Designing Application of Direct Time Measurement Within Stopwatch Time Study Method Based On Android

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ABSTRACT

Standard time is the time that needed for a worker who had an average level of ability to finished the job. Accurate time resulted from the application of work measurement techniques. One of the known work measurement method is the Stopwatch Time Study. This method is often used by companies to determine the standard time of various processes. The reason for using this method is that it can provide detail information because the data collection process is done thoroughly, not using a sample, and can be applied in various kinds of works. This method is also have weaknesses, the implementation of observation that takes a long time plus the observation result that can not be known directly / instantly because it still requires further data processing, it is necessary to prepare a lot of equipments such as stopwatch, observation worksheets, folder holder, calculator, and stationery. Some technology development has been trying to eliminate these weaknesses, such as computer-based application design for PC, Notebook, and Personal Digital asisstant (PDA). Those devices are able to eliminate the weaknesses of the stopwatch time study method but new weaknesses appear such as the device is not fully mobile, application display that still less attention of visual aspect and good visibility.

The current technological developments have emerged new alternative for developing applications of stopwatch time study such as Android OS technology that available in smartphones and tablet devices. As we know that Android has good specification, both in terms of development or application programming, software and hardware specifications and the size of the screen that relatively wide. With such specifications, Android has advantages than those three devices previous so it is eligible to be used as basic development of working time measurement application of stopwatch time study. Using design process that notice usability and human-computer interaction aspects, this application is expected to be able to simplify the process of data collecting and increase the accuracy of working time data in order to result in faster data processing.

Keywords: direct measurement of working time, stopwatch time study method, android programming, human-computer interaction, usability
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