	Status	Synopsis	Link	Skills	Category	Order	Joinability	Difficulty
					General Means of Improving the World	Priority within the Area	1=easy to join, 3=you may	1=easiest, 10=hardest
Project #3, Human-powered Rotary Lawn Mower	Ready-to-start	A push mower suited to course lawns	https://github.	Mechanical engineering, machining, system thinking, electronics, power electronics	Machines	2	2	6
Project #28: Develop toolkit for the design of easily constructable CMS joints	Preliminary	3D-printing and math to make multi-member joints	https://github.	3D modeling, 3D printing, some math, some mechanical engineering	Machines	3	3	6
Project #34: Ferrofluid based actuator	Preliminary	Hydrostatic "soft" machines	https://github.	Creativity, micro-electronics, programming, ability to experiment patiently	Machines	4	3	5
Project #12: Magnetic Bearing for Cam-and-Following System	Preliminary	Explore magnetic bearings for better engines	https://github.	Physics (E/M), workbenching, creativity in testing, possible electronics, mechanical	Machines	5	3	8
Project #13: "Changing Slope" Continuously Variable Transmission	Preliminary	Highly theoretical	https://github.	Inventiveness, ability to research, mechanical design	Machines	6	3	8
Project #29: Continuously variable linkage with linear motor member	Preliminary	Highly theoretical	https://github.	Electro-mechanical making, software control, mechanical engineering	Machines	7	3	8
Project #36: Motile Ferrofluid Snail	Preliminary	Fun: making a moving electro-ferrofluid machine	https://github.	Basic making/electronic/Arduino skills	Machines	8	3	5
Project #4: Maximum work from an Adiabatic Expansion of a Piston	Preliminary	Theoretic work combined with mechanics	https://github.	Thermodynamics, advanced calculus, creativity, purely theoretic work	Machines	9	3	9
Project #6: "Air Treader", resistance-based flight	Preliminary	A completely new form of safe fluid motion	https://github.	A fun and different approach to aerial locomotion; throw a "drogue" ahead of you and	Machines	10	3	8
Project #5: More Efficient Pot for Heating Water	Highly Active	High-impact heat project to decrease carbon	https://github.com/PubInv/EcoPot	Heat engineering, machining/making/3D printing, solid modeling/design, ability to	Energy	2	2	5
Project #8: Power-of-2 Square Gas Compression Chamber	Preliminary	Theoretic and general purpose work	https://github.	Geometric thinking, thermodynamics, first phase all-theory, judgement about	Energy	2	3	8
Project #11: Control Heat Engine or ICE with Cam-Follower rather than Crank	Preliminary	A new way to build efficient motors	https://github.	Ability to construct a mechanical system, judge the value, programming and math,	Energy	3	3	8
Project #24: Very simple heat engine with bistable magnetic device	Ready-to-start	Pull low power from waste heat sources	https://github.	Constructible, requires overall understanding of physics and thermodynamics, making	Energy	4	2	6
Project #41: Rapid coliform presence detector	Ready-to-start	Unknown microbiology	https://github.com/PubInv/rapid-e-coli	Ability to research potential wide variety of approaches to fundamentally new	Sanitation	1	1	8
Project #21: Interactive Model of Inputs and Outputs in Waste Treatment	Ready-to-start	Pure software, but critically useful.	https://github.	Pure software with elementary algebra, very useful as reusable software project.	Sanitation	2	2	4
Project #9: Human Waste Sanitation Through Thermal DepolymerizationImm	Preliminary	Rich and difficult but valuable engineering area	https://github.	Very preliminary set of ideas, requiring leadership and broad range of skills to effect.	Sanitation	3	3	8
Project #23: Pyrolysis Toilet	Preliminary	If power is free, sanitation should be free	https://github.	Cultural wisdom, mechanical engineering, heat engineering, some chemistry, high-	Sanitation	4	3	8
Project #51: Moonrat: A portable Incubator	Highly Active	Microelectronics may decrease time to analyze	https://github.com/PubInv/moonrat	Ability to learn about micro-biology, basic micro-electronics, basic optics and	Sanitation	6	1	6
Project #14: In-situ Brush Pile to Biochar Converter	Ready-to-start	A very hands-on, earthy project	https://github.	A challenging, out-doorsy, bigger contruction project. Potential commercial	Agriculture	6	2	5
Project #15: Stovetop Micro-Retort For Experimentation	Ready-to-start	A smaller project, good as a warm up to large	https://github.	Making in metal; ability to relate to other reseach, microelectronic sensing; opens	Agriculture	7	2	4
Project #19: Single-chamber biochar producer and stove	Ready-to-start	Well-developed, a high-impact, high-engineering	https://github.	Pretty well developed idea, very practical in implication, fabrication in metal,	Agriculture	8	2	8
