Technische Universität Berlin
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Aushangdatum
15. Januar 2021

OS Hardware Innovationsprojekt mit Industriepartner

Projektarbeit (6CP) – Agile Produktentwicklung & Rapid Prototyping

Kooperationspartner im EU-Projekt OPENNEXT

FICTION FACTORY

waag technology & society

Bewerbungsfrist: **27. Jan**
Projektstart: **01. Feb**

Beschreibung

Sie arbeiten in kleinen Entwicklungsteams an einem **realen Produktentwicklungsprozess** - von der Markanalyse bis zur Umsetzung eines funktionellen Prototypen. Der konkrete Projektauftrag ergibt sich aus dem aktuellen Innovationsvorhaben* des Industriepartners ***Fiction Factory*** aus Amsterdam, deren AnsprechpartnerInnen Ihnen während des Semesters mit viel Fachwissen zur Seite stehen. Durch individuelles Coaching mithilfe von (digitalen) Workshops erlernen Sie die wichtigsten **Methoden der agilen, standortverteilten Produktentwicklung** (u.a. Scrum, Design sprint) und werden im Entwicklungsprozess intensiv durch die ProjektbetreuerInnen unterstützt.

Aufgaben

Zusammen mit *Fiction Factory* und *WAAG Society* entwickeln Sie **in fünf Monaten** Schritt für Schritt einen **Produkt-Service-System Prototyp**. Dabei dokumentieren Sie Ihren Fortschritt regelmäßig auf der Projektplattform Wikifactory und arbeiten Feedback der internationalen Community ein. In regelmäßigen Meilensteinreviews stellen Sie dem Projektpartner Ihre Ergebnisse vor.

Anforderungen

- Selbstständiges Bearbeiten einer interdisziplinäre Aufgabenstellungen
- Ausarbeitung eigener Lösungswege und Aufbereitung dieser für die Open Source Community
- Interesse an intensiver Teamarbeit und Hands-on-Mentalität
- Gute Englisch-Kenntnisse zur Kommunikation mit dem Industriepartner

Kontakt

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* Zusätzliche Informationen zum Innovationsvorhaben finden Sie auf den folgenden Seiten.

OPEN FUTURE FACTORY

Do you consider yourself a creative maker? An inventor who can turn a big pile of precious materials into new circular products? Who sees value in production waste and seeks opportunities to rethink the way we produce? Do you have a hands-on approach and do you learn by experimenting? And while you do that, do you like to share the knowledge and innovations for the bigger picture? Do you feel like a kid in a candy store when you are in a workshop filled with machines and tools? Then we have work for you!

INTRO

Fiction Factory has joined the EU OPEN!NEXT community to explore the possibilities of creating open-source hardware along with 18 other partners across Europe. OPEN!NEXT is coordinated by TU Berlin. The project aims to connect Maker spaces, such as FabLabs, to SMEs (Small to Medium-sized Enterprises) to engage a community of creatives, practitioners and potential customers to co-create an open-source product. The research aims to find a way to make open-source hardware a viable business option, as well as encourage people and businesses alike to find open alternatives to existing business models.

WHO

Fiction Factory is a creative manufacturer of interiors for offices, shops, restaurants and museums. Even though we minimize the waste, we do have leftover materials and products that return after events. In our workshop, you find large workshops for wood, steel, upholstery and painting. But also a “science fiction“ area with custom made machinery and technologies. Plus a

serious sustainability department that aims to make the interior building industry circular.

Waag is an organization composed of research groups that work with both grassroots initiatives and institutional partners across Europe. It operates at the intersection of science, technology and arts. Working with emergent technologies, Waag conducts research in both imaginative and practical terms, addressing its fellow citizens from a position of equality and collaboration.

Both are pioneers in open-source projects, experienced in product development, based in Amsterdam and pilot partner in the European Project 'Open Next'.

MOTIVATION

We are motivated to understand how to:
create a business with open source hardware, create a value in co-ownership, stimulate a more open culture and enable communities through value creation, create a replicable, circular and open system that explores the role of craft within the development of this pilot and addresses a specific value and concern related issue: circular use of wood factory waste.

