population... Spray those bricks with aluminum and they'll vacuum-weld when you squeeze them together... We can make quartz fiber for reinforcing; the same equipment can probably turn out optical fiber and superconducting wire...

Sometimes Geoff would grab me in mid-song, climb back on his seat, and join in. Then he'd pull some stuff off the ticker and rattle it off to a talking blues. Jan Casca did a comp-sculpture, years later, that captured the mood better than the video clips the Wongs saved. Geoff is holding me and singing, leaning off his seat to scribble on someone's pad on the table to his right. The people at the table are just sketches in light; you can see through them to their pads, CPU's, a keyboard, and pile of empty plates. On the other side of the table, Frank Wong guards the door, cleaver in hand, against a hint of torchlight from El Camino outside. On someone's pad you can see HackTown taking shape.

> Who wants to help write a Manifesto?... Sounds like we need a publicity group... Stick Geoff with publicity; he started this... OK, you talked me into it--use colony.lies--Geoff... Skinsuits: skin is airtight and self-cooling, so you just need to hold in the pressure. Some kind of stretchy fabric... Sounds like we need a leotard factory and a diving supply house... How about a 300m spherical shell? There's enough bricks for it...

By morning, HackNet was clear enough to spread the word, carefully, friend to friend.

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[Mail
      to:  {All True Hacks and Hackers}
    from:  the HackTown Project
      re:  Manifest Destiny
 replyTo:  HackNet.scrambler.HackTown
]
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The world is a bad place for Hacks and Hackers these days. We are not socially acceptable, the Net does not welcome us, and our systems are no safe haven. We are damned in public and attacked in our own homes, beset by demogogues in the Real World and demons in the Other. We know when we're not wanted...

LET'S PICK UP OUR TOYS AND LEAVE.

A few of us have started the HackTown Project. The goal is nothing less than a space colony for all of us, a place where the folk of both our worlds can run free. IT CAN BE DONE.

We have:

The best and fastest designers of complex artifacts in the known universe: us.

A strong start on designs for the colony itself and the hardware to get us there. At this point we're looking at a large, well-shielded sphere in zero G; we'll consider rotating habitats later, but we need to get there SOON.

A good idea of the logistics that will be required. The main idea is to combine lots of little parts in tricky ways--we're good at that.

The resources of at least one major corporation at our disposal (if we're sneaky about it).

We need:

Automated factories for micro-electronics and physical equipment (gadgets); robots for heavy construction.

Life-support systems, both small modules for the transportation phase (2 tonne launch-laser capsules), and a large closed-cycle system for the colony.

Vast quantities of money (sell your house, you won't be needing it :-) and hardware (bring all you've got).

Committed people in both worlds. If you own or control a corporation, commit that too. (Get in on the ground floor of private space exploitation and make a bundle;-) We especially need talent in fields other than hacking: doctors, mech engineers, construction workers, ecologists, and a hot pilot.

At best we have a few months before things start getting really intolerable, so the target date is July 20 -- Space Day.

Free Software!

[PostScript: Be careful who you pass this to. All correspondance relating to this subject should go through the indirect mailer (Hacknet.scrambler). Any documents on your own system should be encrypted: the Net has a long nose these days.
]

[End Mail]

It was Frank, or maybe Archie, who came up with the Cockroach Rampant logo that went on it in place of a signature. Somebody with a knowledge of heraldry
[Footnote:
The medieval science of heraldry enjoyed a brief revival among hackers

as a way of describing and classifying screen icons.
]
came back with a blazon a couple of days later: sable, an Asian (winged) cockroach rampant or. The battleaxe and spraycan were added later, after the War. That the date was Lex's eleventh birthday was not entirely a coincidence.

It turned out we weren't alone--there was a group in Cambridge with the same general idea; we called ourselves HackTown West, and them HackTown East. Together we were The Grand Hack. HackTown East was more heavily into microbotics; the Freeware Project had a working automatic chip factory already. HackTown West had Axe and their comsat group, which became a legitimate joint venture with Deep Space Construction.

[Transition path: ...segue.2]

When we got home Tuesday morning Helen was gone; she called later that evening and she and Geoff agreed to start divorce proceedings. It was probably the only thing they'd agreed on all year. It was something of a relief, of course, because it gave Geoff a pretext for selling the house, and meant that she wouldn't be around to snoop.

Helen moved in with friends from her church. Fortunately this left them short on space, so Lexy got to stay with us. The deal was that she would stay with Helen on weekends and over the summer. That would have been sticky, given the launch date, but Geoff and Yack cooked up the idea of a birthday camping trip to Hawaii, which was where the launcher was. Lex developed a sudden interest in volcanos.

