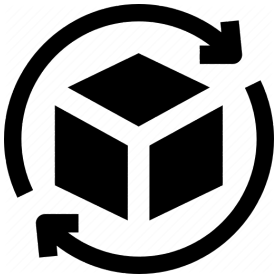
To dos for this template

Deliverables

Design, prototyping, fabrication



Venture Name {URL}

Deliverables work package {URL to NRP page}

This is a co-creation document, make sure you respect the Content rules

THIS IS A **TEMPLATE.**
MAKE A COPY BEFORE YOU EDIT
delete this after

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Report written by: ...

In collaboration with Sensorica affiliates:

This is a high level overview of the __deliverable_name__ and all its main components.

Table of contents

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Orientation

Click on the icons to open the associated digital resources

Work is distributed into Work Packages (WP).
For every WP there is a Doc, your workspace!

This is a TEMPLATE
Do not use it directly!
Make a copy and customize.

INSTRUCTIONS:
Insert links to the NRP and other docs that you create for this venture.
If sponsored venture, planning must correspond to budget (see Template 1 and Template 2)
Other planning tools: Gantt chart template.
See help for ventures.

ity Building
onal funding

aintenance
stewarding

eliverables
prototyping

rapping up

semination

As you **join** the venture, consu
As a contributor, always go bac
to keep track things.

To be an effective contributor,
make sure you join

All our work is **documented** he

Work is **planned** here …

chose a WP, open the
nk to respective templates.
plates, if not already done,
your new venture.

[Open in new window]

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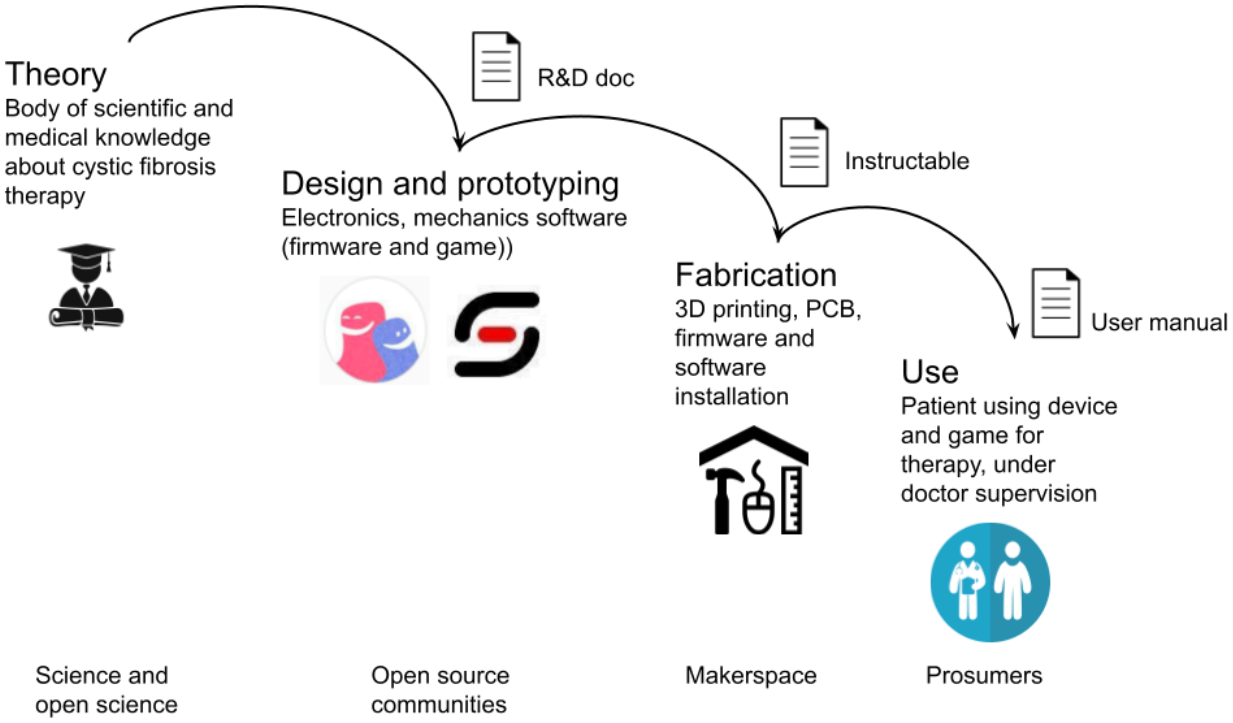
Development ecosystem and documentation

The schematic below presents various types of actors that engage in various types of activities, evolving an idea to a material artifact. This picture doesn't show everything, like all the feedback loops that connect these actors, for example the user being at the same time the fabricator and providing information about the design to designers. The goal here is not to present an exhaustive representation of the processes at play. The goal is only to show actors in relation with activities and the documentation that is produced in the process.