PROJECT PLAN & TIMELINE

Fiction Factory's Lab is experienced in custom machine building and in the last years was involved in engineering and producing the Precious Plastic's recycling machines that categories as OSH. Based on this experience, FF aims to apply a similar approach to address the type of waste produced at their own factory (leftover material from the production of which 80% is wood mainly deriving from CNC and manual cutting) and create a circular product with it. Preferably a product, that is frequently used at their projects by their clients. Further on, the main ambition of FF is to establish a shared sustainability-driven community inviting creative communities, researchers, partners and clients to join. More importance is given to the creation of a circular process rather than the product.
Therefore, the aim of FF is to focus on the creation of a replicable process that allows creating, through OSH and in collaboration with the creative

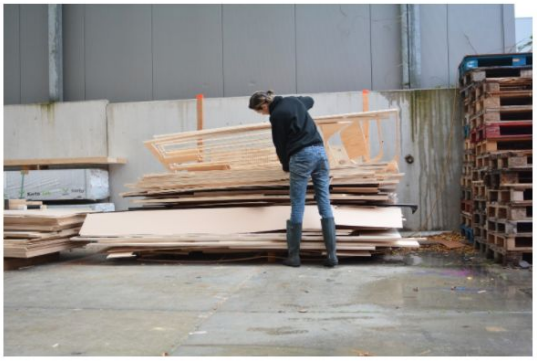
community, an interior product prototype with the wood waste (for example use the wood dust collected from the CNC machine to create construction panels or interior equipment/furniture) (for example the creation of a modular cabinet system by using only wood waste from the factory). Ultimately this prototype will be implemented into a product by another business that has interested in bringing it to market and participate in the collaboration (B2B2C).

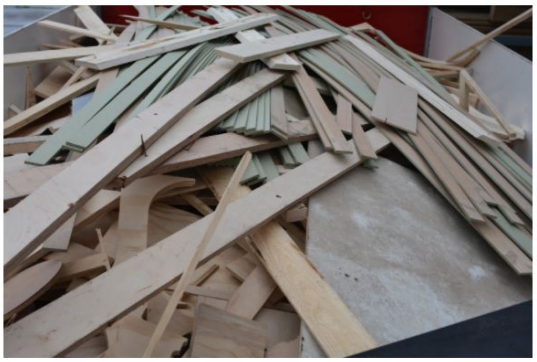
Sep 2020
Definition of scope, values, strategies, roles.
Oct 2020
Waag & FF publish together an open call towards communities to invite a creative researcher (representative of the community) to develop a project from FF wood waste.
Nov - Dec 2020
Conceptualization: core team, with communities of material experts, machine builders and business community: Ideation phase.
Jan - Mar 2021
Material & hardware Experimentation phase. Along with this phase process documentation & open events with the rest of the community.
Apr-May 2021
Iterative prototypes delivered with design and technical documentation & feedback sessions with the communities.
July 2021
Final product prototype delivered in a form of digital documentation and functional physical product.

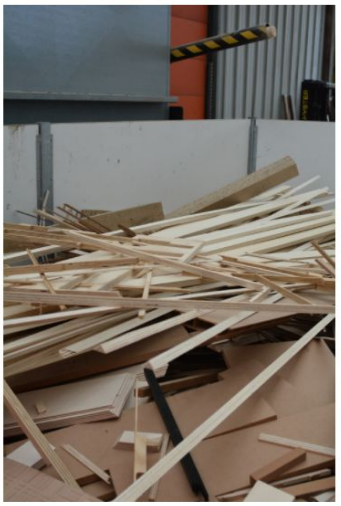
ABOUT FICTION FACTORY WASTE

The wood workshop at Fiction Factory has been identified as the biggest producer of waste (by weight and volume), with at 20m3 of wood offcuts & sawdust and a 2meter high stack of CNC milled plates being taken away at least once a week. Collected in the 20m3 trailer is all sawdust, which is pressed into dry briquettes, and all off-cuts from the table saw and smaller pieces from the CNC milling. All of the wood in this trailer is plate material: including birch multiplex, underlayment, betonplex, MDF, black MDF, veneered MDF, and other special order plate material (which is therefore also in the dust). The leftover CNC milling plates are also from the same plate

material, however, if the wood sheet still holds more or less together after the needed pieces have been removed, they are placed in a separate waste pile.







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USEFUL LINKS

- Official website: https://opennext.eu/
- European project team: https://opennext.eu/project-team/

- Wikifactory Project page (where we regularly update developments on the project)
- Open Call for creative Maker