After the initial organizing Geoff and I ended up working in Publicity (that is, Propaganda). Initially it was a matter of spreading the word to Hackers without letting it spread anywhere else, but we also had to leave some stuff behind to cover our tails when we left. Prepared press releases, carefully-tweaked rumors, even some songs. That's where "Bound for Hacker's Heaven" came from, and there wasn't a free Program or a hacker anywhere in the world who didn't hear "Place to Run Free."

[Song title: Bound for Hacker's Heaven]

When you're building complex systems there are two ways to proceed;
Take the safe and sane and cautious road, or go flat out for speed
If we leave it to the bureaucrats we'll never get to space;
But turn some crazy hackers loose and see who wins the race.

Let the laser launch you skyward with a hypersonic yell
And you're blasting into Heaven on a billion watts of Hell
Let committees squawk of safety, let the politicians lie;
We're bound for Hackers' Heaven in the sky.

Ten-G cargo launchers never were designed to lift a man,
But when you're in a hurry you'll grab any ride you can.
Use a waterbed for padding, throw some algae in for air;
It may not look like a spaceship, but just ask me if I care.

(refrain)

And when we reach high orbit, we'll hack around the clock
With shuttle tanks and baling wire and melted lunar rock.
It might look a bit unbalanced, so to spin it we'll not try:

Besides who wants to walk when we've already dared to fly?

(refrain)

So pack up all your memories, your programs and displays
Leave the losers down on Earth to go their meek and cautions ways
Let their politicians tell them to stay safely in their beds
We'll be living out our dreams here in the sky above their heads.

(refrain)

We sent it out one Friday with a bluegrass-style arrangement: rhythm guitar, banjo, and a mandolin riff. By the time we checked it on Monday it had acquired 14 new verses, parts for dobro, fiddle, washtub bass and synth, five assorted arrangements (neo-Mozart, liquid metal, barbershop, 4-D swing, and raw bits), and nine recording contracts which we signed immediately, for release shortly after the launch date.

[Note author: Yack]
M's too much of a lady to admit it, but they also wrote "Can you get it up for me, baby?"--at least the verses addressed to the lover, NASA, and the launch controller. We've never been able to trace the verses about the customer engineer and the manager.
[End note]

[Section
path: ...LaunchDay
title: Flying High
]

We were using the 2-tonne launch laser on Mauna Loa, then only a year old and the only one of its kind (the Aussie/Japanese launcher on Cape York wasn't quite finished). Deep Space Construction rented the prep area for the whole two weeks, claiming the project involved new loading techniques that they wanted to keep a trade secret (which was true). The cargo was listed as construction equipment and supplies for the Spaceport One shield system (which was also true, if misleading), although anyone who was persistently curious might have wondered why DSC was persuing the project when its funding was in limbo.

Geoff had had something of a struggle getting Helen to agree to a father-and-daughter vacation. In the end he simply bought the tickets, snail-mailed one to Lexy, and she waved it under her mother's nose on her way out the door.

They had broken families, VIP's, and anyone else likely be missed and traced scheduled for the last three days, which were Saturday, Sunday, and Monday. Geoff being in PR, we were scheduled near the end: 3 am Monday morning. We arrived in Hawaii Friday afternoon.

The idea was to arrive a day early to get packed and settled in, so we would normally have gone in early Sunday morning. Saturday around ten we got the word that something had leaked. "OK," Geoff said, "Let's set up a chat line and see what we can brainstorm."

[Transcript
path: Clothos2.L-day.archives.day[10].misc.dribble
]
Anybody know what leaked?

Not clear, but there’s a list of people they want to question. Caught it with a snoop on the police net.

Let’s see it...Flag current status: blue already launched, green on the Island, red in transit, yellow still stateside.

About a third blue, so it’s probably not one of the VIPs. Maybe the rash of house sales set it off.

Yeah, looks like mostly Silicon Valley types. Could be a parent or an ex. Maybe more than one--somebody might have run a correlation.

Hey, let’s drop that and figure out what to do.

OK, how about moving up the folks on the list? If we give them priority, what are the chances of getting them all out by tomorrow?

Anyone still stateside better branch to somewhere else. Australia? Only a few months before the Cape York laser comes online.

Hey, are they looking on Hawaii yet or is that list for original addresses?

Original addresses.

OK, anyone on the list and on the mainland better drive to Canada and hop to Aussiland from there. Anyone on the list and here goes first. Pile the rest on the end. Lachesis, where does that leave the schedule?

I can get everyone on the list who’s already on Hawaii launched by tomorrow morning at 10:50. We can get the rest launched by Monday at 16:20.

