

University of Bourgogne and Franche-Comte
MedicAl Imaging and Applications

3D Scanner

Partners: Fahad khalid, Ali Berrada, Kenechukwu Henry
NGIGE, and Basel Alyafi

January 9, 2018



Goals

Background

Registration

Reconstruction

Implementation

Project management

Difficulties and Future work



For previous-year projects:

- ▶ Analyze
- ▶ Implement
- ▶ Improve



- ▶ What is point cloud?
- ▶ Applications
- ▶ what is Kinect?



- ▶ Alignment using transformation matrix
- ▶ Iterative Closest Point(ICP)
- ▶ Principle Component Analysis (PCA)
- ▶ SVD + PCA Vs ICP



- ▶ Surface Reconstruction methods
- ▶ Filtering
- ▶ Greedy Vs Poisson



- ▶ Camera calibration
- ▶ Data Acquisition
- ▶ Key points detection and matching
- ▶ Registration from 2 or multiple clouds



- ▶ weekly reports
- ▶ Skype conferences
- ▶ TAIGA tasks



- ▶ preparing the environment
- ▶ understanding concepts