



## Detailed Usage Specifications



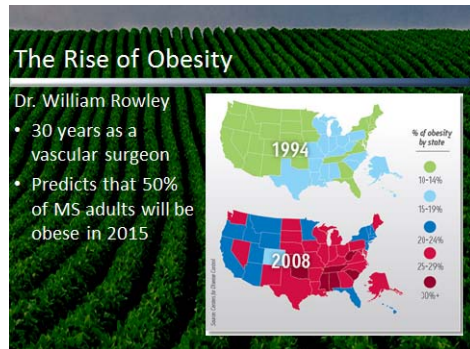
*Focus Area: Campus-led crowd based sensor economy generating evidence-based strategic intelligence at the pace of change.*



### Usage Definitions

Use case title	<b>Campus-led Crowd-based solutions</b> <b>V11.0- Overview Community Health Intelligence</b>	
Usage model	Local community engagement models using light instrumentation to track community burden of modifiable poor health behaviors	
Use case tag	UC.BP.20110923	
Priority	High	
Use case summary	<p>The students arrive on campus with a “crowd in their pocket” and expect to assemble cross disciplinary teams to design and implement solutions to solve real world problems. In this case, the students select a community health challenge of sub optimal activity levels across specific demographics. They group into small teams to design user experiences that would impact this challenge. They recruit by expanding their social network, a cohort of individuals large enough to determine whether their proposed user experience would sustainably engage participants such that meaningful improvement of the health challenge could be demonstrated.</p> <p>Communications are distributed to potential participants explaining that a community data commons has been set up to accept activity data and other information to achieve two goals:</p> <ol style="list-style-type: none"><li>1) To explore the evidence that certain approaches to enhancing activity in this cohort either works or does not work and why</li><li>2) To aggregate this insight with other overlapping experiments with the expressed purpose to monetize this data and subsequent insights/new algorithms in transparent approaches that will be used to reduce</li></ol>	



	<b>TUITION FEES</b> (unite the community against this common evil)	
Related capability	Standard open source data collection, analytics and data visualization software is shared enabling a "super set" of unique tools to be built by the students and available for distribution via new as well as traditional business models	
Technical description	<p>A suite of easy to use, low cost sensors (accelerometer, weight scales, blood pressure cuffs, sleep cards and others)</p> <p>Wireless transport to smart phone and/or PC</p> <p>Basic user interface for registration and basic package data viewing</p> <p>Back end analytics engine</p> <p>Transparent Group aggregation and group trend visualization engine</p> <p>Alternative Currency tracking community data contributions</p> <p>Accounting engine tracking monetization events and delivering transparent distribution of standard currencies across all contributors</p>	
Actors	<p>Campus administration/policy and professors supporting the projects</p> <p>Student groups</p> <p>Community cohorts ( young mothers, teenagers, men over 40, elderly, others)</p> <p>Selected sensors</p> <p>Community leaders broadcasting the projects</p> <p>Philanthropists providing seed money</p> <p>Facebook, twitter, Web pages tracking participation growth trends and broadcasting monetization schemes</p> <p>Posters, Buttons and Window stickers for vehicles promoting the " I'm dropping Campus XX Tuition fees" (or something much catchier)</p> <p>PC, smart phone apps</p> <p>IT department</p> <p>Policy</p>	 
Pre-conditions	Need a small set of easy to use sensors tracking relatively benign health information such as activity or sleep. Seed funding to set up the Community data commons and standardize the technology approach as well as a set of instructor manuals to minimize the start up pains.	
Scenario(s)	<p>Student attends the introductory classes on crowd-based strategic intelligence. They separate into small multidisciplinary groups and decide on a community health challenge that they would like to tackle.</p> <p>They sketch out a solution to be applied to a community segment and consider innovative business models should the solution prove effective.</p> <p>The students generate a basic technology need: which sensors, which data aggregation solutions and which analytics and/or other tools will be needed?</p> <p>Campus philanthropists view the projects and provide seed funding to the winning teams.</p>	 <p><b>The Rise of Obesity</b></p> <p>Dr. William Rowley</p> <ul style="list-style-type: none"> <li>• 30 years as a vascular surgeon</li> <li>• Predicts that 50% of MS adults will be obese in 2015</li> </ul>

The basic technology need is pass onto the technology expert team to define the protocols and other specific requirements needed to support the solution. A prototype is assembled and tested by the student groups.

Meanwhile, a marketing campaign is underway to recruit community participants (via social media and traditional routes)

The start and end dates are set. Target numbers of seed participants are recruited via the sign-up tool. Sensors/devices are mailed out or picked up at campus sites.

