# Application to support design for additive manufacturing in conceptual phase of product development

Designing a new product for 3D printing can be tough if you don't know which technology or material to use. It need to be considered already in a conceptual phase of design

Additive manufacturing (AM) is usually associated with rapid prototyping, although nowadays it is becoming a real option for small-batch production too. The growth of share of additive manufacturing is closely related to the AM production costs.

In this project we developed an application to support the designer in the conceptual phase of design.

First, we studied the existing processing technologies, gathered the information about each technology in a few parameters and entered them into the web application. The information contains physical parameters as well as guidelines in order to help the developers to improve their design.

Second, we added some examples of materials and parameters to the web application. Each material can be used by different technologies. So, the web application is programmed to analyse requirements and then give the developer all the options that meet those requirements. In order to choose the best option, the web application provides you with information on an approximate manufacturing cost. This cost takes into account the cost of material used and the processing technology cost.

When the developer selects the material and a processing technology the option to go to a new page of the application appears. On this page, the developer will find information on the best way to design a piece. Here are general guidelines, as well as specific advices for some of processing technologies.

This web application gives developers information on the best way to design and provide information the costs. If the preliminary design is too expensive they can redesign the product based on advices to reduce the cost and optimize the shape.

The application database is still under development and needs to be supplemented with additional material and regularly updated with new processing technologies, materials and innovations.

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