

# The EveryCook Manifest

*Make all data about food available to everyone and everything*

## 1 Why EveryCook?

**We know, that cooking is an art.** Selecting the ingredients, carefully washing, peeling and cutting them before you put them into the right dish at the right time with the right heat. Watching the food change his color, form and consistency, seasoning it to develop it's flavors and serving it on beautiful plates is **a pleasure**.

**For some, but not for all.** Those who love cooking can spend hours at the stove and relax while preparing delicious meals.

**For others cooking is pure stress.** What is the difference between orange and yellow carrots? Did I forget something? Is the pan hot enough? Or too hot? How long after the pasta do I start cooking the steak? Will it be healthy? Is it sustainable?

**So many questions** appear if one starts to think about food. The answers are complicated and ambiguous. They require research and analyzing.

**Many have stopped thinking** about food. They just believe what is written on the package.

**I can't cook** is such an **easy answer**. And it is accepted in our society. Nobody is ashamed of it.

This gives more and **more control to multinational corporations**. Through precooked food and shiny commercials they calm our conscience and stimulate our laziness.

**The consequences are dramatic!** The profit-focused approach of multinational corporations have led to things like:

- Patented genetically modified seeds. Lawyers suing farmers for copyrights.
- Destruction of South-American jungle to make soya to feed European cows so they make more milk. Although a cow as never born to eat proteins.
- Chickens that can't stand on their own feet due to the weight of their breasts. They will never see soil, worms or even sunlight.
- Oran-Utangs losing their homes for palm oil
- Vegetables getting grown in the desert, wasting huge amounts of drinking water.

### Conclusions:

- **We must know more about our food**
- **We have to cook more ourselves**
- **So we will recover some control over what we eat**

## 2 Why and how are we going to collect data about food?

Knowledge is power. The more we know about the food we eat, the more we can influence what we buy and therefore what is produced.

There is a lot of information available about food, but the sources, formats and integrity vary greatly.

Our goal is to make that information available to anyone in an easy to use interface. We want to verify the sources, to standardize the formats and to find the incomplete data so we can selectively look for information to complete our data sets.

### 2.1 Currently available information and intended use

The currently available information about food is (incomplete overview):

- Buzzwords on packaging: (Low fat, High vitamins), close to disinformation. We will not use this information.
- Nutrient facts on packaging: Sometimes strange scale basis, incomplete. We will use this information only if we have no independent source of better information.
- Nutrient databases from governmental departments: Nearly every country supports scientific research on food. Only few make their data public. A good example is the US department of agriculture whose data is available on line. But the data comes as raw CSV and is therefore unreadable to most people. We will use this data and link it to ingredients and recipes.
- Sustainability information: Many non-profit organizations (e.g WWF) publish data about the sustainability of food.
- Information about ethical classifications of food. We are neutral. We do not judge any tradition, religion or philosophy. We want everyone to be free to live the life he or she wants. So we will have a classification about kosher, halal, vegetarian and vegan products in our database. The user may then select which results are displayed to her or him. We think that the corresponding communities will provide this information
- Information from producers, importers, traders: Should be easy to get as they want to sell. Here again we do not judge, we collect and display data. So the local farmer, the exotic fruit trader and the supermarket may add content to our database.
- Dietary information: There are many organizations creating diets and menu plans for people with diabetes, overweight or other chronic diseases. We will integrate these into our database to help ill people.
- Recipes, of course: We will collect recipes and rewrite them in our scientific recipe format. This means that every step will be defined in time, temperature, quantities, stirring and if needed pressure. That way we will have a good (although not perfect) reproducibility of recipes all around the world and in all different kinds of hardware.
- Other sources: We will always be looking and listening for inputs on what should be added to the EveryCook database. We will re-design our database continuously to handle this data.

If someone wants to use several of these information sources, it becomes complicated.

This is to be changed! The EveryCook team will do it's possible to simplify the access to this information.

## **2.2 Validation of information and rewards to contributors**

We not only want to collect data, we also want to have it as accurate as possible. Therefore there is a need for a validation process. We will make this process using badges. Some of them will be:

- Sustainability badges like “Organic” “No overfishing” “Happy animal” etc. These have to be elaborated but the idea is that the organization that verifiably fights for that special cause will get the right to issue badges to the producers. Users will be able to report doubts and this will reinitialize the validation of that producer.
- Nutrient information: The more databases we will get access to the easier it will be to verify if the same ingredient also has the same nutrients in different databases. If we find discrepancies, we will notify the issuer of the database and clarify the conflict.
- Diet information: We hope to get communities of people having to hold a diet to submit ingredients and recipes that are appropriate. By having these people using EveryCook there will be a constant control.
- Ethical information: Same as above, we will try to reach communities and let them add data. We will validate the authenticity of the people that will get the allowance to issue for example a “Vegan” badge.