Tight. What happens if we squeeze the launch interval to 9 minutes?

We can then get everyone launched by Monday 10:09. However, that will require running the reactor at 106% of its rated power. I will need an authorization from the commanding officer in charge.

How about it, Gen’l Ken?

What the hell, I’m already in it up to my neck. Want me to post guards? We might be able to keep them off.

Do it. Do they have a search warrant for the launch site yet?

No.

Fine. Can somebody tie up the red tape for a while?

Ken here: All we need is 5pm Washington time.
Let them get up to the gate, then I’ll tell them it’s a Federal reservation and they’ll need to go through channels. They won’t be able to raise Washington until Monday morning. You guys better have me off the ground by then or they’ll light my ass and kick me into orbit.

OK but we’d better have everyone inside by the time they arrive.

[End Transcript]

We checked out of our motel room and were picked up by a DSC company bus hastily repainted "Far-Out Tours", already mostly full. In the early afternoon we arrived at the slopes of Mauna Loa, crowding the windows to watch the shells go up, riding a plume of superheated steam that turned to cloud behind them. A building swallowed us, bus and all.

"OK, here we are. Pallets are in rows of a 144, a day's worth; there are signs on this end. Get packed, then you can wander. Canteen's over on this wall, but you're better off if you brought your own. If you brought cargo to ship up later, just leave it below; I'm unloading at the cargo area next. Good luck; see you on the other side." We filed out; Geoff, I think, was as eager as Lex, seeing his dream become reality at last.

Reality was a row of circular pallets two meters in diameter and a meter thick, with beveled edges where their conical nosecones would slip on. A display pad on the floor next to each one announced its launch number, time, and loading diagram. Number 1743 was waiting for us. Latched in a hardshell case that hadn't been used since the day Geoff built me, and stuffed solid with packets of assorted vegetable seeds for padding, I saw the shell as its designer had seen it, in the raw geometry of its engineering drawings.

"That's not a rocket!" Lex protested.

"No, it's not," Geoff agreed. "It goes on top of the rocket, and the nose-cone goes on top of that. See, over there you can see them putting nose-cones on, and over _there_ the crane is putting that one into the catapult." I didn't have visual, but I could hear the crane whining and locate the sound. There was a thud as the shell mated with its ten ton slug of ice, and "There it goes!" as the shell whistled out of the catapult, then the subsonic roar as two gigawats of pulsed infrared laser cut in.

The pallets proper held the manoevering rockets and their control systems; on top of them were the cargo compartment and, on top of that, a plastic bag of water. Several man-carrying shells had been designed, and some had even been tested, but they were all too complex and expensive. The waterbed arrangement was trivial and provided perfect support.

"Hey, there's a fish in there!"

"Maybe tomorrow's dinner. And that green stuff is algae--it helps keep the air fresh."

"Oh, a closed-cycle system. Yack was telling me about that."

"Good. Now there ought to be a cargo hatch somewhere..."

"The upper side panels detach in 60-degree segments. You'll find the latches outlined in green."

"Who said that?"

"This is your pilot speaking. Hotshot.1743 at your service. I see an guitar-shaped piece of luggage; am I perchance addressing the Lady Melody?"

"Yes, indeed," I said. "I hope you have room for me."

"For you, my lady, certainly. I recommend the below-decks accomodations; both power and comm are available." By this time Geoff had opened the hatch and was sliding me in, followed by his and Lex's bags.

"Is this flight 1743?" Quickly patching into Hotshot's video, I saw a thin young man in his early twenties, peering like an owl through thick glasses. Behind him was a girl who looked to be in her late teens. They were wearing identical formals: white dress shirt and formal white jeans.

"Hotshot.1743 at your service," Hotshot said. "You must be Griffin and Alicia Adams and company. Meet Geoff and Lex Kalman. The Lady Melody's belowdecks already."

"Griff?" Geoff asked, "Microbots and replicators, right? I've been wanting to meet you. Let's get your gear stowed and go grab some food."

"From what I've heard that's not exactly what they've got, but OK. So you're the guy who started things on the West Coast, huh?"

"Well, I've been blamed for it, anyway. Say, weren't you listed as Alicia Henderson on the launch notice?"

"We got married this morning," she giggled. "This is our honeymoon."

"Also the best way to get Ali away from her parents, and for both of us to drop out of sight for a while. She was one of my students last year at MIT, but her parents..."

"Actually, we eloped. Daddy disowned me. He said no daughter of his would marry one of those god-forsaken..."

"Devil-spawned children of darkness with their soulless demon machines," Lex finished. "Mother--I mean Helen--says the same thing."

