

# Kitchie - a social network for food sharing

Version	v1.0.0 MVP (2015-11-22 futureoffood.dk)  This version of Kitchie provides a web-portal hosted on IBM Bluemix that enables users to sign-up with their Facebook accounts. They then fill in their food preferences and are able to create or find nearby matching eating events. Restaurants and food companies can use the platform to create sponsored events. Via Facebook we have a social graph of the users, this can be used passively to show the users how they are connected to other participants at each event, or actively in managing invitations and auto-matching. This turns anonymous users into eponymous users and raises the initial level of trust throughout the network. The main target group are exchange students as they have a need to both create a new social network and find food fitting to their culture.
Slogan	Eat good food, meet good people.
Mission	Helps build communities around food sharing - giving people the reason to cook.
Vision	By 2020, Kitchie, through an ecosystem of different services, empowers 2 bn people to gain access to adequate food and water on an everyday basis - half of these people were poor as defined by the Global Multidimensional Poverty Index at the time when they first signed-up to the system. By 2020, users of Kitchie have a collective global carbon footprint of 1 bn Gt CO <sub>2</sub> /year less than non-Kitchie users (based on available statistics). By 2020, testimonies from the majority of our users indicate that Kitchie has played a key role in increasing their general quality of life. By 2020, statistics indicate that neighborhoods where Kitchie's services are used actively by a slight majority of the population, constitute (with many exceptions) 'better livelihoods' than neighborhoods where Kitchie is not prevalent - in terms of public safety, economic activity and the general well-being of inhabitants.
Intention	With this paper we wish to share what our project is about and attract individuals who want to donate to the further development or become a part of the project in other ways.

**Paul Henckel**  
Author, Initiator, Project Lead  
pkrh@itu.dk

**Ave Nurmeots**  
UI, Frontend Developer  
ave.nurmeots.002@gmail.com

**Yasmin Nielsen**  
UX, IxD, HCI  
yasmin.nielsen@live.dk

**Jimmi Agerskov**  
System Developer  
jimmi.agerskov@gmail.com

**Bror Arnfast**  
System/Frontend Developer, HCI  
bror@arnfast.dk

**Michal Ján Sallem**  
Business and Market R&D  
mjsallem@gmail.com

**Adomas Bk**  
Business and Market R&D  
adomas.bk@gmail.com

## ABSTRACT

During the timeframe of a weekend<sup>1</sup>, seven people formed a team together around a project idea called Kitchie. With food sharing, or COMMENSALITY, as the unifying theme, the goal of this idea is to enable anyone to have access to good food on an everyday basis, building community, and in doing so, reducing the total energy footprint significantly for those involved. A real SAVE THE PLANET project.

We quickly realised that there exists many social networks for commensality already - Why weren't they taking off? Why didn't everyone use them already? How could we differentiate ourselves? How could we succeed when so many haven't had the luck? Is food sharing dead? Is cooking dead?

<sup>1</sup>See <http://futureoffood.dk>

Turning to our users we found that it's not dead, but struggling. Though we all like good food, few want to cook for themselves. When we can, we eat together with friends and loved ones, but finding the time and coordinating over endless Facebook messages, SMS 1-on-1, or some of these existing services can be dreadful and then what should have been a simple, enjoyable dinner, runs into the sand.

These insights, as well as the knowledge that food sharing is a fundamental aspect of human nature past, present, and future[44], kept us on track to design a MVP <sup>2</sup> - a service that facilitates commensal events hosted on an online marketplace. The concept of a marketplace is the most pervasive concept among existing services, but where we will differentiate ourselves is by our user engagement models, as well as integrating other concepts of commensal behavior (to be detailed in another paper).

The MVP is operational but has yet to be tested in real use cases. This paper summarises the effort leading to the MVP and highlights the next steps in the development.

## Keywords

Social networks, Food sharing, Commensality, Community building, Scalable webservices, Energy reduction, Resource mgmt

<sup>2</sup>See <http://theleanstartup.com/principles>

DISCLAIMER: Although we are referencing a lot of scientific articles and books, this is not a scientific paper. It is a subjective, executive summary of a development project called Kitchie.

## 1. INTRODUCTION

There are many problems in the world today worth fixing, but for this project we have narrowed our interest to the topic of food sharing. Food sharing, or commensality, is a narrow topic within what is known more generally as FOODWAYS - the “behaviors and beliefs surrounding the production, distribution, and consumption [and *wasting*, ed.] of food”[7]. Modern foodways globally are trending towards new extremes. We spend less time cooking, more time watching cooking shows [4, 38, 33]. We are throwing away at least 1/3 of all food worldwide while 2 billion people are malnourished either as in a state of hunger or overweight [34, 35, 43, 18, 15, 28, 20]. We produce (raise and slaughter) enough livestock each year that if you string them all up on a line they will be able to reach the moon and back again 5 times, and in turn this sector alone consumes 1/3 of our quickly dwindling freshwater resources globally. [3, 25, 31, 14, 1]. And there are many more critical issues facing both our food system and our livelihood as a whole [29, 30, 23, 13, 45, 39, 41, 6, 8, 32, 40].