Documentation accompanying a material artifact produced in a distributed manner



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How to read this document

This doc is a *digital environment* where participants engage in design and prototyping. Consider it as your office or your R&D lab. Why a Google doc and not a wiki or Gitlab? Because a Google doc is easy to use, and that constitutes a low barrier to participation. All ventures within the Sensorica OVN are open (quasi permissionless access to processes), anyone should be able to contribute to this activity.

This document has a structure, as you can see in the table of contents. This structure reflects a methodology for open and collaborative work that leverages *stigmergy* and *collective intelligence*. **In order to be rewarded for their work done, according to the *benefit redistribution algorithm* described in the Governance{URL} doc, participants are required to follow this methodology**, which is the best guarantee of our commitments for the objective of this venture. This means working in sequence, following the planning{URL}, on Considerations, Design, Prototyping/Design, Testing. Participants are free to fork this path, which should not be taken badly, but in doing so they may lose the privilege of having their work rewarded.

If you are new to this, read Venture Description and Overview first. Before you start thinking about design or prototyping, make sure that you read the Considerations section and that you've absorbed the Shared understanding. Within Sensorica we leverage *collective intelligence*, we need to coordinate our cognitive processes!

Work in Sensorica is highly stigmergic. Go where the action is in this document (the last section edited) and follow the signals left behind by other participants. **Always announce what you're going to do, document what you do and indicate to others what they can do next**. Follow the icons on the left of the document. To know their significance go to the Signalization section. Use these signals (copy/paste one of these boxes of signalization and fill it with content) everywhere you see fit. Contribute to other people's signals. Delete these signals if you think their role has been fulfilled.

For discussions about this venture use the proper Communications {URL} channels.

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Venture Description

Your deliverable will be shaped by your organizational context.

Enter venture description...

Overview

Venture environment

This venture is part of the Sensorica community, nested within the Sensorica OVN. Category of the venture is enter venture category and link to it.

Enter a few words about collaboration, if it is the case.

This venture uses Sensorica's best open source hardware development methodology, which relies on **stigmergy** (asynchronous coordination using signaling within the digital work environment). The methodology leverages **collective intelligence** (developing a social brain from building a high level cognitive coordination between contributors). Stigmergy requires good up-to-date documentation. Social intelligence requires a process of building shared understanding and meta design thinking (see Design Considerations).

Venture requirements

...

Deliverable or concept description, elevator's pitch

...

Other conditions

...

Main venture objectives

1. ...
2. ...
3. ...

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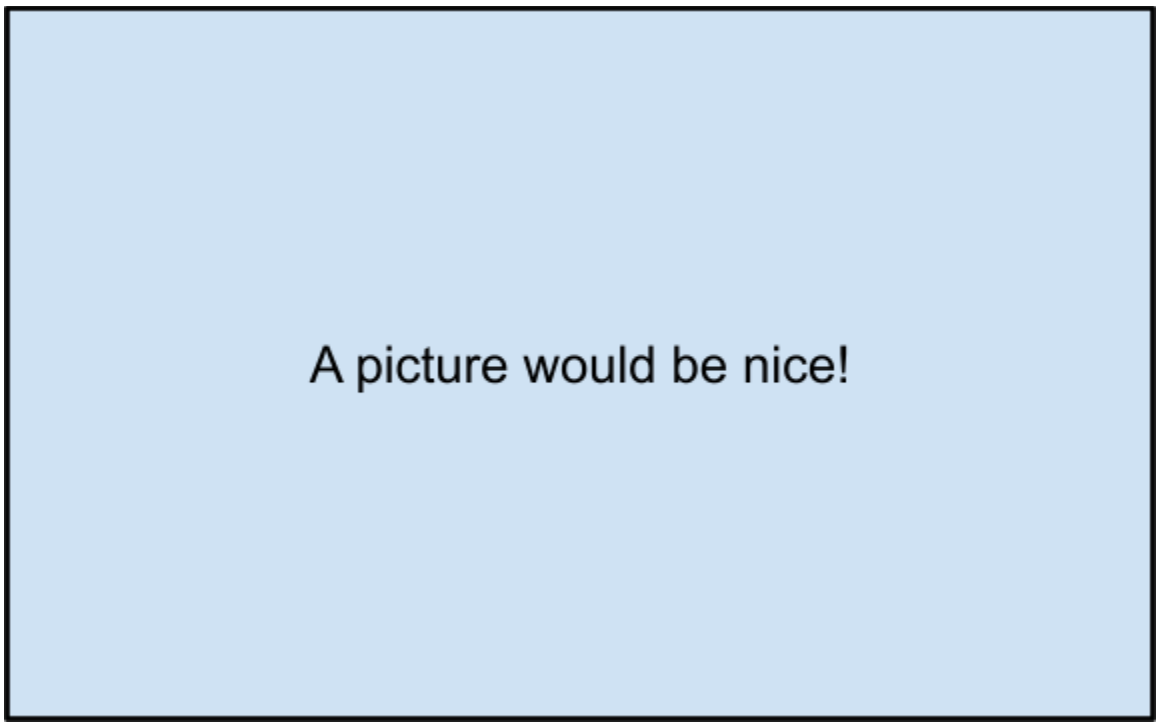
Main components and vocabulary



