

WORK DESIGN AND ANALYSIS
IE 441
LABORATORY MANUAL

LAB – 5

MOST



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LAB # 5 MOST

Objectives:

The objective of this assignment is to give you exposure to and experience with the software version of MOST, by utilizing it to develop a normal time estimate for performing the mouse assembly task that you have analyzed in other labs.

Introduction:

MOST is a predetermined time system, which allows the analysis of any manual operation and several equipment operations. The MOST concept uses fundamental activities, which are combinations of motions, to analyze movement of objects. The basic patterns of movements are described in normal, pre-defined sequences. MOST stands for Maynard Operation Sequence Techniques. Time values are expressed as index values, which represent a range of times. These indexes are then assigned to the fundamental activities to allow analysis of operations.

MOST is based on the principle of work, which as defined in physics is “force X distance”.

Time units used in MOST are based on hours and parts of hours called time measurement units (TMU). One TMU is equivalent to 0.00001 hours. 27.8 TMUs=1 sec.

MOST technique is comprised of the following basic, pre-defined sequence models:

General Move: Sequence- for the spatial movement of an object freely through the air. Example- walk three steps to pick up a bolt from the floor level, arise, and place the bolt in the hole.

Controlled Move: Sequence- for the movement of an object when it remains in contact with a surface or is attached to another object during the movement. Example- engage a feed lever on a milling machine.

Tool Use: Sequence- for the use of common hand tools. Example- the use of a wrench.

Advantages of MOST

- Time reflect a 100% performance level.
- MOST is fast to apply.
- Easy to understand and learn.
- Consistent results.

Uses of MOST:

- Determine the total labor cost of the product.
- Determine the number of production workers required.
- Determine number of machines required.
- Determine the delivery times for the produced product.
- Determine the overall production schedule.
- Set realistic production goals.
- Know the actual cost of production.

Lab Procedure:

You will be introduced to the MOST software and get a chance to explore it, You will then use MOST to determine the normal time for the mouse assembly task. In order to do this, you will need to divide up the assembly job into activities based on moving objects (pieces of the mouse and the screwdriver). You will then describe each of these activities using appropriate MOST sequence models. You will end up with a series of models that describe the entire assembly process, such that when you add up the time from each model you will have the normal time for the mouse assembly task. You will need to complete the construction of the series of MOST models during the lab.

Format for Lab Report:

Cover Page is Title page as your choice.

1. Introduction
 - Brief introduction to MOST and to the activity to which you applied MOST
2. Your MOST analysis
 - For each activity to which you apply a MOST sequence model, provide a brief description and include any assumptions you made in selecting the particular sequence model or parameter index values.
3. Provide descriptive and quantitative comparisons between your MOST analysis and your previous time study analysis
 - Discuss any significant differences between the two analyses (do the measured and predicted times match?; if so, why or why not?)