So why do we want to focus on commensality? There are many reasons. Some of the key points are:

1. In some cases commensality helps reduce energy consumption [5].
2. Commensality strengthens social ties, people enjoy socializing around food and it establishes common ground [16, 24, 37, 36, 21, 12, 17].
3. Commensality improves the nutritional standard of participants. People who eat and share food together eat more and more varied than by themselves. [12, 36].
4. Commensality has strong implications for food habits of participants[9, 11], and HABITS play a large role in modern foodways [2].

In the introduction to the book *Commensality*[19], the authors refer back to Marcel Mauss’s concept of a “total social fact” ([22]) to say that the common meal, both formal and informal, “are occasions which simultaneously embody and present all aspects of society: the economic, jural, political, religious, aesthetics, moral, etc.” ([19]). Given that more than half of the population of the world live in big cities and are singles [42], and that inequality, unemployment and nationalism are global trends on the rise [23], also for these reasons we find it important to work with commensality as a way to bring different people together, share food with each other, create common ground and thereby help create stronger, more diverse, and more cooperative communities.

Commensality has been with us for millions of years in the past and some even argue that this ‘technology’, sharing food, is actually one of the key aspects that defines our humanity [44]. In the animal kingdom in total, you find very few species that actively share food as a cooperative action the way humans do. The challenge brought forth during the futureoffood.dk hackathon, which best fits this project is the *Lurpak challenge - how to make food real again*. We see that it isn’t necessarily lack of time, planning or knowledge, why people do not cook - it is REASON. The reason people do not cook is because there is NO REASON to cook. The majority

of all people on earth live in cities where you can get a quick snack on every corner and then go back to your real business. Both our own and other studies see a clear trend that people do not value food or eating quite as much when they eat by themselves. Kitchie is a platform to find others to eat with - a platform that gives people the reason to cook.

## 2. USER RESEARCH

When you take the topic of commensality as your problem area, you get ‘everyone who eats’ as your target group. That’s of course ambitious but it is not practical in terms of designing the service to fit the needs of the user. Research has to be done to narrow down and identify what are the concrete problems and values facing users with respect to commensality.

In the short timeframe of a weekend we conducted two user research studies. An initial one to survey the themes and values present among users, and a second one once our concept was more sharp, asking them to evaluate on a user scenario.

### 2.1 User Value Stack

The user research is what allows us to form an idea of the User Value Stack - the values as perceived by the users. This is an important aspect because if our value proposition is not high enough, our users will stop using our service.

From our study, the most important value points we identified were the social aspect of food - being social while eating and the act of sharing food with each other. What also surfaced but which seems to be of less value to users, are the points of having cheaper meals, saving time, experiencing new tastes and reducing food waste.

Using the ideas of the Value Proposition Canvas [26, 27], we can list it out as follows:

Pain Points	Gain Points
I hate cooking for myself, so I would always rather be in a social setting when it comes to food.	It is nice to be together to cook/eat the food, it is a totally different experience than when you are alone.
It is actually something me and my roommate discuss, because I get mad that he doesn’t eat the leftovers that he say he would.	I only cook “real” food when I am being social - for me, to cook a meal is a social act, almost a gift to those I will be eating it with.
I care about buying food that is expiring, since it is just being thrown out anyway	I would rather cook and eat with others. And I am almost never social, without food being involved.
I think a lot about food waste, and almost never throw food away.	

Table 1: User quotes representing values

### 2.2 Target groups and Personas

We have two main target groups: 1) exchange students, 2) domestic people interested in foreign cultures. The general traits of exchange students is that they are adventurous -

they have already taken the decision to take their studies in a new country. For some it is solely because of the educational curricular offered abroad, but for many it's as well a chance to learn a new culture, meet new people and find new opportunities. In all cases, a part of the life of an exchange student is finding ways to socialize in the new environment as well as finding food that fits their palate and pockets. The general traits of the domestic group is a bit more vague. People can be interested in foreign cultures for various reasons.

To not narrow ourselves too much from the start, it is also worth considering who else might see a value in using our service. For this we have constructed the following personas, see fig 1.

We decided that our main persona should be Peter - an exchange student from Czech Republic. Then we quickly formulated a scenario with Peter and presented it for test users to evaluate on. We asked them what they thought about it and if they could see themselves following a scenario like this.