In this section you define technical terms that are important and are extensively used in the venture.

- **term 1**: define term 1...
- **term1**: define term 2...

System requirements

Your deliverable forms a system, describe its requirements

NOTE: this section will co-evolve with the Design Considerations section

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License

Hardware is open source CERN, designs are Creative Commons.

Hardware

Main mechanical features

Hardware architecture…

Power

About how this is actuated…

Electronics

…

Software

…

Economic model

How is it going to be created / reproduced, distributed, used, maintained, by whom, in what economic circumstances...

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Our Values in Action

NOTE: This section will be developed in parallel with the Outreach campaign (see Capacity doc).

This venture is developed in an *open* and *transparent* way by Sensorica, an *open value network*. What we mean by open is that anyone in the world can contribute. Our commitment to transparency means that everything is documented and made public as the venture develops and is delivered. As an *open value network*, Sensorica creates opportunities for anyone in the world to contribute, track their work, be recognized and receive compensation for their efforts.

From the beginning of this venture and throughout the first milestone we conduct an outreach campaign to raise public awareness and attract participation. We create a list of different communities that we thought might be interested in working on the venture, contact members of these communities directly, and engage in a social media campaign[1].

Report on outreach

__number__ hours have been logged for outreach activities. Some participants haven't logged their time.

Stats:

- __number__ communities have been contacted
- __number__ pageviews were recorded on the venture page
- __number__ unique pageviews, between __daye__ and __date___.

During the outreach campaign we put in place processes for orientation and facilitation, in order to allow newcomers to the venture to more easily understand what needs to be done and how they can contribute. Feedback for the entire span of the venture is captured __URL__.

Our goal was to engage with makers and communities around the world to maximize the social impact of this device as an open source __type of instrument__ instrument. The main goal is to create a community around the venture in order to encourage wider adoption, continuity, future evolution and continued development.

Web activity stats

[1] Link to this list of communities (this document accessible only to those who have the link).

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Characteristics of __type of instrument__ instruments in accordance with our values and principles:

- *Open source*: integrating open innovation, sharing all layers of design, adaptable and modifiable
- *Shareable*: portable, user friendly, and rugged, with the potential to track activity and use history as a shared community asset
- *Modular*: elements of the design are customizable, parts can be easily repaired, exchanged or upgraded, makes a perpetual product
- *Interoperable*: utilizing common design standards to allow interfacing with other devices or systems
- *Socializable*: engaging communities of designers in collaboration with communities of use to best design for on the ground needs, allows users to socialize their data, their work, by easily sharing data through email and on social media
- *Ethical and ecological*: sustainable and considering the ethics of the supply chain

Following are the google analytics stats to track our engagement progress. We initially focused our outreach in Canadian makerspaces and open source communities, then expanded our reach internationally.

Import stats here

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Design considerations

The goal of the first milestone is to perform a comprehensive review of all the required components, and to choose the best features that match the venture's goals.

- The first stage is a high-level design consideration effort to take into consideration key constraints and characteristics. Please note that these constraints and characteristics maintain important relations, form a system and they cannot be considered on an individual basis.
- The second stage is to aggregate the different designs and design ideas.
- The third stage is to make an informed choice of features to be blended into the design.

