



THE eCraft2Learn ECOSYSTEM



RESEARCH



DESIGN



PILOT



VALIDATE



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Project- and Crafts-based Learning

eCraft2Learn seeks to build an educational ecosystem which relies on project- and crafts-based teaching and learning methods. This methodology includes 5 stages, which together guide the learner from an idea to developing, showcasing and sharing the final solution.

- **IDEATION:** The learners explore the world to find challenges. This exploration can be in the physical or virtual world (i.e. online communities).
- **PLANNING:** The learners collect information and material and start making project plans.
- **CREATION:** Through a co-design and co-creation process, the learners start creating their solutions. This stage might involve many different technologies such as do-it-yourself (DIY) electronics, visualisation, simulation and 3D printing.
- **PROGRAMMING:** Learners add functionality to their crafted artefacts through high-level programming languages.
- **SHARING:** By sharing the solutions on online communities, the learners can learn from other projects, while receiving feedback from designers, engineers and programmers.

The Unified User Interface (UUI)

Each of the aforementioned stages requires a different set of tools and materials. Developing a central place (software) for managing these stages is the aim of the eCraft2Learn educational extension – the Unified User Interface (UUI). Such a solution will make it easier for the learners to manage their co-creation process and project work as well as provide additional tools to develop their projects and solutions further. The UUI plays a central role in this context since its aim is to allow the users to navigate smoothly among different tools for making. The structure of the UUI is built in groups of tiles, each of which representing one of the five stages of the pedagogical methodology. Each tile represents a technological tool which can be used to facilitate the five stages of co-creation. The larger tiles represent the tools that are directly integrated or will integrate into eCraft2Learn ecosystem, while the smaller tiles are not directly supported by eCraft2Learn. All of these tools are free, most of them are web-based and many are open source enabling their usage to wider groups of students. Another important feature of this interface is to collect information about the activities of the users. This information is used in the learning analytics part. Based on the learning analytics data, the solution provides additional help to the users and eases their project management cycle.