1. Peter loves cooking food, and sharing the dinner experience together with his friends and family.
2. He also loves meeting new people, and prefers meeting people over a casual dinner than at the club at 3 in the morning.
3. One of Peter's friends has invited him to this new service, Kitchie, that has been up and running for a few months. The friend has already tried Kitchie for some weeks now, and so he sent him an email invite to the service.
4. Peter sees the different opportunities on the site, but thinks that the food club would be too time consuming at the moment. Also, he wants to know more about the concept before he signs up for a food club.
5. Peter has been invited to an event, by his friend's friend, 1.5 km's from his home. He don't know the person, but trust him, as they have mutual friends. The person hosting the event is a vegan guy, and 3 other people are already joining.
6. Peter decides to take a spontaneous decision, and sign up for the event. It costs only 20 kr., and will therefore be cheaper than cooking his own meal.
7. Peter participates in the event.
8. ... And was really glad afterwards. There were some really cool people. Peter decides to give the food and experience 4/5 stars, and write an enthusiastic review.
9. One week after; Peter is still really glad he participated in the event, and decides to host his own event.

10. Two months later; Peter has now used Kitchie for both hosting his own event, and participating in 3 others. He decided to give the food club a shot.

We asked 6 people. 3 men and 3 women about this scenario. The women were overwhelmingly positive and enthusiastic about it while the men were more reluctant saying that they felt they had too many other projects going on at the moment, that they didnt think their special food habits would fit in, or that they would fear being 'trapped' in a dinner with someone they do not like and that would be awkward. The men also made the point that they thought something like this would be good for someone who's very social already, or, that it would require an active and very loyal member group to make it work, or, that it would require very good marketing to persuade ordinary people to open up for eating with someone they do not know as either guests or hosts. However, they did see it too, as a good service, especially when you are new in town, or especially if you could see the friends/interests in common between yourself and the host when looking up the event.

One of the women agreed with the point that it would require good promotion and management, but only in the beginning of the service's life. Two of the women knew about MadRouletten and thought it sounded similar to that. The one who had tried that service said that "it's the most not-awkward way to meet new people, I have ever tried", but she also pointed to an issue - "One of the things that annoyed me a bit, was that you didn't know how much people cared about cooking the food". That the way MadRouletten is setup does not provision for that kind of fine-grained user control is a problem.

#### *What does this feedback mean for our solution?*

First off, feedback from 6 people is not fully representative. And the feedback might be biased in ways we have not realised yet.

But taking this at face value, it means we need to have good management especially in the launch period. Management of events, users, promotion and marketing. It means we need to design the platform to provide users with the ability to set the level of control that they need, the ability to get information about how they are related to other users, and the ability to bring a friend for an event. The feedback from the women indicated that they are the early adopters of this service, while the men could be the representative of the early/late majority<sup>3</sup>.

### **3. MARKET RESEARCH**

As we said in the introduction, people have been sharing food for millions of years. So a service around food sharing is not a new breakthrough phenomena. There are many existing services out there, in table 2 we briefly present some of them.

<sup>3</sup>See [https://en.wikipedia.org/wiki/Technology\\_adoption\\_lifecycle](https://en.wikipedia.org/wiki/Technology_adoption_lifecycle) for a talk about user segments in technology adoption

# Personas

## Main persona, part of the user target group



Peter is an exchange student. He is 26 years old, single, and living in Aarhus C. He is a master student, currently finishing his master thesis. In his spare time, he likes hanging out with his friends, going to concerts and other social events. In general, he loves hanging out with his friends, but also meeting new people, and he sees himself as a very outgoing person. Peter loves food, and also likes to cook it himself. This is especially important for him, since he is a vegan, and therefore needs to know what his food contains of.

Peter cares about animal welfare, the environment, and recycling.

At the moment he sorts his garbage, and occasionally buy second hand clothes, but he feels like he could do more, he just does not know what. Peter does not participate in any food clubs at the moment, but has participated in one a few years ago. He thought it was really fun, but eventually the planning perspective it fizzled out. Peter bought his first android phone in 2013, and since it is working fine, he dont feel the need to buy a new one. He also only update it when truly necessary.



### John, male, 43, single

- Foreigner that just moved to a new city
- Loves cooking
- Has a hard time finding good food in the new city.
- Where to buy it? Where to find good local and organic food.
- Love hosting dinners for friends and families.
- Love to spend time in the kitchen, preparing delicious food.
- Participated in food courses
- Has the newest iPhone.



### Anna, female, 21, single.

- Lives in a bigger city, hangs out with her friends a lot.
- Is participating in 2 different food club; one from her previous workplace, and one with her friends from the university.
- Finds it difficult to organize the food clubs, often it will be weeks between they meet, even though they all want to.
- Has got a dumb phone.



### Lea, female, 32, in a relationship.

- Participates in a food club with her boyfriend.
- Only cook at home 2-3 times a week.
- Often goes out with her friends /boyfriend for dinner at restaurants.
- Buys quality, local, organic foods.
- When cooking at home she figures out during the day what she will be cooking, and buys everything on her way home from her job.
- Often have leftovers or food that gets old, and that she ends up throwing out.
- Has a windows smartphone.

Figure 1: Overview of personas.

