**PROJECT PROPOSAL**

**TOPIC:**

Achieving ssustainability through waste minimization in step flooring building system using virtual machine.

**Problem Statement:**

In the construction industry there is a lot of wastage especially when it comes to flooring. A lot of material is wasted through cutting and mismanagement which increases the cost of the overall project. It also affects the aesthetics of a building creating places that are visually unappealing.

**DEVELOPMENT OF ALGORITHM FOR FLOOR TILING LAYOUT DESIGN**

A design algorithm will be developed to automate floor tiling layout. For subsequent waste analysis detailing of construction design will be done using this design algorithm. Flow chart of tiling layout design will be used to develop the design algorithm. Quantities of flooring tiles at completion of tiling layout design will be obtained. Also tiling layout will be refined to obtain different shapes of tiles (rectangular, trapezoidal, etc.).

**ALGORITHM FOR FLOOR TILING LAYOUT DESIGN**

Refine the floor surface by cutting portion of tiles going outside the floor boundary

Start next rows

&

Finish laying the tiles

Place further tiles

&

Calculate end point of row

Determine start point of row &

Place a tile of nominal size

Determine orientation of rows of tiles on floor surface