Naturally Eating

Application for the Venture Cup *Startup* Competition May 2014

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Category: **Services**

Company one-line description

To be a first-mover in providing natural interface hardware solutions coupled with research-based frameworks of engaging user interaction modalities to enhance and extend user interaction in social networks beyond the screen.

Our company will specialise in custom hardware solutions for extending online social service networks to people without wifi and which arent necessarily literate. As a proof of concept we will create our own social network focusing on the concept of commensal eating of a specific user case --- creating, facilitating and managing commensal eating events using voice-based interaction. Many websites already exist to provide social networks around commensal eating, but by proving the efficiency of our prototype in our own network we plan to partner with the bigger players and make license agreements that will allow them to use our product to extend and strengthen their networks.

Milestones for success

This is a list of the milestones we need to overcome for our business to become successful.

They are not necessarily sequential, some need to be concurrently ready.

Milestone	Effect
Finding the right uniting theme or cue to spark the social network	Starts and maintains basic user adoption.
Developing a framework for crowd-sourced transcription of scrambled audio samples	Transcribed voice samples is a neccessity for our text-based algorithms to function and match peoples requests to what is made available by the network.
Developing a framework for propagation-tracking via speaker recognition and users location behaviour	Being able to track 2nd and 3rd degree user interaction patterns allows for targeted user enrolment campaigns that will help extend the network.
Automatic language detection	Allows easy routing of audio samples to the right transcribers
Partner with DinnerSurfer, EatWith, EatInCommon, Cookisto, NewGusto	Increased revenue on hardware products and leasing to custom infrastructure as a service.

Industry analysis

The product and our prototype-network fall within the category of the service industry. Our infrastructure of hardware and software will provide a service that lets people create, facilitate and manage commensal eating events.
During our extensive research into existing solutions that provide services of commensal eating or food sharing, we have only come across 3 solutions out of 24 that offers a touchpoint for users that is not just a website, instead it is mobile apps for iPhone or Android. There are no other existing services that propose what we propose of a voice-based interface to this type of social network.

Existing solutions	Comment
http://www.meetup.com	There exists a plethora of Facebook and Meetup groups centered around the concept of eating

https://www.facebook.com	together for purposes of dating, common-food preferences (vegetarians, BBQ enthusiasts), dinner parties, networking and socialising and exploration.
https://eatro.com/ http://www.eatincommon.com https://www.mealsharing.com/ http://surfingdinner.com/ https://newgusto.com http://dinnersurfer.com http://www.foodshare.com http://www.foodshare.co.uk/ https://www.kitchensurfing.com/ http://surfingdinner.com/ http://www.runningdinner.dk http://sharefoodprogram.org http://www.fareshare.org.uk http://www.foodshare.co.uk/ https://www.cookening.com https://www.cookisto.co.uk http://www.kitchit.com http://www.bookalokal.com https://www.eatfeastly.com http://www.foodnotbombs.net	Web-based services focusing on food sharing, food waste awareness, authentic experiences, dating, tourism or other forms of socialising.
(previously GrubWithUs) https://dosuperb.com http://leftoverswap.com http://homedine.com/mobile	Web-based services with mobile apps.

The case for interactive voice response (IVR) systems and natural interfaces

World literacy rate is probably as high as it has ever been in the course of history, but still 16% (775 mio) of world population cant read and write. In India nearly 35% of all women are illiterate. This alone makes a case for providing social network platforms that

And also remember, literacy is one thing, but then comes the question of english proficiency and more importantly: IT proficiency - being able and willing to use social media is a breeze for any 15 to 40yr old person born in the developed world but for older demographics those numbers start to dwindle quickly either caused by various accessibility issues like font size or just shifting priorities and lifestyles. How many of these people cook? And in total, how much of a market does it offer if one wants to pursue the line of a website-based social network for commensal eating? Not more than 10% of the world population we estimate. This is the

market share that all the existing websites are competing for.
By utilising a IVR framework we are open to both literate and textually-challenged people. Furthermore we will focus our research into making our solutions as *informal* as possible as we hypothesise this will be a key element for user adoption

The case for crowd-sourced transcription instead of computational (Nuance)

Nuance is currently the strongest provider in natural language technologies for speech recognition and synthesis as well as speaker recognition voice biometrics. Many highly competitive products such as the SayHi app for iPhone are built on top of Nuance's language models.
We will adopt a crowd-sourced approach so that we are not restricted to Nuances limited set of supported languages. Our main argument is that people understand people, and by providing a crowd-sourcing framework of micro-tasks we hope to also make a case for community-empowering alternative forms of employment models. The people signing up for a micro-task will be paid by duration of the audio sample being transcribed. The users of the system will have a monthly 'speaking quota' and if it is exceeded, a premium account must be purchased. In the initial stage the salary will be covered by company funds (and what we get by fundraising), but when scaling up to the larger production stage we plan to use the revenue from the premium accounts and external partnership revenues.
We will subsequently provide an option for users to 'Contribute to research' in which we will make their voice samples open source contributions to the research community and the VoxForge project which can boost competition to the language models available with Nuance and Google Now.

Market analysis

The Copenhagen users study

We have conducted around 30 user interviews (20 living close to ITU, and 10 random samples from around Copenhagen) to research food behaviour and attitudes to commensal eating. On the question of whether they would like to participate in our prototyping project, 25 replied yes. Some responded that they would participate knowing nothing about the event, the adventurous group, but most responded that they would need some 'reason' - like to network or to have a special food experience. The result of this study, coupled with our literature survey within the research community allows us to identify and hypothesize factors for motivating different people - cues.

Financial plan

Our financial strategy is shaped around our conception of the stages of the project.
We identify two main stages: the initial stage where the proof-of-concept social network is established and the frameworks for IVR and propagation-tracking are finetuned, and the production stage where customised versions of the solution is sold to interested partners.
Part of the 200.000kr prize will go to hire a Project Manager/Boss and a Fundraiser.

For the **initial stage** we will rely heavily on donation capital. We see our project as one that falls within the category of disruptive technology because it takes an entirely different approach to the concept of creating social networks. For this reason we think our project will spark interest from many different sources.
Because our project is centered around commensal eating we hope to attract investors within:

Investors focus area	Main argument for being eligible
local food production	tapping into what food is being requested in the network we can partner with local food producers to form food cooperatives
sustainability	research shows at least two important things: eating local food is less energy demanding than eating food that has been shipped long-distance, and eating together is less energy demanding than eating alone
environmental campaigns	going from the sustainability and the local food production line of reasoning, the network can be used to get statistics of meals offered and its estimated footprint and compare it to take-away dinners or

	single-person cooking.
people with disabilities	interactive voice response coupled with text-based social networks allows both people with disabilities, elderly and illiterate people to engage
community building	eating together plays a major role of all socialising activities and the formation of social groups
tourism experience economy	the ability to experience authentic local cuisines is a big value proposition in tourism
food insecurity	feedingamerica.org estimates that 20% of kids in US are malnourished in a state of hunger. Research shows that food security is not an issue of production but of access and distribution, our network will help by providing more sources of access to a varied meal
disaster relief search and rescue	As a side-effect of a voice- and location-based social-network which is not restricted to an internet website, it may also find use cases within search and rescue and again in ensuring a food supply network in case of disaster
womens/mens issues social awareness	Research points to many gender-based issues within food consumption and unhealthy food habits - men eating meat and sugar and women eating nothing. These habits are socially and psychologically rooted and research shows

	that eating together with others affects some traits of our eating behaviour. Our network provides a platform that can help to counter bad habits and it could also be used to drive custom campaigns these kinds of social awareness issues
alternative growth models	the network is exchange-type-agnostic, people are able to create dinner events expecting: nothing, money, cryptocurrency, gifts or other services in return as they prefer
research in language models	To challenge the monopoly of Nuance, Google Now, and to encourage more research in more languages, we will donate our audio database with users consent, to the VoxForge open-source project
research in interaction design and pervasive computing Internet of Things	parts of our software and hardware framework will be made available in the open-source domain and in our report for the initial stage we will publicate our main findings and guiding principles for peer review

The major part of the Venture Cup prize will be used in the **production stage** to fund the final design and mass production of devices. This is also the stage where we will focus on creating more permanent partnerships for a stable revenue flow. We will investigate whether some of the investors from the initial stage can become permanent partners and we will contact existing web-based social networks for partnership or sale of our product.
We will also enable a freemium model on our own social-network that allows power-users to access Support and custom features based on their needs.

The team

Paul Henckel is a masters student at ITU specialising in ubiquitous computing and interaction design. When not studying he has a part time job as a test engineer at Phase One A\S and a passionate interest in permaculture and urban gardening. With Paul's background we can design a solution using the latest technologies in an architecture that is scalable. We can also get information on environmental considerations and contacts to the local producer network.

Med Matovu is a masters student at ITU specialising in ubiquitous computing and mobile applications. He also has a degree in telecommunications from the University of Edinburgh. With his background we can assure security in our telecommunications solution and assurance that our user models reflect what the latest research shows in behaviour. With his Ugandan nationality we also plan to develop the solution to fit a Ugandan community.

Kannathasan Pandian is a qualified test engineer at Phase One A\S, previously employed at Nokia. He is also the president of the Danish NGO *Indians in Denmark* that promote different cultural activities for Indian immigrants and others. With his background and nationality we can assure quality of our solution and subsequently develop the product for an Indian user-base when we reach production stage.

Maria Karampela is a masters student at KU with interests in computing and cognition. Expertise in understanding how people interact and become cognisant with software frameworks. With her background we can explore what triggers motivation among different people and how we can take that into account when we design our solution. With her Greek nationality we plan to also make a solution for greek user base either in collaboration with Cookisto.gr or as an extension of our own platform.