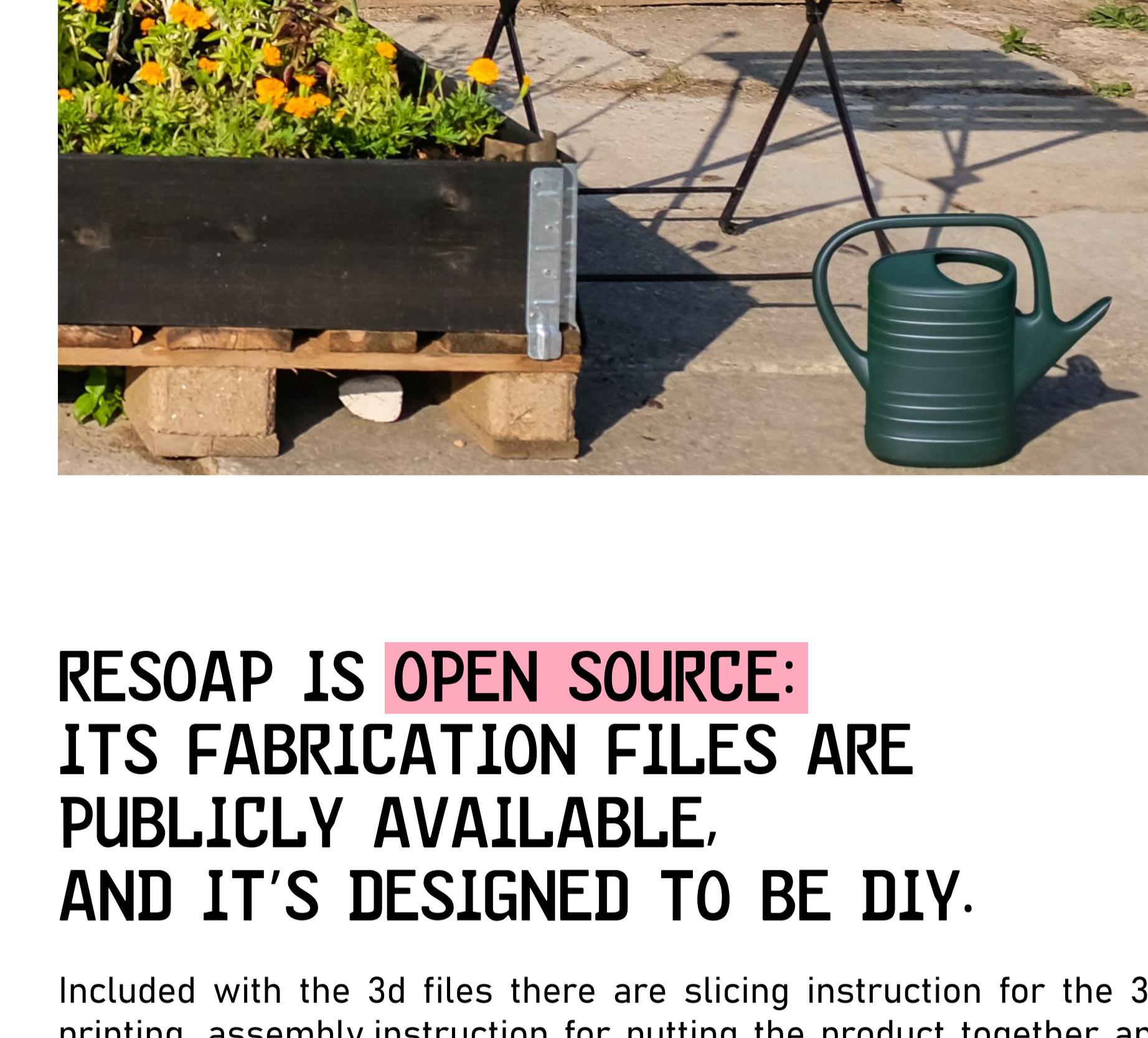


# RESOAP

## OPEN-SOURCE SAPONIFIER

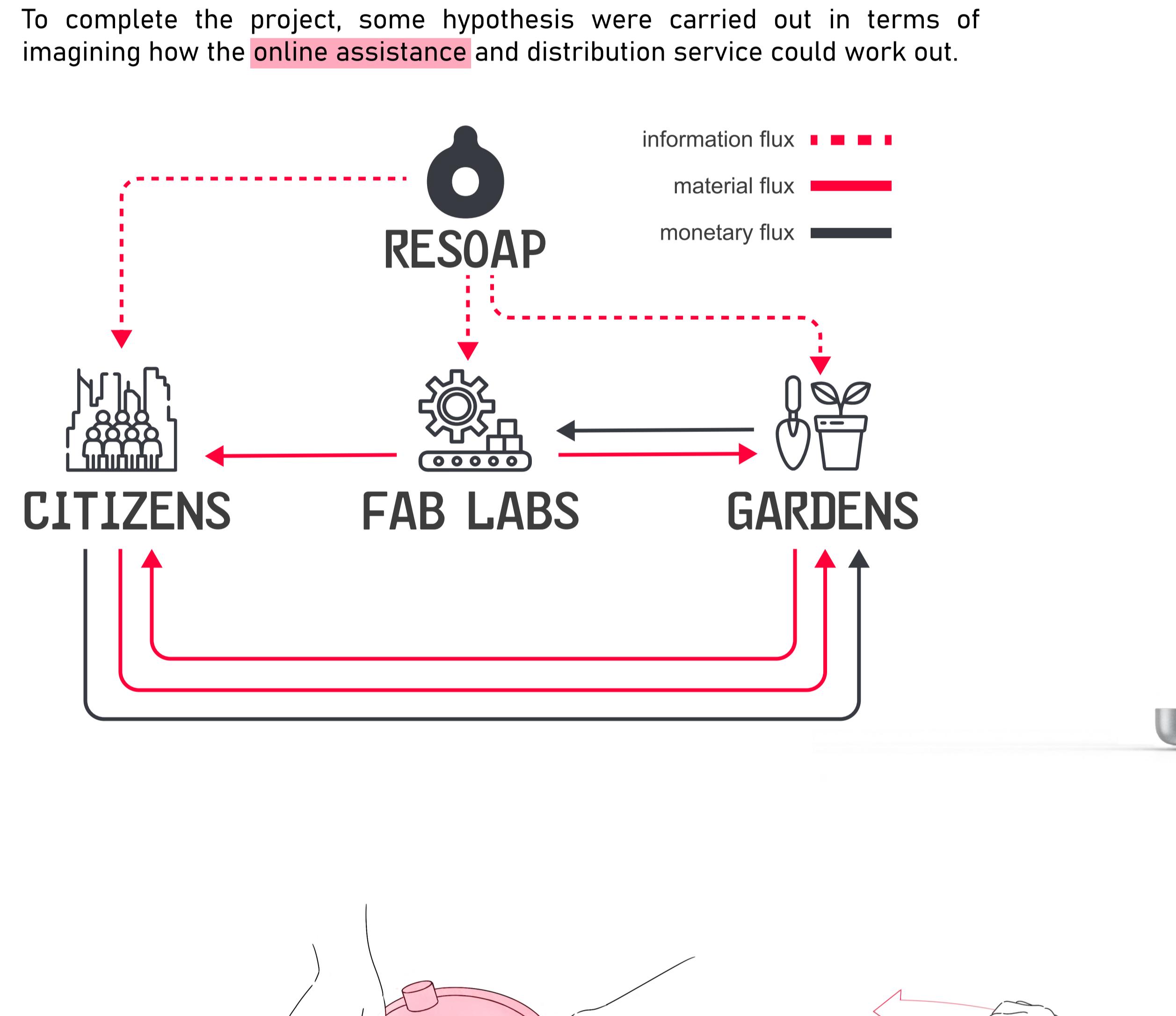
project type:	Academic project
end date:	apr 2024
duration:	6 weeks
teammates:	S. Mengarelli   C. Piazzolla A. Salis   N. Tosello

Resoap is a stackable, open source kit that transforms discarded oil wastes into a potassium-based non-toxic pesticide. The system exploits a simple saponification reaction, making it easier to replicate into urban gardens; each module has a specific function with the aim of making the whole process controlled, straightforward and easy to understand; all while including all safety measures.