Building shared understanding

Before we even think about design, we need to understand what we are designing. This task is about mining, synthesizing and translating into the objectives of this venture, making everyone involved aware of this information.
In other words, finding similar ventures, products, prototypes, synthesizing information about these findings, contacting people involved with these findings and finding out more about their experience, get their opinions.
This task is related to Outreach, some of the people and organizations encountered might want to join this initiative - keep a list of contacts and share with those working on Outreach.

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General considerations

Based on the Shared Understanding already developed the goal here is to go through a meta-design thinking process. We think about what we want to build from different perspectives (see table). These General Design Considerations will be further detailed into different layers, Mechanical, Electrical, Software.

Ecosystem *About relations between the deliverable and other things that it will interact with during its entire lifecycle. A reflection on interoperability, standards. Also about rules and regulations (food processing devices).*	...
Lifecycle *A reflection about how this product will be produced, used and how it will end its life. Is it modular and used in conjunction with other things (see System)? Is it a "perpetual product" (i.e. the user is able to repair and to update/upgrade it) and if so, how easy is it to be updated or upgraded? Will it be possible to recycle parts of the product to be used in other applications once the product becomes obsolete? Is it recyclable? Is this product meant to be shared by a group of individuals during its lifetime?*	...
Value model *A reflection on how this deliverable triggers value experiences.*	...
Fabrication	...

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A reflection about supply chain and fabrication. What are the optimal supply chains and parts in order to reduce cost and environmental impact. What is the best fabrication technology or method? How important is quality?	
System *A reflection about how the thing will be put together.*	...
Environment *A reflection on the environment in which the product will evolve*	...
User effects *A reflection about how the product is handled by the user and how the user can affect the integrity of the product.* *Also think about failure modes for safe and secure use.*	...

NOTE: see also **Open source appropriate technology** (OSAT)

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Electronic design considerations

Before jumping on the CAD programs we need to translate the General Design Considerations into Electrical/Electronic design considerations

Do not engage in this section yet! We are still in Design Considerations phase.

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Mechanical design considerations

Before jumping on the CAD programs we need to translate the General Design Considerations into Mechanical design considerations

Do not engage in this section yet! We are still in Design Considerations phase.

Some mass-produced parts have been engineered for very specific mechanical properties, such as strength, thermal expansion, etc. Always ask yourself the question is if junk can become part of your components, which means harvest old ubiquitous equipment for fabricating parts. For example, harddrives are precise materials with very good thermal properties. They can be used as materials to build parts that require stringent thermal properties. Since these parts are used in industry as standard materials, they are also accompanied with good technical documentation.

This satisfied the requirement of environmentally friendly design and fabrication practices.

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Software design considerations

Before jumping on your computer we need to translate the General Design Considerations into Software design considerations

Do not engage in this section yet! We are still in Design Considerations phase.

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Design

! Do not engage in this section yet! We are still in Design Considerations phase.

Log your contribution {link to NRP process}

Prototyping

! Do not engage in this section yet! We are still in Design Considerations phase.

Bill of materials / BOM

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Testing

Do not engage in this section while in the Design Considerations phase.

1. Verification test plans and testing to confirm that what you have designed meets the specifications that you defined.
2. Validation test plans and evaluation to confirm that whatever you have done yields the results that you originally intended as defined in your product description of intended uses.
3. Test specifications – both at subsystem and system levels with clear criteria for pass/fail.

Wapping up

Do not engage in this section while in the Testing phase.

1. Fabrication instructions / manual.
    a. Include quality verification and remedies for below requirements and specification performance
2. Users instructions / manual.
    a. Include service and support instructions explaining how to troubleshoot issues and what to do to repair/support/recalibrate/upgrade etc. etc. the product. This also includes instructions for how to order repair parts if required.
3. Provide feedback channel back to the design and fabrication teams to let them know what is happening with actual usage of the product.

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Add another section...

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{*Signalization tools*}

{*symbol for process/status updates - use this to signal important milestones in the process*}

{*symbol for notes - use this to post reminders or short messages for self or to collaborators*}

{*symbol for important information - use this to attract collaborators' attention*}

{*symbol for ToDos - use this to signal to your collaborators about what they can do*}

{symbol for alternatives: enumerates possible solutions to consider}

{symbol for reasoning: presents arguments about possible choices}

{symbol for Information: tells you how stuff works.}

{symbol for growing consensus: a summary of a section of this report}

Disclaimer text

Trust / security text

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Estimated time required

Find icons from the noun venture
https://thenounventure.com/