



Can You Make a 3D Scanner on a Budget?



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Introduction

- The importance of part scanning in the engineering field is becoming increasingly important
- Professional grade scanning equipment is expensive and generally out of reach for students
- The Xbox 360 Kinect uses infrared scanning technology for gaming purposes
- The Kinect can be utilized for 3D scanning as well using KScan 3D, ReconstructMe, & Skanect

The Parts



Future Test Evaluation

- 3D print the scanned objects and compare them on a 1:1 scale to find anomalies
- Compare scans to an industrial scanner's scans

Pros & Cons

Pros

- Is a cheap entry into 3D scanning
- Many sources for information
- Is a more hands on scanning experience
- Delivers a usable product

Cons

- Assembly is required
- Post Processing is required
 - Scans are only shells
- Struggles with round geometry scanning
- Can only recognize and align by the point cloud and not colors/designs
- Somewhat compatible with Windows 10
- Set up is critical
 - Proper lighting and rotational speed are critical

Conclusion

- The Kinect is an excellent entry into being able to scan simple parts and learn more about how 3D scanning works
- While you may be limited in scanning capabilities the Kinect still can scan a large variety of parts with the proper set-up