Project #40: For oil painting, a wheel for very thin lines	Ready-to-start	A simple project to allow easier art in specific styles	https://github.	3D printing and low-level fabrication and making, user design, design skills, project	Art	2	2	4
Project #38: 3D-printable variable length snap line	Preliminary	Simple 3D printable art tool	https://github.	3D printing and low-level fabrication and making, user design, design skills,	Art	3	3	3
Project #20: Personal Stool Analysis	Preliminary	High-impact world wide, good mix of skill sets	https://github.	Biology, microscopy, micro-electronics, imagination, human design skills, patience,	Health	2	3	8
Project #10, Free Transparent Public Accounting	Ready-to-start	Blockchain without the cryptography	https://github.	Accounting, systems-thinking, API design, open-source software project management.	Computation	3	2	8
Project #22: Abstract Data Type: Conserved Quantities	Ready-to-start	Super-cool computer programming utility	https://github.		Computation	4	2	7
Project #31: Oracular Graph Paper	Preliminary	Highly theoretic attach on Church's thesis with an	https://github.	Ability to tolerate potential failure, understanding of Church's Thesis, Theoretical	Computation	5	3	9
Project #32: Computational Theory Based on Progressive Refinement of Inpu	Preliminary	Very theoretical	https://github.	Theoretical computer science; ability to make crisp mathematical definitons;	Computation	6	3	8
Project #30: Number Spectra: Build a map of common irrational combination	Progress but Inactiv	Fun, easy math explorations	https://github.com/PubInv/number-spectra	Combine sophomore college-level math (analysis) with open-source management,	Computation	7	3	3
Project #2: Lovecraft, The Programming Language	Ready-to-start	A deep approach to build a new programming	https://github.	Deep understanding of programming, programming environments, programming	Computation	8	2	10
Project #42: Volumetric Colony Counting	Preliminary	Highly valuable use of optics and software to	https://github.	Use of modern computer-controlled microscopes. Ability to construct growth media	Science	2	3	9
Project #39: Botanical Impedance Sensor	Progress but Inactiv	Advance instrumentation of botany with modern	https://github.com/PubInv/botanical-impedance-sensing	Arduino or Raspi programming; ability to research and purchase sensors; ability to	Science	2	3	4
Project #18: Virtual Soundscape Recorder and Wildlife Locator	Ready-to-start	Combine art and science to build an enjoyable map	https://github.	Some Digital signal processing. Ability to construct matrix of microphones and	Science	3	2	8
Project #7: Color-block-based Writing System	Ready-to-start	First steps done; ready for active study and	https://pubinv.github.io/color-block-font/	Computer human interaction; experimental design; willingness to train self in reading.	Other	2	1	3
Project #33: Use PVA to 3D print dissolvable molds for fluids	Ready-to-start	Practical 3D printing technique development	https://github.	Imagination; 3D printing, 3D modeling, ability to find new applications to soft objects,	Other	3	2	4
Project #27: Space Propulsion via throwing and catching projectiles	Ready-to-start	Highly theoretical, critically valuable, pen-and-paper	https://github.	Technical writing; ability to program simulations; ability to explain scientific concepts	Other	4	2	9
Project #53: Oxygen Concentrator	Highly Active	High flow medical grade oxygen concentrator	https://github.com/PubInv/pioc	Mechanical, electrical, software engineering, industrial control systems, safety &	Health	4	1	8
Project #54: Ferrofluid Check Valve (Passive)	Highly Active	Theoretical but easily testable work to build a	https://github.com/PubInv/ferrofluidcheckvalve	An easy project to test via laser cutting and 3D printing. A nice, self-contained project.	Machines	11	1	2
Project #55: Medical Device Regulatory Approval Sunlight License	Progress but Inactiv	Create a new intellectual property license designed	https://docs.google.	You have to be very familiar with free-libre open source licensing to work on this,	Other	1	1	7
Project #56: Fluid UI for small panels on embedded systems	Preliminary	Unresearched; can we create Bootstrap for small,		Electronics, firmware, UI/UX, Arduino, Raspberry PI	Computation	4	2	7
Project #57: Low-cost respiratory proportional solenoid valve	Preliminary	Medical proportional solenoid valve to connect to		3D printing, materials science, fluid flow, mechanical design, medical devices	Machines	4	1	6
Project #58: 3D printing quality control using machine vision	Preliminary	Use a webcam that can be added to any FDM printer		3D printing, computer vision, machine learning, Raspberry PI	Machines	6	2	7
Project #59: Greenwood Vessel Stove	Preliminary	Create a combination vacuum dryer/stove/enriched	https://github.		Energy		3	5
