



EIE 2016

EUREKA INNOVATION EXHIBITION
INTERNATIONAL LEVEL

PORTABLE POWER HACKSAW (PPH)

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ABSTRACT

The Portable Power Hacksaw (PPH) is an integrated method of cutting machine from manual handling is converted to automatic control by PLC controller. Utilization of mechanism of crankshaft for smoothing rotation to run the hacksaw. For this time, we want to use this machine as a teaching kit for those who majored in mechatronics, electromechanical, robotics and automation

OBJECTIVES

- To create a training kit for the teaching session by lecturer
- To show what uses of PLC on the project
- To make sure all the student most understand the using of part to create a project

NOVELTY

- APPH is designed to improve manual cutting machine. In addition, APPH is updated by using Programmable Logic Controller (PLC) which the program system can be varied based on customer requirement
- The program system can be varied

METHODOLOGY

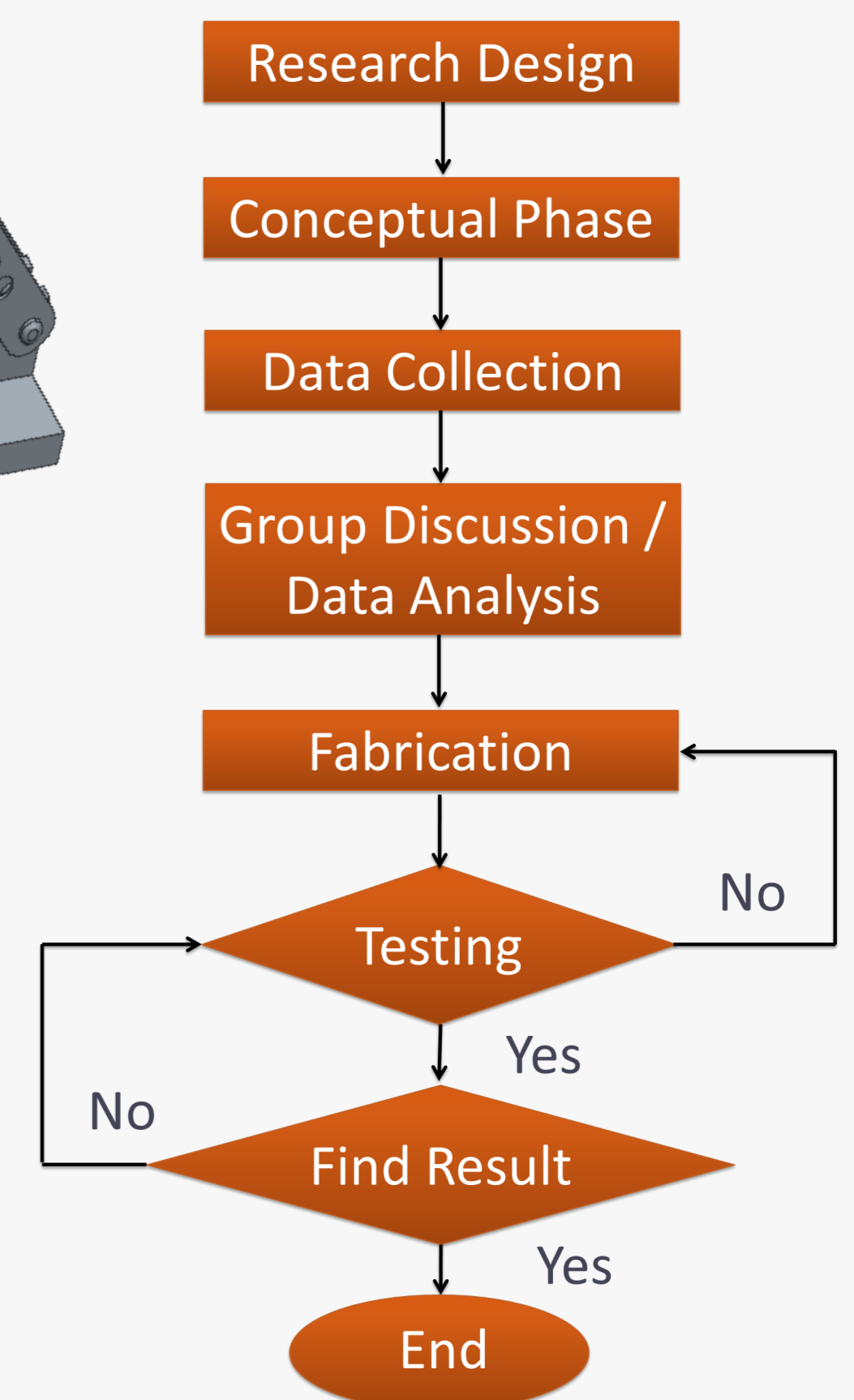
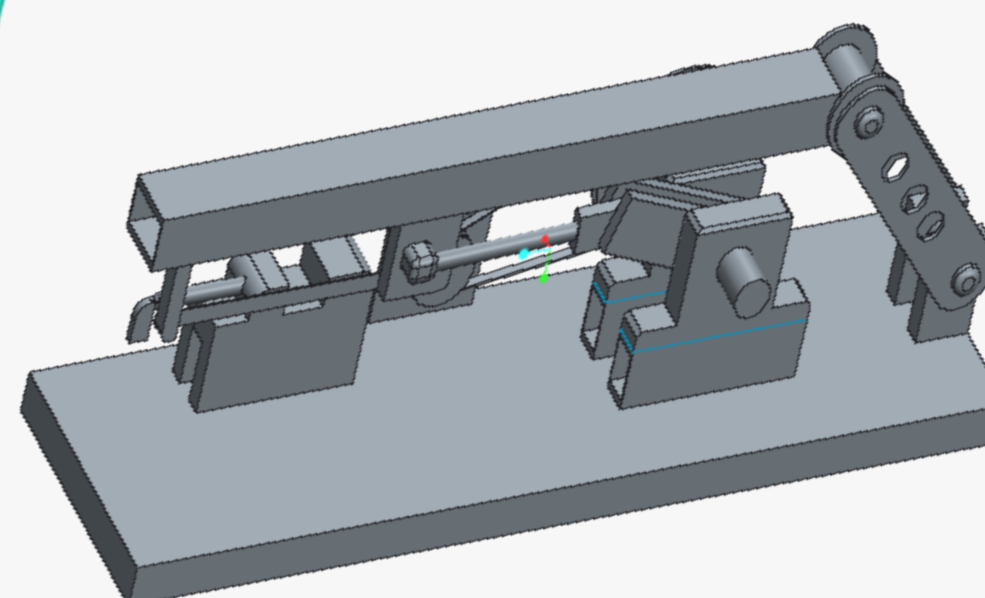


Figure 1 : Flow Chart

RESULTS AND DISCUSSION



Functionality and reliability test :

Experiment	Angle of Cutting	Time Taken (PPH 2.0)	Time Taken (Human)	Degree of Contact
1	OK	13.63s	36.03s	19.1cm
2	OK	12.86s	37.56s	18.7cm
3	OK	14.21s	35.46s	19.0cm
4	OK	15.72s	38.89s	18.9cm
5	OK	14.53s	39.85s	19.8cm

Table 1

COMMERCIALIZATION POTENTIAL

This product do have a market potential as it is a machine designed to help people reducing their labor hour while in the same time producing a consistent results. This product can be commercialized especially towards the small industries or even to an individual who seems this product suits their needs.

- iCompEX'16 (SILVER)
- Conference On Academic, Engineering, Science And Research, UniKL MSI