It is not in all cases totally clear what are the target groups, revenue streams and popularity of these services, but the table presents our estimate of those parameters in relation to these services.

<b>Solution</b>	<b>Target group</b>	<b>Revenue Streams</b>	<b>Interfaces</b>	<b>Popularity</b> (via Alexa.com)
EatWith.com	Foodies	Transaction fee	Website	86.996 Global site rank, most popular in US
EatFeastly.com	Foodies	Transaction fee	Website	325.912 Global site rank, most popular in US
PlateCulture.com	Tourists and local foodies	Transaction fee	Website and Android/iPhone apps	470.247 Global site rank, popular in Asia.
MealSharing.com	Tourists and locals	Transaction fee	Website	477,785 Global site rank, most popular in US
Cookening.com (VizEat.com)	Tourists	Transaction fee	Website	604.575 Global site rank, most popular in US
Cookisto.com	Neighborhoods	?? Transaction fee??	Android and iPhone apps only	Dead
MadRouletten.com	Young adventurous domestic/international	Transaction fee	Website	Well-known among Danish target group
RunningDinner.dk	Singles 30+	Membership fee	Drupal website	Well-known among target group, DK only
DinnerWithADane.org	Immigrants and locals	Partnered sponsors???	Weebly website	17.169.378 Global site rank
<b>Kitchie</b>	Exchange students and locals	Transaction fee, intelligent ads, sponsored events	Website, app, SMS	-

Table 2: Existing solutions around food sharing.

## 4. CONCEPT GENERATION

To start concept generation, it is good to recap the understanding of 'What is food?', 'What do we do with food?' etc. Going back to the introduction we introduced the concept of Foodways, the term used in anthropology to describe the beliefs and behaviours governing the classification, production, distribution, consumption and wasting of food. When we put this on a diagram such as figure 2 we see that where Kitchie comes into the picture, is at stage 5, the level of consumption.

What is valuable to realize, is that at any stage on the cycle there is a certain amount of 'food' and a certain amount of 'waste'. As seen in literature [15, 28], the general tendency for industrialised nations is that the waste contribution is highest in the Consumption stage, while for developing nations, infrastructure and technological issues make it so that waste contribution is highest in the production stage. To find solutions that can help bring down waste production in industrialized nations we therefore focus on the consumption stage.

### 4.1 Concepts around Commensality

We further narrowed our interest to look at the particular form of consumption called commensality. Commensality is special because it is a cooperative effort - it is two or more people who agree to come together to eat. We picked the concept that best resembles that of MealSharing.com and EatWith.com - we shall call this the ONE-NIGHT-MEAL concept, as well as the unique concept of a FOODCLUB. Both of these concepts fill the spectrum of 'The foodclub' as seen on Figure 3.

A foodclub is a form of commensality where participants agree to meet with each other at a given frequency - a rotating dinner agreement where people take turns hosting and can eat and catch up. The communication work involved in making this run is not little. Which is why we often hear users who have been in foodclubs previously that just stopped working over time. They stop working because it often requires one of the participants to take on an extra coordinating/facilitating role.

So, to sum up. Kitchie v1.0.0-v1.1.0 will start out by introducing the following concepts.

**One-night-meal concept** Where people for whatever reason, want to have dinner with someone else, just to try it out. Some might feel obliged to do it again, but not all. (The concept most similar to what is provided by EatWith.com, MadRouletten.com, MealSharing.com, and PlateCulture.com.)

**Foodclub concept** Where people want to form a club, an ongoing (mutually obligating relation) around food sharing together with select people of their choosing. (In extension to this, we would like to introduce the 'flexible foodclub' where the user prioritise time over relation and the system allows for other network users to join in in case the original friends dont have time.)

With a working concept in place we now turn to describing our chosen business models and revenue channels.

