Team Member	Ankush Kumar Mishra
Project Type	Solid Modelling

Goal: Continuous point cloud comparison between a 3D printed object and its corresponding voxel model. This comparison will act as framework for monitoring the 3D printing. This can essentially create a digital twin of the actual printing that is happening.

Future Goal: The real time monitoring can help in controlling the manufacturing process in real time. It can also be used to compare the deviation in the predicted manufacturing of model and the actual manufacturing. The deviation comparison can be used to prevent Cyber-attack on the model. The manufacturing process can be stopped if there is significant deviation.

Project Plan:

Nov 10: - Setup of point cloud depth camera for 3D Printer, Generation of G-Code from a voxelized model, generation of multiple point cloud data from Actual Printing

Nov 25: - Generation of point cloud for voxel model for different layers of printing, comparison of models for full model vs the case when only few layers are printed.

Dec 10: Point Cloud Comparison of every layer of printing for a voxel model and actual 3D printed model.

Extra Goal: The aim will be to automize collection of point cloud data for every layer of printing being done, then automatically compare it with point cloud of voxel model and return the absolute distances between the models.