## Rebuildit

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## Today

- Introductions
- History of the Rebuildit project
- Overview of how it works
- Previous Rebuildit projects
- Current Rebuildit projects
- Future Rebuildit projects

### Introductions

- Eli Burns-Irvin
  - From Illinois
  - Student at SIUE
  - Computer Science
  - Mobile computing
  - App development
- Jesse Weisberg
  - From New York
  - Student at WUSTL
  - Systems Engineering, Economics
  - Intern at Arch Grants

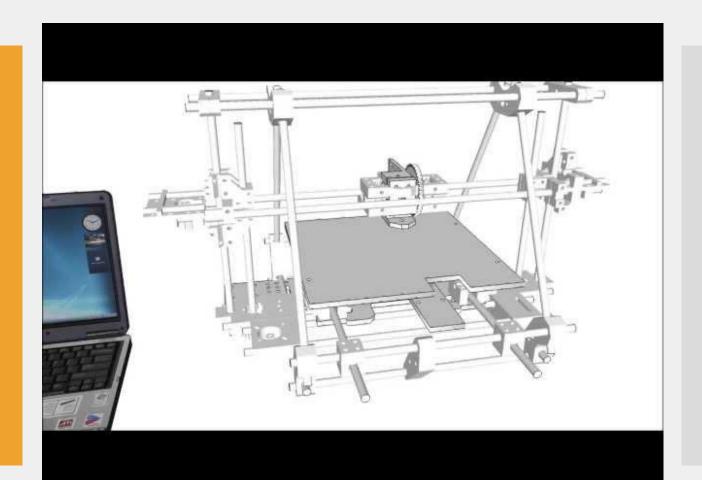




# History of the Rebuildit Project

- Started in 2011
  - Business plan pitch to WUSTL
- Originally called Open Design Prosthetics
- In 2012 Electrical and Systems Engineering (ESE) Dept.
   Sponsored the project
  - Team of 6 ESE engineers
- In 2013 the prototype printer was completed
  - Team of 5
  - Multidisciplinary team
- In 2014 Scanner prototype continues

How the System Works



### How the System Works: A Closer Look

• structure from 3D model from 20-30 2D digital pictures



model to create inverse, define specs (thickness, etc.)



that communicates with 3D printer and slicing software (we use *Repetiere Host*)



- Use external Slicer Slicer manager in

Finished Product!



- Sends G-Code to printer, or copy code to SD card and insert to printer



- fill slices
- •calculates amount of material to be extruded

Previous Rebuildit Projects (2012 – Present)

## Building the printer prototype

· Improvements and reliability

Prosthetic research and design

### Scanner prototype

· · Software engineering

## Current Rebuildit Projects

- Website
- Quadcopter
  - We worked with American Society of Mechanical Engineers (ASME) at WUSTL to create and maintain a quadcopter for them
- Phone cases
  - Case for LG G2
- Parts for future printer models
  - Printer V. 2.0

## We Can Rebuild It Together Creating Technology for Everyone

The Rebuildit Project

About Rebuildit

Project Blog

Email Us

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### Recent Posts

Progress Report for November

Veterans Day Article

Research Opportunity for Undergraduate Engineers

The Rebuildit Project History

Website is up!

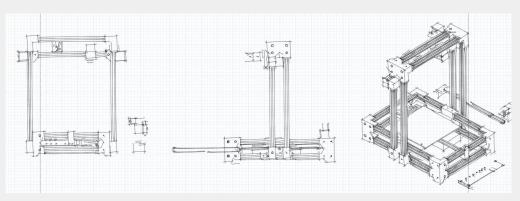
http://www.wecanrebuildit.org/

Quadcopter



## Future Projects

- Version 2.0
  - Solar Power
  - Portable and ruggedized



- INCOSE
  - Print structures for robots
  - Assist in design/conceptualization