3.10
THE MORE YOU KNOW HOW TO **DESIGN FOR AN OPEN ECOSYSTEM**, THE EASIER IT WILL BE FOR YOU TO SCALE AND INCREASE YOUR IMPACT.

What are the design opportunities generated by the open source ecosystem: hardware, software, platforms and communities? Practices related to open source hardware and software, open design and digital fabrication demonstrate new ways of designing and producing things. Similarly to open source prototyping platforms such as Arduino, you can create “products-platforms”: projects featuring several interactive layers that enable people to access, reconfigure and build upon the physical parts, behaviours and interfaces of the product itself. This design framework is aimed at encouraging you to reflect on the opportunity of creating open projects that can be modified or built upon by users, thanks to an ecosystem of shared documentation, services and licenses.

Type:

#framework

Subject:

#design into the openness

Keywords:

#open source ecosystem

#open hardware and design development

1. Define the project idea

What do you want to make?
Which existing open source projects are you interested in developing?

2. Define the key requirements

By answering the questions, define the requirements that make your project:

- Programmable: other people can have access to the code and parts and reconfigure them;
- Reproducible: other people can recreate your project in another place;
- Generative: other people are enabled to create multiple and diverse derivatives out of your project parts, thanks to the information you shared and the solutions you designed.

3. Understand the users' attitudes and motivations

Once the requirements are defined, understand whom you are designing for and their motivations when interacting with your solutions. The five attitudes describe the orientations of potential users of your project; the eight motivations describe why potential users would interact with your project. Select one attitude and one motivation.

Key requirements Products as Platform V.0.1

Key design requirements – Products as Platform worksheet V.0.1

A. Reproducibility	B. Programmability	C. Generativity
- Is your product featuring standard interfaces and communication protocols? - Is it embedding hardware and software components whose documentation is accessible online? - Is the product using technological solutions shared by a large development community? - Does the product integrate modular parts that are smart and reconfigurable?	- Are you using open licenses? - Are you sharing the assembly instructions? - Are you providing the documentation on the production technologies and procedures? - Are you sharing the documentation through many web channels? - Are you implementing or using interface solutions that enable collaboration? - Did you design modular parts that can be easily replaced? - Is the production based on digital and personal fabrication processes?	- Are you enabling the creation of derivatives of your products? - Are you enabling the creation of derivatives that modify the functionalities and the user experience of the product? - Are you using or developing tools to help monitor the development of your product's derivatives and contributions by other individuals, companies or communities?

Attitudes

1. Maker:
a person who is interested in developing prototypes of projects by accessing online resources and collaborative spaces

