Local Food Northland - Software

Goals

We recognise that in a community as large and widespread as Northland communication is a key issue. Recovery of community engagement is a key value we are promoting with our Local Food Northland project, with the social capital and enhanced social and health outcomes which that brings.

With the Government's goal to [enhance access to the internet in Northland](#) appropriate software tools are the obvious means by which we can engage producers with consumers, create cooperative clusters who will then be able to offer a viable alternative to out-of region food, reduce waste, create many new job opportunities for our young people and thereby retain wealth and skills in our region.

This networking will enable revitalisation of smaller communities, where houses and facilities are cheaper and unemployment is higher. It will also allow networking of existing local initiatives (food hubs, markets etc) so that excess is not wasted but can be diverted around the region, or to processing centres where what would otherwise be wasted may be turned into preserved food. We see that this is also a way to engage with Marae as production centres, meaning that many communities are able to grow enough food for their own needs, and excess will be able to be put back into the larger Northland network.

Finally, as a community owned resource (the IP will belong to the Trust), any profits from licensing this software to other communities will be spent in Northland in enhancing well being of the most needy.

Requirements

In discussion we have mapped out what we require in terms of software to facilitate the Local Food Northland process. It needs to be a place where:
- producers can log on, list what they have and projecting what they are likely to have over say the next month or two
- registered businesses to log on to place orders (say cafe's, rest homes etc) and estimate their projected future needs
- the public can go to access a directory of who is participating in this i.e. where can I go to find suppliers of local food - prepared (say cafes and restaurants), raw materials (say food co-ops both virtual and physical) - probably an app would be useful
- the broker who is co-ordinating this can take a high-level view of current available stock and projected stock, giving information for what there may be an excess of (to go to processing) and what there is likely to be a shortage of (to alert growers as to potential needs and to encourage new growers in to meet guaranteed needs)
- the broker can drill down from the overview to see who is growing say carrots presently and how much - would also contain details of growing standards used

(organic, hydroponic, spray free etc.) plus details of varieties and other relevant notes/tags
- growers, services (health and safety, legal, accounting), processors, distributors that share values around localisation and sustainability can log onto to locate each other to keep the value they produce in the local region
- there is linking into ethical sources of goods and services that we can't produce within the region
- there is linking into research to highlight opportunities for new local businesses and services
- people interested in specific types of production say across the region may interact online and share ideas and resources
- transaction value is reflected in broader terms than money reflecting both internal and normally externalised "costs"
- input at every level to be tracked and fairly remunerated, but also allowing altruistic and voluntary input fostering an economy of generosity and collaboration
- the lines between beneficiary, consumer, producer, funder and investor are blurred recognising that we can all participate in the "real" economy in all these ways
- we do all of the above while interacting with conventional business, tax and legal requirements
- easy interface with physical food hubs, processing and distribution centres is possible

We have carried out reviews of existing software working around the problems faced by coordinating localised food systems. Most focus on tools for CSA's or food hubs selling to the public (Bucky Box, Open Food Network etc). We have also trialled general networking tools Slack and Loomio and found that some of the features are very useful to meet some of the needs above, but they are not broad enough to be engaging on a wide enough scope for what we need.

We want software that links up the regional food system - including existing food hubs, and extends organically into the wider support systems. In order for this to reflect our values of localisation and resilience the model should *not* be dependant on the internet - it should be capable of functioning in a peer-to-peer network or even as a manual system if necessary, and it also should be capable of functioning using alternative currencies, local currencies or even without currency.

Value Flows

The best model we have found so far is ValueFlows. Value Flows is an open source project. It is not a software solution as such but *... a set of common vocabularies to describe flows of economic resources of all kinds within distributed economic ecosystems*.

This represents an alternative way of looking at work and production and accounting for this in a way that better expresses a whole-system view where the "waste" of one activity is the raw material of another, and value is expressed in tangible terms rather than having to be denominated into currency (which as we know is mostly incapable of expressing "true" value

or cost). It also recognises the contributions of all in a non-hierarchical manner, Value Flow principles "behind the vocabulary" are as follows:

1. *The model must enable collaboration between different people in different organizations using different software on different platforms using different human and programming languages.*
2. *The model must be able to form global networks which can track the flows of resources (values) forwards and backwards. Or maybe it would be better to say "in any direction", but forwards means in the direction of value creation, and backwards means in the direction of return or compensation.*
3. *Corollary: the model must be able to support value equations that distribute income (rewards) according to peoples' contributions to the creation of the values that generated the income or rewards, regardless of where and when in the network configuration those contributions occurred.*
4. *The model must also be able to support coordinating work between different people in different organizations. People who are not concerned with rewards may still want to coordinate work.*
5. *The model must be fractal. It must support global views of networks in aggregate as well as drilling down to lower and lower levels of detail. Those lower levels of detail, for example inside one organization, may require permissions.*
6. *The model must also work on the Recipe, Plan and Event levels (whatever those get called in the end), where the objects on each level are linked appropriately to the other levels.*
7. *The model must support non-business-as-usual organizational forms and economic relationships in addition to traditional business organizations and relationships.*
8. *The model must support systems where all the contributors can get shares of the outcome to allocate as they wish e.g.*
    a. *contributors to renewable energy coop get kWh of electricity to allocate*
    b. *contributors to train system get 'km on the railway' to allocate*
    c. *contributors to food network, get 'food baskets' to allocate*
    d. *In other words, a group can choose to introduce various monetary currencies into their flows but can also do all the coordination and accounting without introducing such artifacts.*

Proposed Development Team

- Mikey Williams, NZ based contributor to the Value Flows project and member of the Enspiral Network - developer
- Matt McKegg (developer and co-director of Audit Assistant Ltd) co-developer
- Clive McKegg (director of Audit Assistant Ltd and Trustee of Local Food Northland) - provide design input and specialist accounting, reporting and tax compliance input
- Sean Stanley (developer and director of the Northland Natural Food Co-op) providing input on design and interfacing with existing software

Funding and Development Model

It is envisaged that in keeping with our sustainability values and the Value Flows principles developers be paid for this work, and as the project progresses, sustainable funding models will be developed. Initial funding will be provided by way of grants and sponsorship, then once operating there will be income streams from users and potentially from licensing to use through other regions to fund ongoing development and support. Northland will be the first region to use this new software.

The idea is we use this common vocabulary and way of looking at a local economic system as the basis for our software. At completion this represents a complete alternative accounting system that encompasses full Six Capitals style reporting and planning tools. But there is a an agile process to develop the software specifically for Northland, New Zealand, incorporating Value Flows vocabulary. The intellectual property of the project will belong to Local Food Northland Trust.

All of the work to date has been sponsored by Audit Assistant Ltd (Clive McKegg, trustee of Local Food Northland, is co-director). On-going costs of development will continue to be underwritten by Audit Assistant, however in order to build capacity for this project we are looking for help from funding providers and sponsors. We are seeking $120,000 for the first year of development, as detailed below.

The development path is as follows:
1. Plan overall architecture using Value Flows vocabulary
2. Create initial prototype using Audit Assistant platform
3. Test ideas with potential users
4. Complete database that will accommodate all requirements above
5. Work with existing software to integrate in terms of Value Flows vocabulary (food hubs etc)
6. Create new user interface/applications for various use-cases
7. Work on reporting to comply with legal/tax/accounting requirements
8. Release these parts as completed for beta testing
9. Refine, integrate and test
10. Support desk and training development

Costing

Initial Design	$10k
Prototyping	$10k
Testing with users	$5k
Backend database design	$15k
Integrations with existing software	$10k
Initial UI & graphic design	$10k
Public Website design	$10k

Legal, accounting input and design	$10k
Reporting module (for tax compliance)	$10k
Server setup	$ 5k
Data Entry	$ 5k
Partnerships, Fundraising, advertising	$ 10k
Support desk setup and Misc	$ 10k
TOTAL	$120k

Extras – if funding available

Add extra categories (eg energy, housing)	$10k
Add extra region support	$15k each (networking & loading of database)

Running costs $30k p.a. estimated - funded by subscriptions, sponsorship etc.

Funding

Potential funders of initial project:

Tyndall Foundation - Employment and Enterprise- seems to fit well with criteria

Northland Foundation - Northland Grassroots Giving Fund - funding is limited and although we meet all their general goals there is no specific criteria for this project

Foundation North - "People" funding - have indicated interest in overall project but that funding software may not meet their criteria - need to follow up

The Catholic Caring Foundation - Grants - no specific criteria but we have spoken to them personally and the seem very positive - cap of $15k however

Sponsorship: seeking out local businesses and organisations that can see the benefit of this to contribute

Audit Assistant Ltd - Audit Assistant will underwrite costs not covered by other sponsorship/ funding

Notes:

How does the value flows vocabulary work?

From Mikey (https://github.com/valueflows/valueflows/issues/102) - (key vocabulary is underlined)

Introduce what is Value Flows: a work in progress set of minimum concepts (domain models) to describe socioeconomic systems.

We aim to describe an abstract vocabulary, in that it only describes the simplest and most general set of verbs and nouns that are necessary in order for disparate projects and communities to define concrete vocabularies based on their specific use cases and local culture.

Our target audience is developers building apps that involve socioeconomic systems.

Introduce subjects of our systems: <u>agent</u> & <u>resource</u>, Also as a way to introduce type objects.

Introduce <u>interactions</u>, or what to do with <u>agents</u> and <u>resources</u>: <u>transfer</u>, <u>transform</u>, and <u>transport</u>.

Introduce <u>conversations</u>, or events that must happen to reach an <u>interaction</u>: <u>intent</u> -> <u>commitment</u> -> <u>flow</u>.

I find it helpful to describe the concepts through examples and analogies.

"An example of an <u>agent</u> is me, Mikey! I have a name, an email, etc. each <u>agent</u>, like everything in Value Flows, has an associated <u>type object</u>. for <u>agents</u>, these can correspond to the different type of agents in Open OS, namely <u>Person</u>, <u>Pod</u>, <u>Community</u>, and <u>Network</u>. On the <u>type</u> we can specify properties of that level of organizing structure."

"A <u>resource</u> is a physical thing, a <u>resource type</u> is the abstract ideal of that thing. when you go on Amazon you browse through <u>resource types</u> you can buy, the physical thing that you receive in the mail is a <u>resource</u>. when you go to the library catalog you browse through types of books, which correspond to physical books you can check out. These <u>resource types</u> can relate to each other as a taxonomy, as we see with categories on Amazon and genres in the library."

"A <u>transfer</u> is when a <u>resource</u> changes hands. for example, i give you three dollars in exchange for a coffee. the coffee and money <u>resources</u> are still the same, but they've changed owners."

"A <u>transform</u> is when a <u>resource</u> changes <u>composition</u>. For example, i input the <u>resources</u> of coffee grounds and hot water into a coffee machine <u>resource</u> in order to output hot coffee. The hot water is consumed during use, the coffee grounds are turned into waste, and the coffee machine is used but still available for more coffee."

"In order to reach a <u>transfer</u> or a <u>transform</u>, we must have a <u>conversation</u>. It starts with an <u>intent</u>: a want like 'i'd love some coffee' or an offer like 'i have heaps of coffee'. once an <u>offer</u> and a <u>want</u> match, then two parties make a <u>commitment</u> to each other, almost like a contract: 'i'll give you a coffee in exchange for receiving 3 dollars' and 'i'll receive a coffee in exchange for giving 3 dollars'. now that we've <u>committed</u> to what we want to do, we only need to do the <u>flow</u>! One side gives the coffee and receives 3 dollars; the other side receives the coffee and gives 3 dollars."

Who is using this "vocabulary"?
The value equation defines how income is to be distributed based on contributions. So people log their work, financial contributions, and deliverables in the system, forming chains of resource flows (value flows). And then the distribution process finds all the contributions backwards down the chains, and applies the value equation to distribute income. (https://discourse.transformap.co/t/valueflows-and-transformap-coordination/760/4)

Here is an example of someone applying this: http://locecon.org/about/. There is a very interesting example in there concerning fisheries. Their work includes mapping the Hardwick food cluster (http://locecon.org/clusters/).

These concepts are used in software is developed by these people: http://mikorizal.org/ who state that they are: *...developing software for transitioning to the next economy. Not this economy, the next economy. The next economy must be driven by human and ecological needs rather than profit. And it will be networked.*

Mikorizal explain it this way:
(http://mikorizal.org/software.html)

Why traditional ERP (Enterprise Resource Planning) and accounting software won't work for networks...
The problems we've seen include:

- *Internal focus: ERP software is focused on "the corporation". They add other systems to deal with their supply chains, which usually means only their direct suppliers. And then still other software to deal with their customers, but only their direct customers. A network is seamless, from end to end and side to side. Everybody is equal, and plays different roles: supplier in this relationship, customer in this one, creator in another.*
- *Distributing income according to contributions, with no profit for the owner. (Or, no owner at all!) Who gets what? How do you track contributions? What about different skills? Do you reward time or deliverables? How to rate deliverable quality? Totally foreign to ERP software.*
- *Practical problems of administration, some that are not handled by programs like QuickBooks, and some that are not handled by very expensive ERP software.*
- *Distributed inventory with different owners. Following value flows through many parties. Lot tracking for food and medicines. (ERP does the last, QuickBooks doesn't, we do. Neither ERP nor QuickBooks can follow value flows, and distributed inventory is iffy.)*
- *Transparency and trust, where members of the network want to know the overall shape and often the details of the value flows inside and around the network. In particular, each member wants to know all of the details of value flows affecting them.*
- *Resource ownership, management, and sharing. Who owns or manages what? Who can use it? Under what conditions? With what compensation?*
- *Coordination without command-and-control hierarchies.*
- *Solutions to the administrative and coordination problems are necessary for an economic group to work at all. Solutions to the transparency and trust problems are necessary for the group to survive and prosper, or often to get organized in the first place. Solutions to the income distribution and resource sharing problems are necessary to avoid losing contributors. And if you are focused only on yourself, you are not even a network.*