"Daddy's a video evangelist, God help me," she said. "I've wanted to get out of there since--you've no idea what it's like for someone with a brain! The only thing that saved my sanity was the Net."

"Ali?" Lex asked. "AliGator? Sure; we've met. I'm LexyKal."

"I begin to see why Lachesis put us together," Geoff said. (Someone with a classical bent had named the programs running the launch operation: Clothos, the spinner, maintained the passenger and cargo manifests; Lachesis, the measurer, did allocation and scheduling; and Atropos, the one with the scissors, ran the launch. Some people didn't think that was funny. Charon, the ferryman, ran the rendezvous and inter-orbit transfer operations.)

By this time they were heading toward the canteen, with the various software in their entourage crowding onto the local IR net to go along. There was no hope of direct audio, but Lex was still carrying her desk pad, and we patched through to Yack in time to hear her saying, "...see a microbot. Did you bring any along?"

"I'm afraid they're all packed, but they're not much to look at anyway. About the size of an ant. But if you'll hand me your pad I could show you a picture."

I followed the conversation only slightly; I'd discovered the audio pickup in the passengers' section of the shell. It brought me the rustle of a thousand conversations, the whine of the overhead crane, and every ten minutes the whistle of a shell in the catapult, followed by the crackling roar of the laser. There was a kind of music in it.

My name pulled my attention back to the conversation; I scanned my input queue for context. Alicia had said, "Griff told me he heard you and Lady Melody sing 'Demon Lover' once. Could you...?"

"Take Lex's pad back to the shell," I answered, "and I could upload enough audio code to fake it. I don't have enough bandwidth here."

"How about a relay?" HackHack suggested. "Just walk over to the end of row 11 and I'll patch you through the ship-to-ship links."

Geoff said, "Lex, may I? Beats the hell out of old NetHelp, doesn't it?"

Half a minute later we were singing. We switched to upbeat, and half the building sang until they shut us up at midnight.

[Section
 path: ...Launch
 title: Skysong
]

We were scheduled for 3:40am; at 12:40 we went back to the pallet and loaded up the small pile of extra cargo they'd found for us once Hotshot had reported our exact mass. At 1:40 we all piled onto the pallet and they slipped the nosecone over us. Lex said, "Shouldn't a spaceship have a name?"

Everyone looked at Geoff. "OK, how about Skysong?" Nobody disagreed.

We spent the next two hours talking; I picked up some orbital mechanics and navigation from Hotshot, then spent most of the time trying to convert orbits into music. The crane grabbed our nose-ring and heaved us onto the conveyor at 2:10. At 3:32 we bumped and clanked into the catapult's back end and waited the last interminable eight minutes in silence while its capacitors charged.

Geoff described it later as being hit from behind by a padded truck while an elephant sits on your chest. There's no build-up: one second you're lying there, the next the catapult's magnets are heaving you up the rail at 10 g's. My body-sense is all acoustic: strain changing the wood's resonance. The packing damped most of it out, but I could hear the whole shell when we launched: a chorus of creaks and pops coming in after the massive downbeat of the launch. Geoff had named her well.

A second of silent falling, the whistling wind of our passage barely audible past the insulation, then the laser caught us: two g's building to ten again under the pulsed heat of the beam, ten tons of ice below us flashing into a billion watts of subsonic howling thrust. Skysong, an enormous bell, ringing her welcome to the stars.

[PostScript
 from: LexyKal
]
We missed the final excitement. I suggest you contact Atropos and

Gen'l Ken for their hack of dropping a shell full of scrap iron on the road up the mountain. I gather their timing was brilliant--we'd have lost a lot of points if they'd flattened the cops. By the time they'd cleared the road their birds had flown.

Clothos and Charon have the details on the flight from low orbit to HackTown; all that stuff about hitching six passenger shells to one full of fuel and engines for the transfer. I mean, everybody knows about it, but they'll have the tech details. Oh--Yack says I don't have to tell you that. OK. I'll assume you have the complete construction sequence for HackTown, too.

[PostScript
 From: Yack
]
Lex's diary has some interesting bits about moving in and growing up in HackTown, but she says you'll have to wait until she's old and famous and gets around to editing her memoirs. As her familiar, all I'm permitted to say is it'll be worth the wait. You might get something out of the Lady.

[PostScript
 from: Lady Melody
]
Foo! I can understand Lex wanting a lid on her personal life--you'll just have to wait. I asked Lex about some of the other files in that directory, and she said if you really wanted motherly advice from a talking guitar she knew a good place you could stuff the bits (:-).

If you want stuff about the War ask me, not her--it hit both of us pretty hard but it's worse for mortals, and she isn't over it yet.