

User Problem Statement

Introduction

ABC company manufactures printed circuit boards (PCBs). There are around 20 different components used in the manufacturing of the PCBs. Currently, the holes for placing these components on the PCBs are drilled manually.

Problem Statement

The company requires the design and production of a prototype of an automatic drilling station that can be used to replace the manual drilling operation.

User Requirements

1. The station should operate on standard electrical supply in Malaysia
2. The maximum size of the PCB board that we use is A5
3. The maximum number of stacked PCB boards is 5
4. The accuracy of the drilling should be less than 0.1 mm
5. The coordinates for each hole should be entered using a keypad
6. The coordinates for up to 10 holes should be able to be keyed-in for each drilling run
7. The safety of the operator should be given high priority