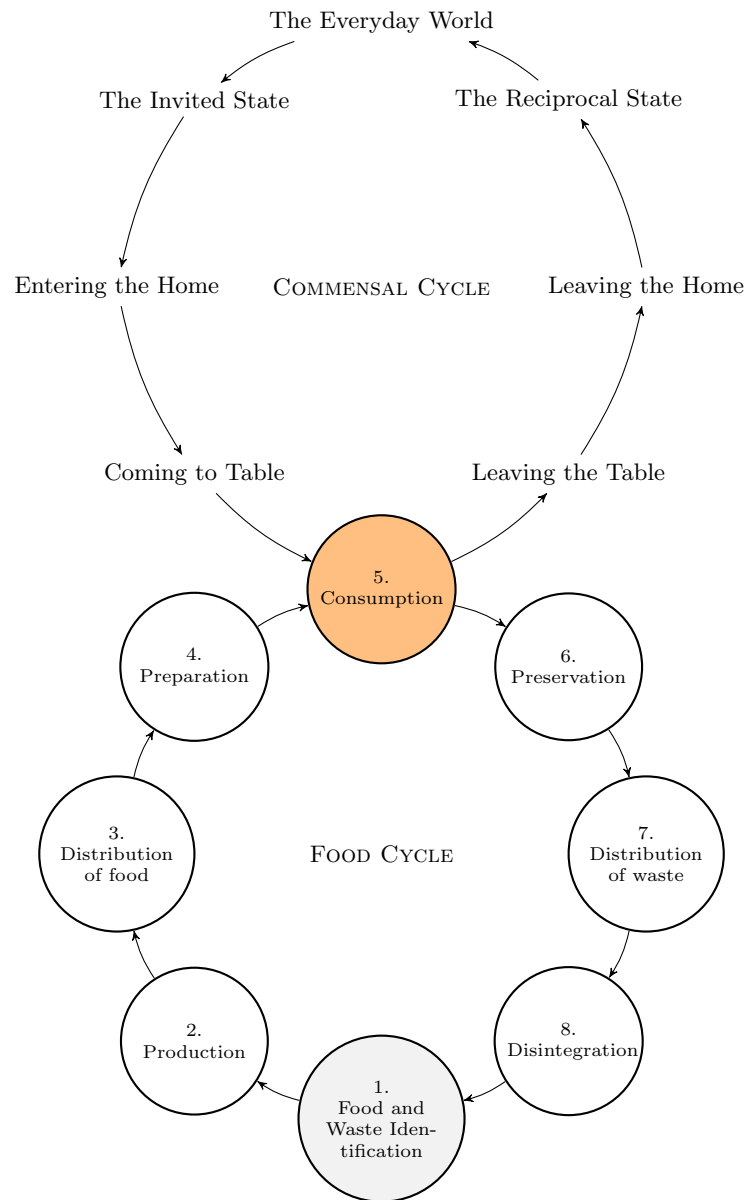


Figure 2: The food cycle and commensal cycle. MVP v1.0.0 targets level 5, the Consumption stage.

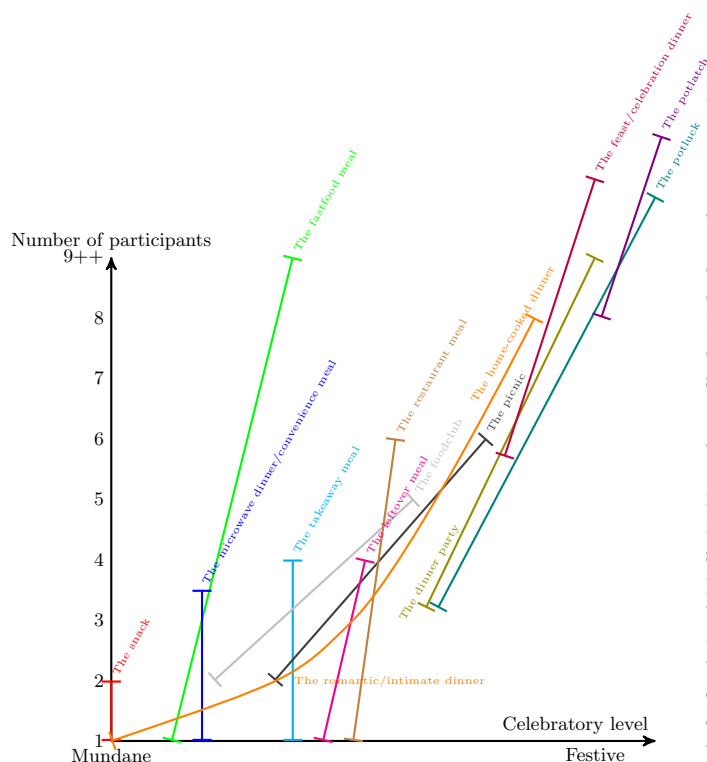


Figure 3: An illustration of how existing concepts of commensality *might* be understood in terms of their perceived celebratory value and common number of participants.

## 4.2 Business Models

As we saw in table 2, taking a fee from each transaction is a widely used revenue channel. Because of this widespread popularity and adoption from users, it will also be our first revenue channel. But in Kitchie v1.0.0, we also see a potential revenue channel in business-to-business, either via our intelligent advertising platform, or by allowing small/medium food-companies to host sponsored events via our service. Because our service is designed around a very specific usecase, and the level of user-generated information is so detailed, we are able to serve adverts to our users as good if not better, than Google AdWords. The 'sponsored events' model is also one that sees widespread usage for instance in dba.dk, ebay.com or other online marketplaces.

**Transaction fee** A commonly used model in the electronic age is to provide a payment component within the system and charge a percentage fee off every transaction. This could be 5-15%.

**Sponsored events** While our platform is primarily targeted towards private individuals, it can also be utilized by small to medium sized companies who wish to create food events to promote their own products and services.

**Intelligent advertising** Our intelligent advertising platform is primarily relevant for food producers and distributors. For each dinner event, we know the ingredients for that dinner and are thereby able to serve

relevant, just-in-time advertisements of foodboxes or other food offers nearby relevant for the dinner.