The community data commons dash board tracks and displays on the web page: numbers of participants and volumes of data feeds and any early predictions or insights the researches care to post (could be humorous and engaging and nudging others to participate)

Weekly team reviews of participant behavior and feedback generate insights into what is working and what is not. Easy fixes are completed while the program is up and running while larger fixes may wait for a future project.

Student teams cross review each other's projects to generate further insights.

Community data commons starts off empty and with zero value and over time the "filling" with high yield community health data transforms the empty bucket into a "crystal ball"-like asset with robust predictive capacity.

Innovative Monetization Schemes are proposed and tested. All funds generated are shared equally across the community contributors independent of the success level of the proposed solution (it is equally as important to uncover what works as what does not work)

Researchers are attracted to campuses that house a robust and valuable community data commons with the community culture preset to co-produce intelligence.

Industry is attracted to cohorts already set up to answer real world questions about how new technology solution may or may not be effective within free living communities.

Health adjustment and reduction of poor health outcomes is likely to be more of an innocent bystander, a "side effect" of enabling community members to share their data with the student projects in the ongoing quest to **shrink tuition fees**.

This triad of students, free living community, and expert/professor oversight is expected to model not a top down, nor bottom up, but a middle-out approach to achieving

### Future Plan and Scaling

- Our business model is easily scaled to fit however many clients we have
- We will advance our business with the pace of new technology
- We will move our efforts to primary schools and colleges
- Gamification of our business model to expand our scope and influence



### THE GAMIFICATION OF FIT

- Points
- Leveling Up
- Leaderboard
- The Battle Ground
- Reward and Badges
- The FIT Avatar



	<p>significant breakthroughs in community-based public health challenges.</p> <p>This approach specifically leverages social connections already in place in a community to:</p> <ul style="list-style-type: none"> <li>• jumpstart and sustain communal attention</li> <li>• to maximize use of free bandwidth from cross industry segments</li> <li>• to shift the community culture past the current “on standby mode” to one of strong expectation to proactively participate in the co-production of goods and services benefiting mankind</li> </ul>	
Task flow / Course of Events	<p><b>Action</b></p> <ol style="list-style-type: none"> <li>1. Campus interested in participating is provided the overview materials</li> <li>2. Students divide into groups to select community health challenge and assemble their team to pull together and implement the proposal</li> <li>3. Unexpected road blocks will emerge and require “on the fly” adjustments to basic ideas</li> <li>4. Cross project presentations and critiques are done regularly</li> </ol>	<p><b>Expected Outcome</b></p> <ol style="list-style-type: none"> <li>1. The administration and professors will link with their philanthropic community to test out support.</li> <li>2. Students will be comfortable with cross disciplinary teams: Marketing for the posters, buttons and window ware, economists for the business models, technology folks for the soft ware and hard ware support and so on.</li> <li>3. Good dose of road-rash” helps move teams beyond just ideas to the reality of implementation</li> <li>4. Cross pollenization of “fixes” and previews of potential problems</li> </ol>
Post-conditions	<p>Campuses not longer just lift the collective talents of students but also are expected to co-lift the collective talents of community members.</p> <p>Community members feel more connection to the campus and the students and expect to play a role in co-producing future health intelligence rather than remain silent and passive recipients of future “goods”.</p> <p>Innovative community engagement models emerge and sustainable engagement becomes real.</p> <p>Innovative business models emerge</p> <p>Tuition fees plummet.</p> <p>Institutions create a competitive advantage by demonstrating their ability to co-create value with the students and the community through the community data commons infrastructure.</p> <p>More campuses are keen to adopt this model and Continua produces a standard set up package (Software, hardware and instruction pack)</p> <p>A standard unity of health value efficiency (such as Insulin Resistance adjustment) is established to be able to provide reliable comparative effectiveness evaluations.</p> <p>Government and Policy folks are interested in sponsoring competitions between campuses to help motivate the spread of overlapping experiments.</p> <div data-bbox="844 1026 1367 1390" data-label="Image"> </div>	
Alternate paths	<p>Rather than an open source to the base solution, Campuses select a closed system and are then unable to share data across campuses. This would stall the functional capacity for collective insight generation.</p>	

	Building new and unique data value adds is expected as the data commons capacity continues to grow. These then can be campus-specific value-adds that may be protected by IP and other traditional models.
Exceptions	This system can be used by Churches and other groups interested in similar projects
Issues/additional information needed	Hopefully the Campus-led crowd-based approach can be considered a "special case" environment by the FDA because of the expert oversight provided by the University professors. In this way, the FDA could enable valuable proliferation of participatory experiments and benefit from crowd-based validation of proposed technology "intended use".
Revision date	2011/10/04

## Reference Architecture:

to be submitted by:

Applied Sciences University of Vienna

## Implementation Considerations: