Research Plan

LafeLab

December 2015

Big picture goals and problem statement

Without drastic changes, industrial civilization is doomed. On the current trajectory physical mass death will follow personal and spiritual mass death. A trajectory back in time to before industrialization is not worth contemplating due to the benefits of technology for the 7 billion people in the world.

At the heart of this is the extraction based capitalist system. The goal of this lab is to build technology that enables a high standard of living in a post extractionist post capitalist civilization. Supply chains are to be built from waste streams of the old economy. Technology must be buildable with reasonable skills that can be shared by society, without specialized equipment or technicians. The main focus is on using electric and magnetic fields to do useful mechanical work that helps people improve their quality of life.

Specific major Project Goals

1. Resonant linear motor
2. Resonant orbital motor with reversibility
3. Generic robot system built from resonant orbital motors
4. Additive and collaborative currency based on the supply chain for physical systems built by LafeLab(value circles)
5. Reversible pumps for air, water, vacuum using resonant orbital motors
6. Microfluidic pumps using same, for biomedical and chemical applications as well as microvacuum circuits
7. Power harvesting systems which turn driven mechanical oscillator motion and shaft rotation into stored energy in capacitors
8. Generic system for microprocessor fabrication from soot and dirt using RC timer circuits
9. Each supply chain element sourced from a known free source
10. machines to automate assembly built from same parts as everything else, so that they can self-replicate, including wet electronics for microprocessors
11. User interface for rumbles of robots using free iot stuff

Social Media Plan

1. Youtube
2. Wordpress
3. Facebook
4. Github
5. Twitter
6. Instagram
7. Tumblr
8. Pinterest
9. Main wordpress blog
10. Newsletter
11. Instrucables
12. Hackaday.io

Other media:

1. Write books, for print as well as free e-book distribution and close-to-free amazon distribution
2. Longer videos for DVD and equivalent distribution
3. Main website with technical background on all my technology:
   1. Shot noise thermometer: invited talks all over the world, written up in new york times, NPR, scientific American, international press, won best dissertation award at Yale engineering, helped win Rob the Keithley award, moved cryogenic noise thermometry forward, main paper cited over 100 times, research project based on it initiated by South Korean government
   2. SQUID amplifiers: highest gain at >1 GHz ever, invited talks around the world, citations and papers, grants, spinoff technology, enabled the photon blockade work
   3. X1 Orgasmatron and X2 orgasmatron: golden Kleene award, nominated for AVN and xbiz
   4. Ambrosia: written up in global press, crowd fund success, multiple versions, golden kleene
   5. Parametric amplifiers
   6. Motors

Revenue Streams

1. Patreon
2. Direct paypals
3. Buying e-books on amazon(which are also free)
4. Government Grants
5. Grants from non profits
6. Fellowships
7. Crowd fund campaigns
8. Consulting
9. Artist in residences
10. Royalties on other companies’ sales
11. SBIRs

Rules

1. Burning turd bag/aleister crowley license/free hardware
   1. No patents
   2. No copyrights
   3. Everything published with clarity
   4. Everything can be sourced from trash
   5. No special professionals or equipment required to fabricate
2. No anti personnel weapons
3. No W2 payroll employees
4. No direct sales to retail customers
5. No outside investors
6. No business debt
7. No partners or co owners
8. No debate, or other engagement with trolls at all, instant ban hammer, minimal comment section, no email contact or phone contact
9. Avoid any contract without a clear end or ability to break at any time

Heilmeier Questions

1. What are you trying to do? Articulate your objectives using absolutely no jargon.  What is the problem?  Why is it hard?
2. How is it done today, and what are the limits of current practice?
3. What's new in your approach and why do you think it will be successful?
4. Who cares?
5. If you're successful, what difference will it make?   What impact will success have?  How will it be measured?
6. What are the risks and the payoffs?
7. How much will it cost?
8. How long will it take?
9. What are the midterm and final "exams" to check for success?  How will progress be measured?

Research Projects from funding standpoint:

*Reversible pumps without rotating parts/seals: cheap, rugged, long lasting, simple, reversible pumps which can be built from trash and used for irrigation and cooling and hydraulics and pneumatics and vacuum; Reversible micro and nano pumps integrated in silicone, fabricated by molding on micromachined metal*

Gates Foundation and similar organizations for developing world refrigeration and irrigation, oil and gas industry research funding, DOE, DARPA, Navy for pumps on remote installations offshore, reliable sump and bilge pumps, pumps that can be made in remote locations for free for use by special operations, SBIR funding, super releaser SBIR sub contract or collaborations, APL collaboration

NIH, DARPA, biomedical companies, crowd funded R&D for nano and micro applications

*Pendulum and oscillator drivers for education and art, battery chargers, sex toys, power tools, manufacturing, robotics, electronics for education*

Art grants, patreon, DARPA, ARL, NRO for training war fighters to make battlefield ad hoc motors in survival training, orgasmatronics grants, kickstarters with Kate, others, turnkey online electronics retail

*Free computing: soot and trash based general computation infrastructure*

SRC, DARPA, Gates Foundation, crowd funded R&D, Intel

*Modular quantum microwave infrastructure: SNTJ, SNT, JPA, circulators, etc*

SBIRs, private money from funders of dark matter searches, APL subcontracts, IBM subcontracts, revenue share deals with Robin Cantor, consulting with other quantum electronics groups private and public, direct sales of filters, enclosures, circuit boards, etc.