**Promotional donations** For bigger companies or food brands like Arla who see a value in sponsoring the service as a branding or marketing strategy.

## 5. IMPLEMENTATION

Our implementation is based on IBM Bluemix which is a cloud development platform that enables us to scale as needed depending on usage. Kitchie v1.0.0 MVP is written in plain PHP with a Bootstrap<sup>4</sup> frontend that allows content to render on both desktop computers and smart-phones with smaller screen resolution.

### 5.1 User interface

One of the things that was brought up during the development of the frontend, was the concept of digital discrimination. Studies on the usage on AirBnB and other online social networks for commerce shows that the user's profile pictures determine the price of their rooms/apartments more than qualities of their rooms/apartments - to be more exact, it is the racial stereotyping that informs the price ranges that users can expect[10]. From this concern we started our own research and discussion of whether we should provide or leave out, the option for people to have profile pictures on the platform. After some more research and dialog we opted to keep the ability to have profile pictures. The articles we found indicated a difference regarding the type of the online social platform - if platforms are primarily for commerce, then the phenomena of digital discrimination emerged, but if they were more oriented towards community building, then profile pictures are a good way to build trust and recognition among users.

See figure 4 for the final UI screens.

### 5.2 Launch Model

See table 3.

Step	Task	Why
1	Public website landing page, and flyers restricted to Århus	Grow momentum. Get emails and locations. Use this to prepare launch parties where the highest density of users are.
2	Limited invite to launch party dinner events	Ensure that these users' first experiences are positive. Maintain momentum/excitement around the service.
3	Host coaching	We need to build a strong engagement with the hosts on the platform. If there are no hosts, there are no guests and no network.
4	Replication in a new city	One city at a time. Like Facebook did.

Table 3: Steps of the launch model

Based on our target group, we will focus on being present on Facebook initially.

## 6. FUTURE PERSPECTIVES

### 6.1 Future Work Tasks for the team

1. Landing page

<sup>4</sup>See <http://getbootstrap.com>

2. Launch events in Århus
3. Communication Model
4. SMS framework
5. Smartphone apps

## 6.2 What kind of people do we need help from?

**Carbon/Water-footprint Researchers** To research whether or not our claim that commensality reduces the resource footprint, and by how much. To provide statistics that we can use to continually estimate the total amount of resources (CO2 emissions and food waste and water) saved by the users.

**Open-source Developers** To help us opensource and grow a community of developers around aspects of our systems. Think Fedora-RedHat style, Adafruit, BRCK/Ushahidi or Osmocom.

**Cultural/Intercultural Researchers, Anthropologists** To research whether or not our claim that commensality creates common ground between unacquainted people, and to what extent our service helps strengthen communities.

**Cryptographers and Network Specialists** To strengthen the network security and privacy of users on a technical level.

**Linguists/Translators** To adapt the service to other language users.

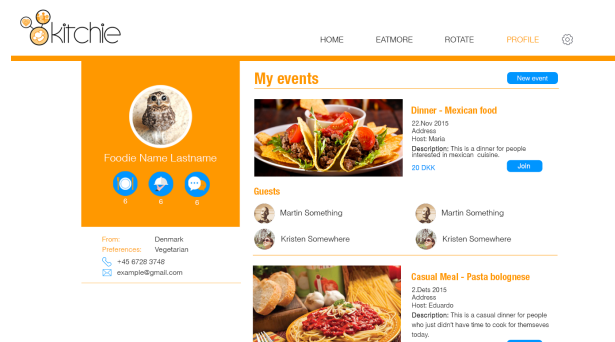
**Social Media Researchers** Especially those who have familiarity with Reddit, StackExchange, Adafruit, and/or Quora.

**Public figures** To promote our service. (But only for later, when the service is ready to transition to the early and late majorities)

