

# NEOTAKU

## Configurator for 3D Printed Generative Jewelry

**Author:** Mgr. Hana Tokárová

**Supervisor:** doc. Mgr.art. Helena Lukášová, ArtD.

### / Motivation

The usage of 3D printing technologies has grown in the last couple of years, and 3D printed products have gained much popularity. Because of its great power of making essentially any designed object tangible, it can be heavily used in product configurators. Furthermore, the jewelry industry could benefit from these technologies, making jewelry shopping more enjoyable and customizable.

This thesis aims to create a web-based tool called Neotaku that helps to convey this memorable experience to anyone who wants to try and configure unique jewelry.

### / Research

Even though some product configurators want to create a unique experience for the customer, some problems/limitations still need to be solved. The main problems lie in the context of the product's usability, software complexity, and limited control for the user. Some programs also do not contain that much visual feedback, which can make the customizable process less engaging. The biggest problem regarding the product configurators concerns balancing the customization aspect for the user.

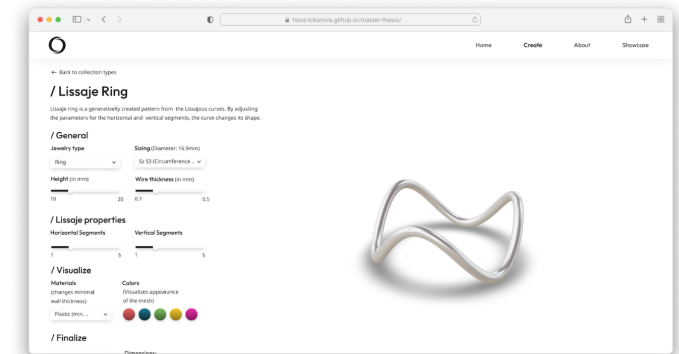
### / Results

The implementation is web-based application, where the user can choose between two main collections - Lissaje and Torsion. Each collection contains four types of jewelry: rings, bracelets, earrings, and pendants. Each type has different parameters that can be customized, like size-specific collection parameters and additional features to visualize given jewelry (see **Figure 1**). The 3D model can be viewed as a rotatable 3D model and exported to 3D printed files.

The whole web-based Neotaku configurator was tested by a qualitative user study, which showed that the tool engages users and enhances the customizing experience. The tool was also discussed with a jewelry expert who stated that the tool is an innovative solution for jewelry shopping.

### / Contribution

All in all, this thesis contributed to the creation of web-based Neotaku tool, tested and tried by potential users and jewelry expert. It was shown that the configurator could enhance the experience of products that can be customized to order. Additionally, further advancements in 3D printing technologies could be applied to this field, and already existing methods could potentially replace traditional jewelry making by loss wax casting method (see **Figure 2**).



**Figure 1:** Neotaku configurator page.



**Figure 2:** Lissaje ring made by loss wax casting method.