### AIDING URBAN GARDENS BY ELIMINATING WASTES

Waste Oils are an environment hazard and potassium soap is a circular, non-toxic and multi-purpose resource. A saponifier unit is thus particularly suited for communal spaces, as material collection is optimized and the product can be used in a more efficient form. A dual purpose is fulfilled: a difficult to discard waste is transformed into an useful alternative for the community.



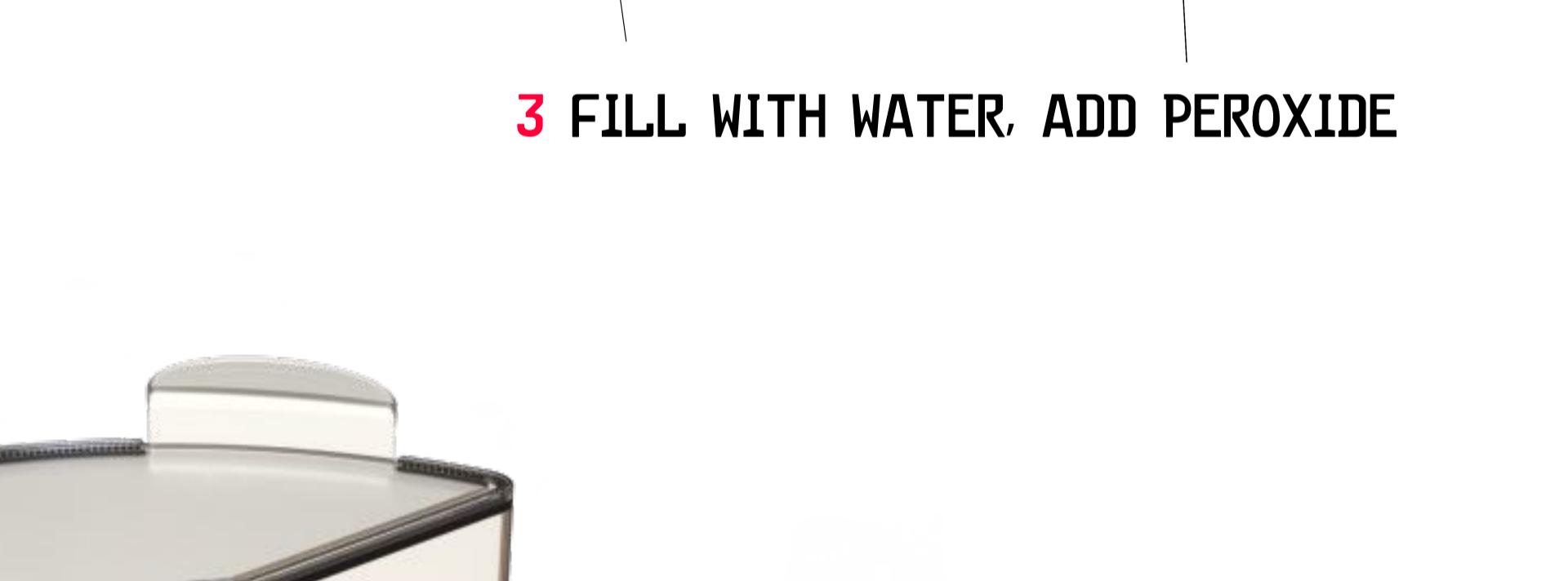
### RESOAP IS OPEN SOURCE: ITS FABRICATION FILES ARE PUBLICLY AVAILABLE, AND IT'S DESIGNED TO BE DIY.

Included with the 3d files there are slicing instruction for the 3D printing, assembly instruction for putting the product together and detailed steps for recreating the saponification reaction safely.



### FAB-LAB ORIENTED SERVICE

To complete the project, some hypothesis were carried out in terms of imagining how the [online assistance](#) and distribution service could work out.



### CLICK TO VIEW FABRICATION INSTRUCTIONS AND USER GUIDE



### OIL PISTON

oil pouring is activated by pulling a spring-based piston. A TPU cap secures hermetically the liquids.

### KOH DISPENSER

a dosing mechanism in the dispenser allows to automatically portion the potassium hydroxide.



### POURING SPOUT

the reactor end is funnel-like shaped in order to avoid spills

### MIXING BLADE

the manually activated spinning blade blends all the components, while the reactor remains covered