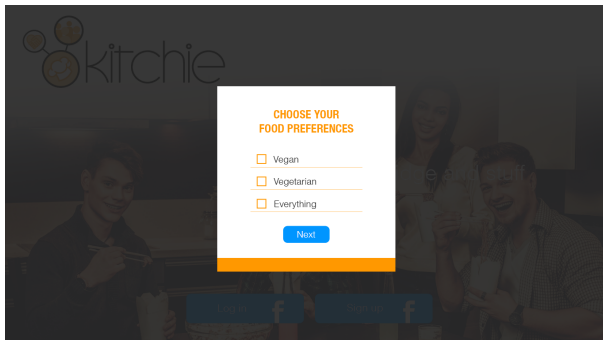




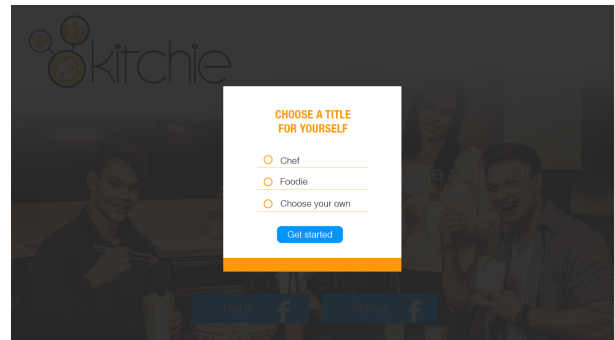
(a) The front page



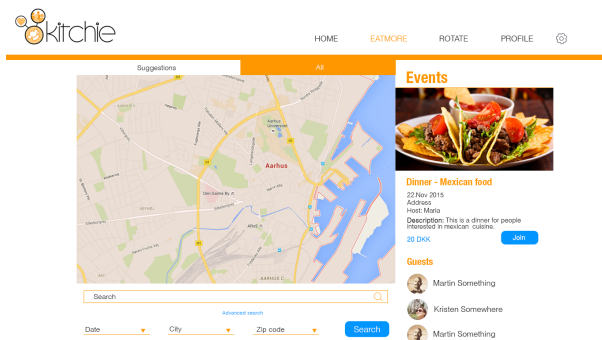
(b) User profile



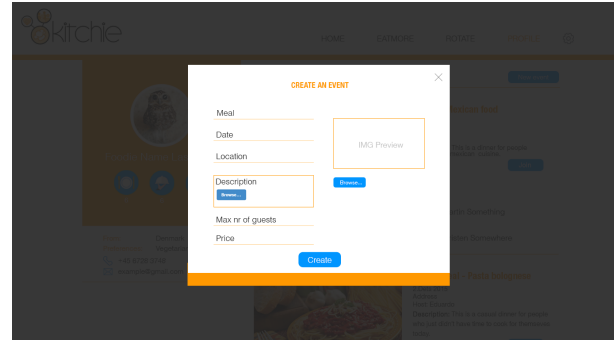
(c) Food preferences



(d) User title selection



(e) Map search



(f) Create a dinner event

Figure 4: User Interface of Kitchie MVP v1.0.0

## 7. REFERENCES

- [1] K. Andersen and K. Kuhn. Cowspiracy:the sustainability secret, 2014.
- [2] T. Bildtgaard. Trust in food in modern and late-modern societies. *Social Science Information*, 47(1):99–128, 2008.
- [3] M. Bittman. What’s wrong with what we eat. available at <<https://www.youtube.com/watch?v=5yknksbep0>>.
- [4] S.-L. Cheng, W. Olsen, D. Southerton, and A. Warde. The changing practice of eating: evidence from uk time diaries, 1975 and 2000. *The British journal of sociology*, 58(1):39–61, 2007.
- [5] A. K. Clear, M. Hazas, J. Morley, A. Friday, and O. Bates. Domestic food and sustainable design: A study of university student cooking and its impacts. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, pages 2447–2456. ACM, 2013.
- [6] D. Cordell, J.-O. Drangert, and S. White. The story of phosphorus: Global food security and food for thought. *Global environmental change*, 19(2):292–305, 2009.
- [7] C. Counihan. *The anthropology of food and body: Gender, meaning, and power*. Psychology Press, 1999.
- [8] A. D. Cuellar and M. E. Webber. Wasted food, wasted energy: The embedded energy in food waste in the united states. *Environmental science & technology*, 44(16):6464–6469, 2010.
- [9] C. J. De Backer. Family meal traditions. comparing reported childhood food habits to current food habits among university students. *Appetite*, 69:64–70, 2013.
- [10] B. Edelman and M. Luca. Digital discrimination: The case of airbnb.com. *Harvard Business School NOM Unit Working Paper*, (14-054), 2014.
- [11] C. Fischler. Commensality, society and culture. *Social Science Information*, 50(3-4):528–548, 2011.
- [12] L. Forthun. Family nutrition: The truth about family meals. 2012.
- [13] H. C. J. Godfray, J. R. Beddington, I. R. Crute, L. Haddad, D. Lawrence, J. F. Muir, J. Pretty, S. Robinson, S. M. Thomas, and C. Toulmin. Food security: the challenge of feeding 9 billion people. *science*, 327(5967):812–818, 2010.
- [14] R. Goodland, J. Anhang, et al. Livestock and climate change: what if the key actors in climate change are... cows, pigs, and chickens? *Worldwatch Institute*, 2009.
- [15] J. Gustavsson, C. Cederberg, U. Sonesson, R. Van Otterdijk, and A. Meybeck. *Global food losses and food waste: extent, causes and prevention*. FAO Rome, 2011.
- [16] P. Henckel and M. Matovu. Kitchy: Interconnecting and situated commensality. Masters thesis in software development and technology, ubicomp specialization, IT University of Copenhagen, 2014.
- [17] Y. Kashima, O. Klein, and A. E. Clark. Grounding: Sharing information in social interaction. *Social communication*, pages 27–77, 2007.
- [18] T. Kelly, W. Yang, C. Chen, K. Reynolds, and J. He. Global burden of obesity in 2005 and projections to 2030. *International journal of obesity*, 32(9):1431–1437, 2008.
- [19] S. Kerner, C. Chou, and M. Warmind. *Commensality: From Everyday Food to Feast*. Bloomsbury Academic, 2015.
- [20] M. Kumm, H. De Moel, M. Porkka, S. Siebert, O. Varis, and P. Ward. Lost food, wasted resources: Global food supply chain losses and their impacts on freshwater, cropland, and fertiliser use. *Science of the Total Environment*, 438:477–489, 2012.
- [21] D. Marshall and A. Anderson. Proper meals in transition: young married couples on the nature of eating together. *Appetite*, 39(3):193–206, 2002.