Everyone who helps us to keep EveryCook alive and growing will also get badges from us. These may be:

- Coder: For the ones who worked on our software
- Data acquirer: For people who have helped us to get useful data
- Recipe creator: Yes, every existing recipe is to be rewritten for EveryCook, but then the whole world will cook your recipe!

## **2.3 Financing**

We would love to keep the EveryCook database running without money, but this is an illusion. So we will have to find a way to earn something to cover our expenses. Those will be:

- One or more full-time coder to fix bugs and add new features
- One or more full-time data and community manager. Since the data comes partly from the community, we will take our time to listen to suggestions.
- Hosting, domain name, etc...

The money will not be taken from the users. The EveryCook database will always remain free to use. We think it is fair to ask the ones who will get more customers through EveryCook for a contribution. We will keep that model simple:

- Below 10'000 € sales volume per year: completely free
- Above 10'000 € sales volume per year: 5% on the sales for the generated lead

So if a Farmer has some food he can't sell to retailers (e.g bended cucumbers) and he gives them away for free, he can put them on our platform for free.

Same for small producers. If they are below the mentioned value, they advertise for free.

A special case is the recipe of the day:

- On the front page a few recipes will be shown on start. These will match the interests of the visiting user. (We don't want to show meat to a vegan).
- Producers will get the possibility to present a recipe containing their products so that people will likely cook it and buy those products. This gives the opportunity to a farmer to rapidly sell some goods before they start rotting.
- The exact amount to pay for such a recipe of the day is to be defined.

All above mentioned values are subject to change. We did not make an exhausting calculation yet.

### 3 Why do we need a cooking machine?

We need an intelligent cooking machine because people are often busy and stressed. People are also often afraid of making mistakes.

As mentioned in the first chapter our goal is to achieve that people cook more by themselves. Stress and fear are the obstacles to pass in order to reach that goal.

The concept of having precise indications stored in a online database and a machine with some actors and sensors to execute these indications can dramatically simplify cooking.

It helps the cook in many ways:

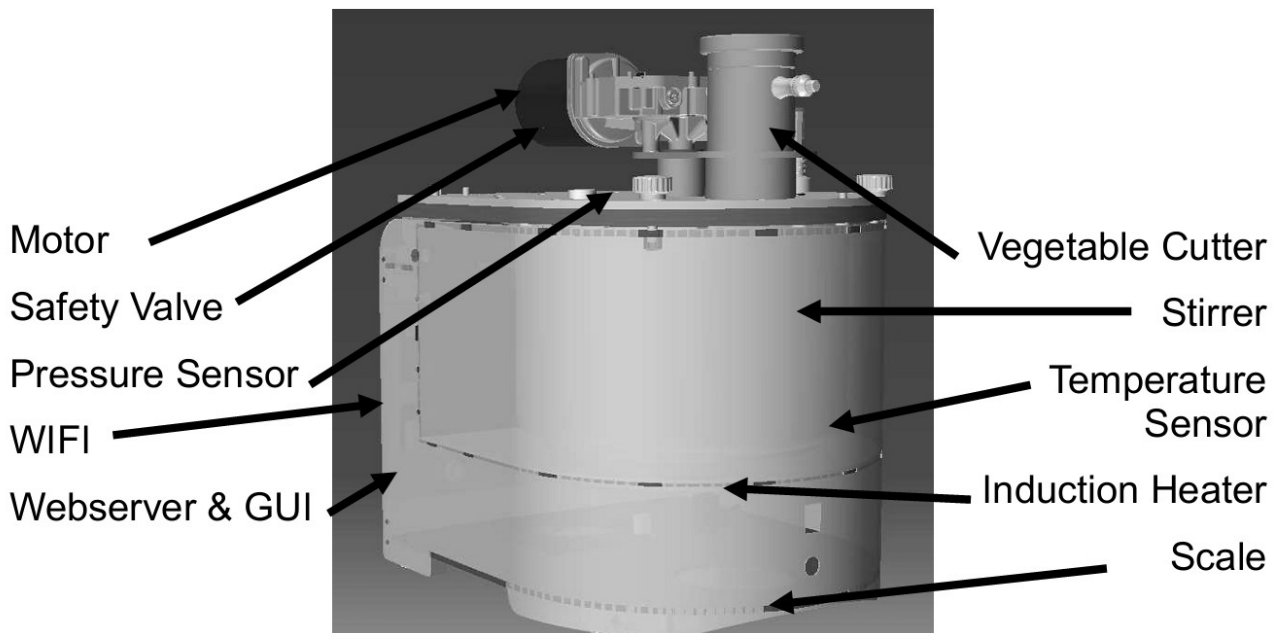
- It shows him every step to do, so nothing is forgotten
- It shows him when to do it, so timing gets right (text-to-speech is also possible)
- This also works for several dishes cooked in parallel. So you know when to grill the meat so that it is finished exactly the same time than the pasta.
- With an connected scale it can show him, how much of an ingredient is needed. This can be done interactively with a progress bar on a screen.
- With a connected heater the temperature is automatically right. And the heat stops after cooking (or changes to "keep warm mode")
- Same for pressure cooking. Heating up and keeping the pressure may be difficult. For a machine with an integrated pressure sensor it is trivial.
- With a connected stirrer, stirring also gets right. A robot will never forget to stir.
- I don't likes to cut onions. So I also added a vegetable cutter

