The purpose of a weekly report is to: (1) give you text and images for your papers, thesis, and dissertation, (2) document progress, (3) identify if you are stuck or need resources.

Weekly report

1. **My *Goals* from last week**

* Read the paper: Terrain Decomposition and Layered Manufacturing
* Write script for voice over of ‘Assembly’ video
* Make the poster slide in PowerPoint

1. **My *Accomplishments* this week**
   1. I’ve read the paper and I’ve learnt about following terms:

* NP hardness
* Bipartite graph: Is a set of graph vertices decomposed into two disjoint sets.
* Planar graph: A graph which can be embedded in a plane without any of its edges crossing each other.
* Terrain polyhedra: They have a base facet such that for each point of the polyhedron the line segment joining the point to its orthogonal projection on the base facet lies within the polyhedron.
* Isothetic Objects: A [polygon](http://planetmath.org/node/40006) or [polyhedron](http://planetmath.org/node/31627) is [isothetic](http://planetmath.org/node/37912) if all of its [edges](http://planetmath.org/node/41602) are parallel to one of the coordinate axes.

In this paper, they’ve partitioned a given polyhedral domain P into k connected pieces each of which can be produced by layered manufacturing without using any supports.

For the two-dimensional case, they first make a planar graph of the part and then they divided the nodes of the graph into ‘vertices’ and ‘clauses’.

There are many things I don’t fully understand:

* Why are they considering 3SAT cases?
* How do they divided the graph into vertices and clauses?
* How do they use the vertices and clauses to build the sub-parts?

I would like to know and discuss if there is another project I could start working on as I don’t think I’m making much progress on this one.

* 1. I’ve emailed you the script for video.
  2. I’m making the poster slide today.

1. **My *Goals* for next week**
   1. Meeting with Dr. Becker on <24th March 2017 at 9:00 am>