2. Professional technician:
a person who has the technical knowledge of a specific domain (i.e. software developer)

3. DIY amateur:
a person who develops projects for the fulfilment of a personal need

4. Consumer:
a person who has low technical knowledge and buys a solution to fulfil a personal need

5. Entrepreneurs:
a person who focuses on the strategic and marketing aspects of a project to develop a business

Motivations

1. Customize:
to customize the style of a product in terms of forms and functionalities

2. Repair:
to repair or fix hardware or software parts

3. Improve:
to optimize parts in order to make them more stable or usable

4. Build upon:
to implement new projects based on existing ones by eventually changing their main purpose

5. Expand:
to implement new functionalities and parts for an existing project

6. Produce:
to manufacture a project on a self-production, small or industrial scale

7. Distribute:
to define the channels for distributing a project at a local or global scale

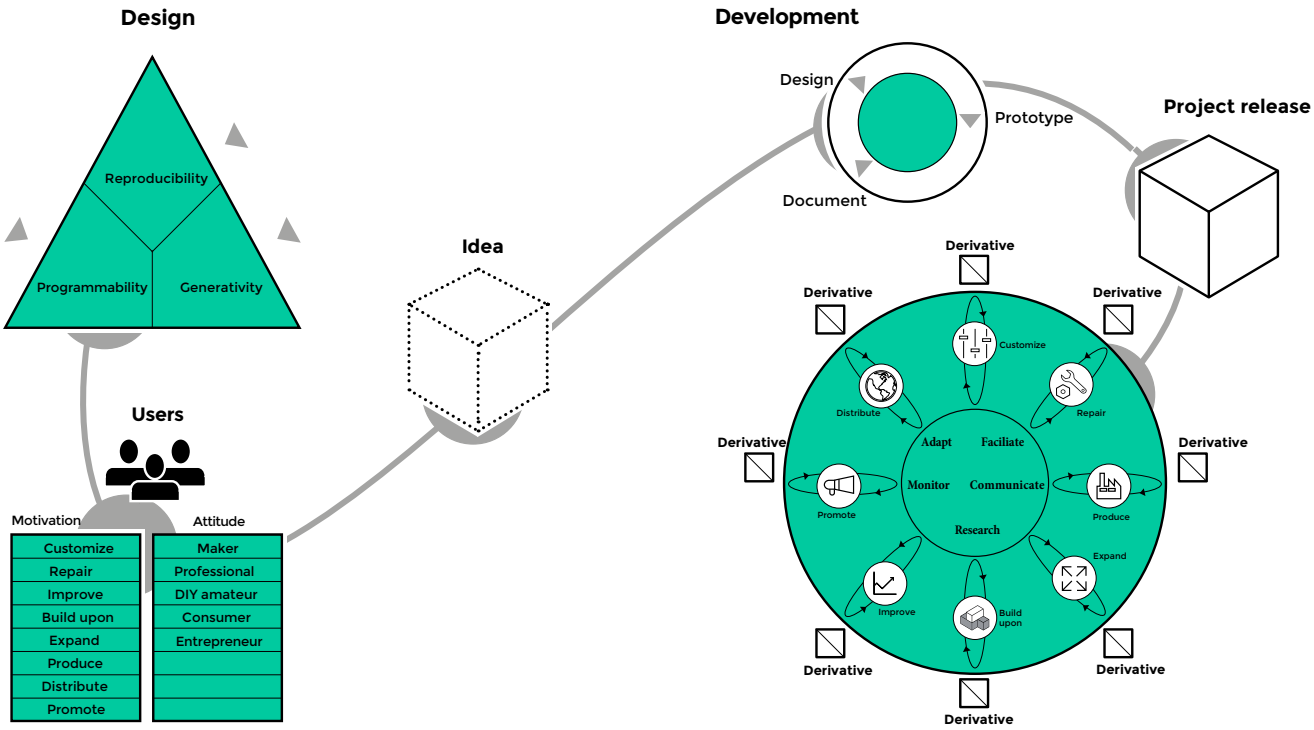
8. Promote:
to communicate a project for media exposure or sales

4. Ideate and sketch

What is the key requirement of your project: programmability? Reproducibility? Generativity?
What are the main functionalities and objectives?
How do the people interact with it?
What technologies are used?

5. Development phase: design, prototype and document

After the release of your product, you can continue designing, prototyping and documenting it according to the feedback of the actors that interact with your project. The result of this process is the development of products-platforms that are open artefacts that people can program, reproduce and develop as a derivative, by accessing the knowledge and the tools you made publicly available.



About: Products as Platforms

This framework aims to define the concepts, the activities and the processes for the design of products that people can modify and develop, thanks to an ecosystem of digital services, shared documentation and open licenses.
The framework reflects on the integration of a human centred design approach into the open source culture, and it proposes a framework for designing innovative open source products. The related series of workshops "How to Make Things Open" have been organized at WeMake Makerspace (Italy) and at the Designing Interactive System Conference in Vancouver.
The framework has been developed as part of a research at Iuav University of Venice, Doctoral School in Design Sciences, and SUPSI Interaction Design Lab.

www.products-platforms.org

Source:

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Related resources

Platform design toolkit, www.platformdesigntoolkit.com