Project #60: General purpose Alarming Device	Highly Active	Create a cheap audio/visual alarm module with a	https://github.	Arduino programming, electromechanical design, UX skils, project management,	Machines	7	2	2
Project #61: Freespireco	Highly Active	A complete, free-libre open-source, easily	https://github.com/PubInv/freespireco	Medical safety engineering, regulatory advice, computer programming, project	Health	1	1	9
Project #62: Public Ledger Anti-Crypto Karma flow system	Preliminary	Public accounting of goodness to support altruisitic	https://github.com/PubInv/anti-crypto-public-accounting	Understanding of accounting and free culture principles; simple programming in	Computation	6	3	3
Project #63: Personal Cooling Suit	Ready-to-start	Build a garment to survive devastating heatwaves	https://github.	Health; thermal engineering, electromechanical refrigeration, micro-mechatronics,	Health	2	3	6
Project #66: Permanent Memory in Programming	Preliminary	Keep entire program executions as computable	https://github.	Conputer programming, theoretical computer science, compiler hacking.	Computation	7	3	8
Project #67: Polytext	Preliminary	Make the basic idea of a linear text more powerful	https://github.	Computer programming, abstract thinking, understanding of programming and/or	Computation	8	3	5
Project #47: Euler Notebook	Progress but Inactiv	A "math assistant" for working with a stylus on a	https://github.com/PubInv/euler-notebook	Programming; math, Mathematica, some proof theory, possibly machine learning.	Math	1	1	3
Project #49: NumberSpectra	Progress but Inactiv	Make a number-line widget that shows numbers by	https://github.com/PubInv/number-spectra		Math	1	2	4
Project #50: Safer Bag Valve Mask Monitor	Highly Active	Build a BVM that prevent lung injury	https://github.com/PubInv/BVM-monitor		Health	1	2	6
Project #51: Internal Combustion Food Cooker	Preliminary	A internal-combustion charcoal vessel to place inside	https://github.	Thermodynamics, chemistry, material science, human-centered design	Energy	4	1	8
Project #68: PolyVent	Highly Active	A modular ventilation proof of concept and	https://gitlab.com/polyvent	C++ programming, mechanical engineering, electrical engineering, pumonology	Health	1	1	4
Project #69: Templokilo	Progress but Inactiv	Automatically build a time/space map of uploaded	https://github.com/PubInv/templokilo	JavaScript programming, cryptography, OSINT, journalism	Computation	5	2	3
Project #70: Sci-UI	Preliminary	Web component library for scientific user interfaces		Software, web dev, Typescript	Computation	5	3	5
Project #71: BabyMon	Preliminary	Baby monitor to reduce SIDS		Software, electronics, ML, vision, healthcare	Health	5	3	3
Project #72: Tilly	Preliminary	Autonomous gardening robot		Software, electronics, mechanics, ML, botany	Agriculture	5	3	7
Project #73: Ferrofluid Pump With Only Fluid Moving Parts	Progress but Inactiv	A proposed ferrofluid pump that rotates a water	https://github.com/PubInv/ferrofluid-pump	Magnetics, arduino, microelectronics, ferrofluid physics, 3d printing or other making	Machines	5	2	4
Project #74: Intelligent Respirator	Preliminary	Adding sensors to a PAPR could make a life-saving	https://github.	Arduino, embedded systems, microelectronics, battery management, UX, first	Health	3	3	4
Project #75: Rotaray Aquatic Propeller Which Is Not a Screw	Progress but Inactiv	A completely novel "safe" means of aqualtic	https://github.com/PubInv/unscrew-propeller	Computational Fluid Dynamics, 3D CAD, physics, mechanical engineering, building a	Machines	1	1	3
Project #76: Bedsore Prevention System	Preliminary	Decrease labor for long term care by a system for	https://github.	Research skills, organizing information, project leadership, integration of knowledge	Health	3	3	9
Project #77: Variable Focus Lenses	Preliminary	It has become more apparent that environmental	https://github.	Physics, reasech ability, microelctronics, opthamology.	Health	5	3	8
Project #78: Design Language for Public Infrastructure	Progress but Inactiv	A set of assets and a design language reusable by	https://github.com/PubInv/design-language-for-public-	Art, organization, creative writing, graphic art, user interface design	Art	1	1	1
Project #79: Nano-joint-stock companies	Highly Active	Use simple software and public accounting to	https://github.	Elementary algebra, computer programming	Computation	1	1	3
Project #80: Alarm Dialog Management	Ready-to-start	Develop a human-alarm interaction management		Programming, clear headedness	Health	1	2	4
Project #81: Harm Reduction Kit	Preliminary	Develop an open source harm reduction kit around	https://github.com/PubInv/harm-reduction-kit	Organization, technical writing, ability to communicate with experts.	Health	2	1	2