- [22] M. Mauss. *The gift: forms and functions of exchange in archaic societies*. 1954.
- [23] A. Mohammed. Outlook on the global agenda 2015: Deepening income inequality. In *World Economic Forum*. Available at:< <http://reports.weforum.org/outlook-global-agenda-2015/top-10-trends-of-2015/1-deepening-income-inequality>> (Accessed 9 December, 2015), 2014.
- [24] E. Ochs and M. Shohet. The cultural structuring of mealtime socialization. *New Directions for child and adolescent development*, 2006(111):35–49, 2006.
- [25] R. Oppenlander. *Food Choice and Sustainability: Why Buying Local, Eating Less Meat, and Taking Baby Steps Won’t Work*. Langdon Street Press, 2013.
- [26] A. Osterwalder and Y. Pigneur. *Business model generation: a handbook for visionaries, game changers, and challengers*. John Wiley & Sons, 2010.
- [27] A. Osterwalder, Y. Pigneur, G. Bernarda, and A. Smith. *Value Proposition Design: How to Create Products and Services Customers Want*. John Wiley & Sons, 2015.
- [28] K. Peek. How the world wastes food. *Popular Science*, Sep. 2014.
- [29] L. Phoenix and L. Walter. *Critical Food Issues: Problems and State-of-the-Art Solutions Worldwide*. Praeger perspectives. Greenwood Publishing Group, Incorporated, 2009.
- [30] L. Phoenix and L. Walter. *Critical Food Issues: Society, culture, and ethics*. Critical Food Issues. Praeger, 2009.
- [31] D. Pimentel, B. Berger, D. Filiberto, M. Newton, B. Wolfe, E. Karabinakis, S. Clark, E. Poon, E. Abbett, and S. Nandagopal. Water resources: agricultural and environmental issues. *BioScience*, 54(10):909–918, 2004.
- [32] D. Pimentel and M. Pimentel. Sustainability of meat-based and plant-based diets and the environment. *The American Journal of Clinical Nutrition*, 78(3):660S–663S, 2003.
- [33] M. Pollan. *Cooked: A Natural History of Transformation*. Penguin Publishing Group, 2013.
- [34] B. M. Popkin. Urbanization, lifestyle changes and the nutrition transition. *World Development*, 27(11):1905–1916, 1999.
- [35] B. M. Popkin. The nutrition transition and obesity in the developing world. *The Journal of nutrition*, 131(3):871S–873S, 2001.
- [36] S. A. Quandt, T. A. Arcury, R. A. Bell, J. McDonald, and M. Z. Vitolins. The social and nutritional meaning of food sharing among older rural adults. *Journal of Aging Studies*, 15(2):145–162, 2001.

- [37] J. Sobal and M. K. Nelson. Commensal eating patterns: a community study. *Appetite*, 41(2):181–190, 2003.
- [38] C. Steel. *Hungry city: How food shapes our lives*. Random House, 2013.
- [39] W. Steffen, P. J. Crutzen, and J. R. McNeill. The anthropocene: are humans now overwhelming the great forces of nature. *Ambio: A Journal of the Human Environment*, 36(8):614–621, 2007.
- [40] N. N. Taleb, R. Read, R. Douady, J. Norman, and Y. Bar-Yam. The precautionary principle: fragility and black swans from policy actions. *Extreme Risk Initiative—NYU School of Engineering Working Paper Series*, 2014.
- [41] W. R. Turner, T. Nakamura, and M. Dinetti. Global urbanization and the separation of humans from nature. *Bioscience*, 54(6):585–590, 2004.
- [42] UN. *World urbanization prospects: The 2014 revision*. United Nations. Department of Economic and Social Affairs. Population Division, 2014.
- [43] J. Webster-Gandy, A. Madden, and M. Holdsworth. *Oxford handbook of nutrition and dietetics*. Oxford University Press, 2013.
- [44] R. Wrangham. *Catching fire: how cooking made us human*. Basic Books, 2009.
- [45] WWF. *Living Planet Report 2014: Species and spaces, people and places*. World Wildlife Foundation International, 2014.