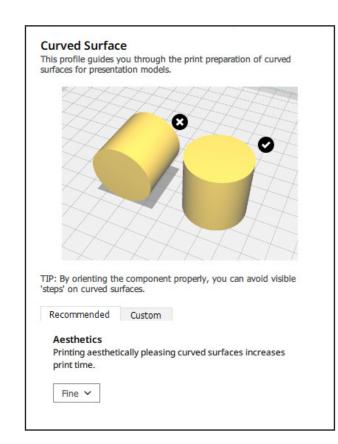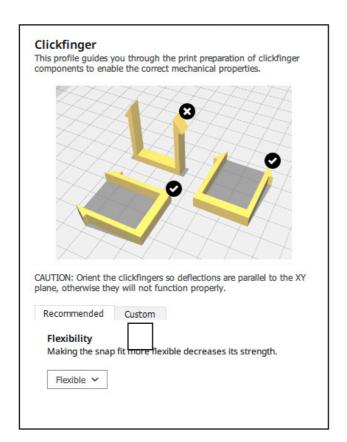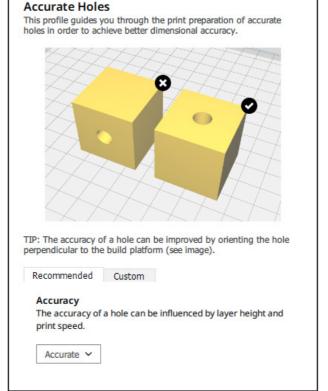# Intent-Based Material Extrusion 3D Printing:

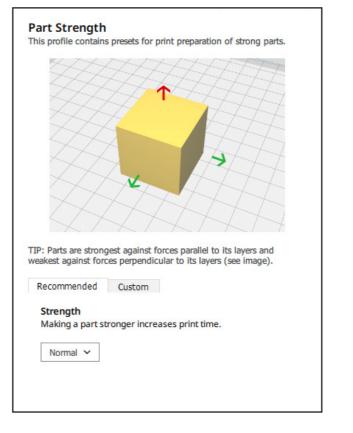## Moving from process-driven to intent-driven 3D printing

The proposed design is a software plugin for the Cura engine based on product configuration systems used in retail. The software architecture consists of six modules that work together to analyse the model geometry, retrieve requirements and wishes based on the communicated intent, recommend profile selections and user actions, validate the print preparation process and guide the user towards ideal printer configurations and process parameters.

Within the plugin users can better voice their intentions through selecting component profiles. These profiles present meaningful feedback to users that both guides and educates them.

Joost Kuitert
Intent-based Material Extrusion 3D printing
October 12, 2018
Integrated Product Design

Committee

dr. ir. Z. Rusak
dr. ir. E.L. Doubrovski

Company

drs. J. van Kessel & Ir. P. Brier

**Faculty of Industrial Design Engineering**

**Delft University of Technology**