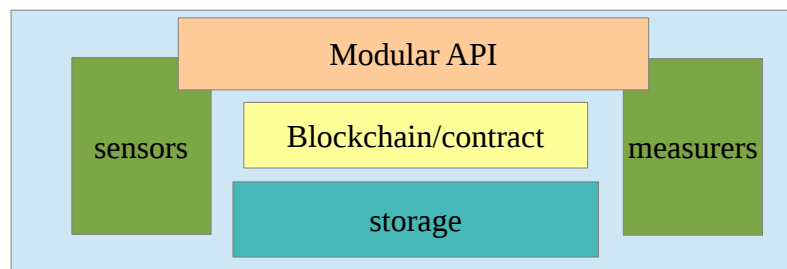ModusEsse – Technical Founding Paper -Draft 1

Introduction
The next wave of Internet decentralization is underway. Built on the foundation of generations of mathematical and technological innovation in the field of cryptography and Internet networking. Blockchain technologies becoming the established backbone for decentralization. Self expression on the Internet has taken hold and now sensors add to the production of personal, environment and cultural data. These collective sensors are termed, the Internet of Things. In a personal sense, the term Quantified Self (QS) has been used to describe the use of this data for augmenting self intelligence, or wellbeing. This volume of personal data is growing exponentially and extracting intelligence in isolation or as a collective incentives scientific research to startup innovation to understand or extract meaning. This paper sets out how an AAE, an autonomous application environment technology can combine, blockchain, sensors and measurers (intelligence extraction) for individuals on a decentralized Internet.

AAE Technology
AAE (autonomous application environment) – a decentralized modular application run and deployment container. The following diagram summaries it basic architecture:

AAE container
The main function of the container is to provide a secure application run environment for any hardware . In bitcoin these are referred to wallets, with the core bitcoin and extra security wallets like https://bitcoinarmory.com/ .

Modular API (application programming interface)
The primary building block for the AAE is the individual. All individuals will be free to independently perform self discovery of intelligence. The modular nature of the API allows the combining of multiple AAE for an individual or for those that want to combine self discovery on a Peer to Peer basis to aid the discovery of more complex collective problem solving. The AAE modularity also acts as the glue for existing decentralized technologies like storage and blockchain contracts and transactions.

Blockchain/Contract (smart)
The backbone of trusted decentralization comes from the blockchain. Many blockchains exist starting with currency(bitcoin) and now contract (ethereum.org) for the decentralization of law. The AAE will be compatible and use such technologies.

Storage
Each individual has the right to keep a copy of their life on the record. Decentralized storage technologies promises to provide unlimited and secure peer to peer access, e.g. maidsafe.net. The AAE

will use such saving protocols.

Sensors:
The ability to measure will increasing come from personal and environment sensors. The range and function of the sensors is vast and growing exponentially. The AAE will begin with 'light' data volumes that can be managed, heavier, voice, video data will follow.

Measurers
The sensors capture the data, but what does it mean? What self intelligence or collective intelligence can be extracted? The AAI will provide a place for a broad range of application from statistics, data mining, machine learning, AI or AGI to run.

Reward Measurers
Self and collective intelligence needs an incentive mechanism to direct evolution. Measurers will be rewarded when new discoveries are established ie rewarded with EsseCoins.
[need some mathematic formula for this. NB. Mining leads adoption in bitcoin, if we take a discovery rewarding then, that implies in the future, ie new knowledge can only be reward once established, but at the same time the individuals and society at large need a future looking mechanism to direct problem solving ingenuity eg. To sort my left knee pain to cure Cancer.]

EsseCoins
The cryptocurrency of the AAE. How individual, sensor, measurers, cryp0-stack use?

Fundamental Technology Challenges:
   – volume of data
   – integration with sensors
   – running complex measurer code
   – run any hardware environment
   – realtime – feedback visualisation augmentation, implant
   – Security, privacy.

How address each of these: see separate papers.

Open source
The code will freely available and governed by ModusEsse Foundation. Embracing decentralized technology tools, gitchain etc.

Developer adoption
Core – visionary crusaders, QS'ers, Engelbart followers

Sensors – wearables 2.0 leaders, kickstarter/indiegogo/crypto crowd funding starups, DIY, open source, medical, academia.

Measurers – data mining as service, AI, AGI, open source prediction projects, exist centralized QS as a service website/apps.

Existing decentralized: bitcoin, ethereum, maidsafe, crypto communities.