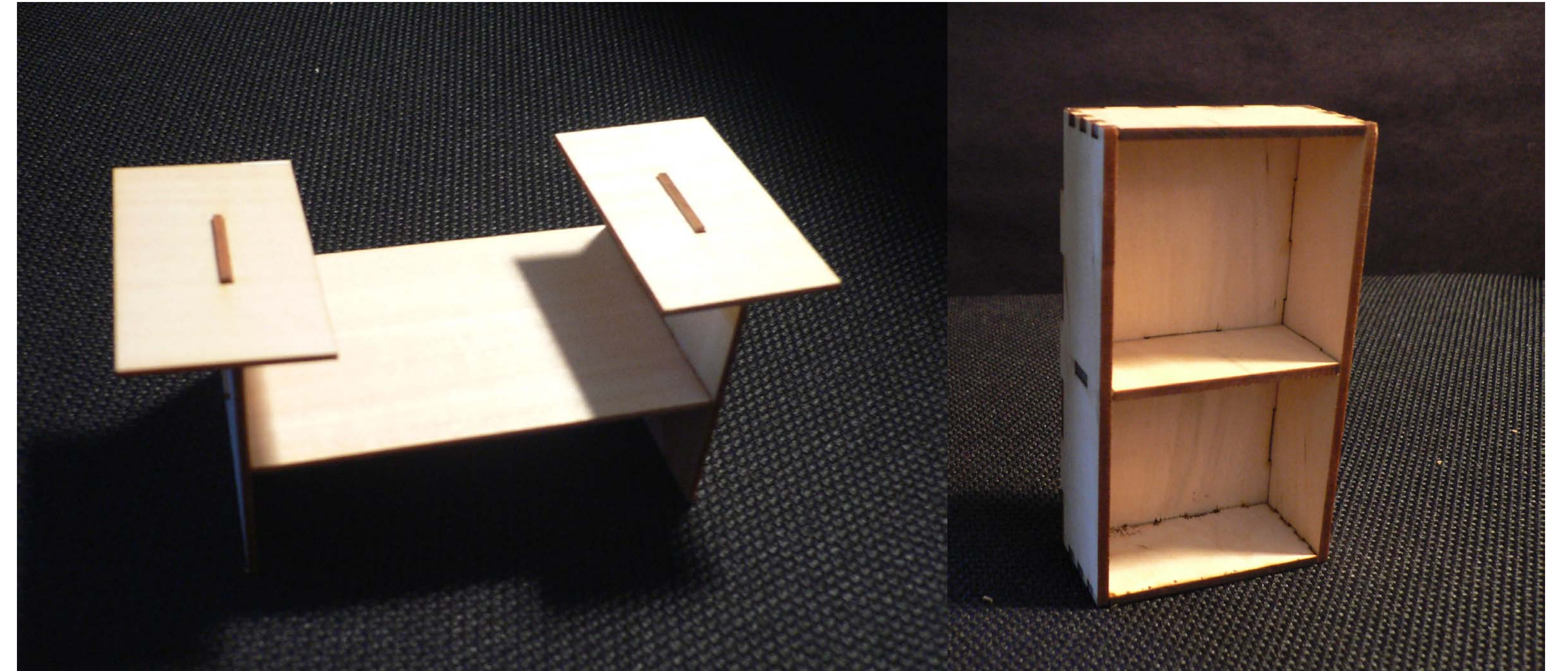## A Sketch-based System for Fabrication

Furniture Factory helps novice designers construct physical furniture prototypes using a laser cutter. The software has four components:

- **Sketch Interface** parses an isometric drawing.

- **Geometry Analyzer** constructs a 3D model and decomposes it into flat parts.

- **Joint Creator** adds necessary joints according to the identified connection conditions.

- **Cut Drawing Printer** generates a drawing file (HPGL) to cut the parts on a laser cutter.

Furniture Factory

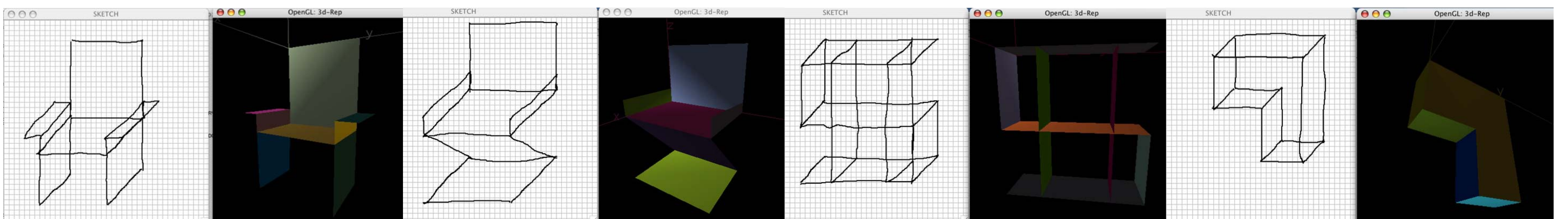**Yeonjoo Oh,** CodeLab, Carnegie Mellon University
Mark D Gross, CodeLab, Carnegie Mellon University
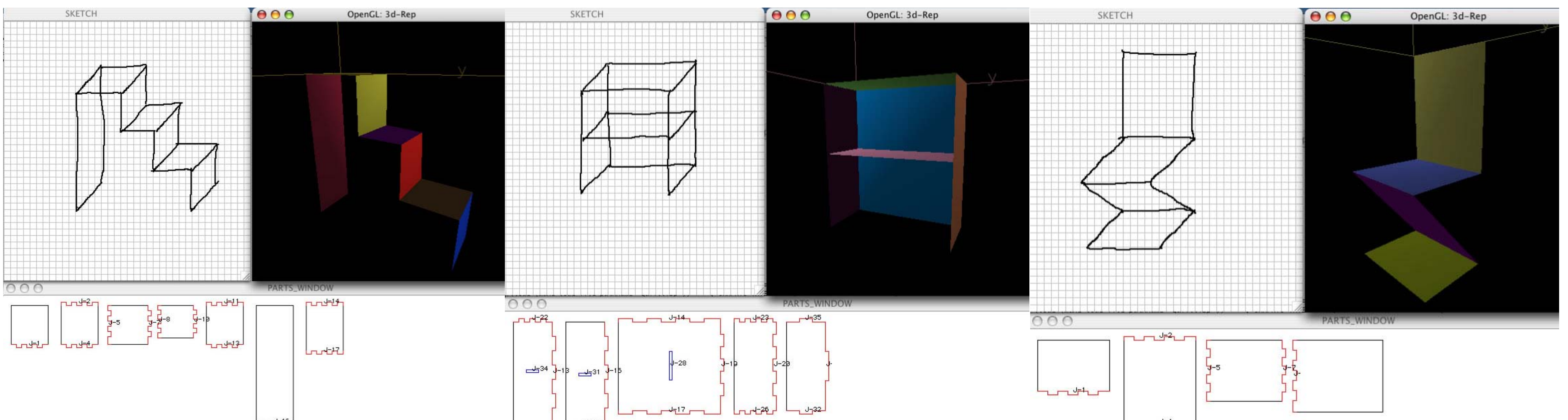**Ellen Yi-Luen Do**, Colleges of Architecture & Computing, Georgia Tech

http://code.arc.cmu.edu

Reconstruct 3D Models from 2D Sketches

Decompose Parts & Create Joints