At the end cooking becomes much easier. Even complicated stuff that take hours to cook don't require constant presence in the kitchen any more.

With a cool interface the cooking process can be like a game. The aim is to do all steps in the given time.

### 3.1 Hardware details

Here we have a picture of the hardware showing the main features:



The features in detail are:

#### Actors:

- A induction heating with 1'500 W of power
- A motor with up to 195 rpm and up to 4 Nm
- A RC model servo to open the steam blowoff valve

#### Sensors:

- A pressure sensor for 0-2 bar relative pressure
- A PT1000 temperature sensor 0-300°C
- Four load cells, 0-5 kg each

#### Mechanics:

- A stainless steel pot with 5 litres volume tested for 1.2 bar relative pressure
- A cover made of high strength aluminium with stainless steel hinges and screws
- A stirrer made of stainless steel and Teflon made for 250°C
- Several cuttings disks in stainless steel to cut slices and stripes
- Stainless steel motor shaft, high temperature bearings and o-rings
- Overpressure and blowoff valve as combined unit completely in stainless steel
- Easy to assemble, disassemble and modify

#### Communication:

- A 7-segment module to show operating modes

- A piezo buzzer to say "weight reached" (or other messages)
- An embedded PC (Raspberry Pi) with WIFI and LAMP for the GUI

### **3.2 Future Possibilities**

Many features that could be realized in software based on the existing hardware are still pending. They may be:

- Cook the perfect breakfast egg based on it's weight
- Reduce a sauce to 1/3 using the scale while cooking
- Control the evaporation of water by measuring the input power and the current temperature
- PID temperature or pressure regulation (currently simple proportional control)
- Detect if cover is open or closed by reading the load cells
- Spoken advises for the user. (Needs an additional speaker)

If you have read until here you are probably an open minded person like a hacker, a maker or a geek. You certainly have lots of imagination. Maybe you have an Idea I did not have yet.

### **3.3 Why all these features?**

Because we can. We want to use all possible synergies.

I have talked to kitchen device manufacturers and heard things like "too complex" and "no market" or "our users don't want to control cooking with a touch screen".

But on the other hand we talked to many friends, to strangers in the train and in the street and we heard: "Where can I buy this device?". This is what keeps us going!

My conclusion is simple: Most established manufacturers are afraid of real innovation. They want to sell their outdated devices as long as possible. Only if absolutely needed they change a little thing and sell it as "revolutionary".

### **3.4 Other hardware**

The EveryCook database is designed to be expandable to other hardware. Everyone who likes can create new devices and get the data that device needs to work. Possible is:

- Create other devices from scratch, like we did.
- Take an existing device and add a Raspberry Pi to make it a connected device. This of course will void the warranty, but you will likely get quick results.

Possible devices are:

- Interactive scale
- Intelligent stove or oven
- Multifunction device (Vorwerk Thermomix, Philips Home Cooker, Kenwood Cooking Chef) hacked and connected to EveryCook