

Benjaporn Srisuwankan 2009: Software for Scheduling and Tracking Repetitive Construction Projects. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Assistant Professor Suneerat Kusalsai, Ph.D. 120 pages.

Given high competition in construction industry, many contractors seek of methods and strategies that help them reduce production cost and/or increase productivity. In manufacturing, the advantages of cost saving by producing similar products utilizing same materials and labor with identical production process are evident. This concept can be applied to various types of construction projects including housing projects, high-rise building projects and highways. However computer software for planning repetitive construction projects currently used contain several limitations which mostly cause inconvenience to users and sometimes provide ineffective work schedule. In addition, those software do not have tracking and updating applications which are also important in managing and controlling construction projects.

The objective of this research is to develop a computer software for planning, monitoring and updating repetitive construction projects. This software allows a user to choose one of the two scheduling methods, repetitive construction approach and early-start approach. The software supports many types of products whose activities can have different work quantities. The productivities of work crews are specified by a user. Work schedules are presented in calendar dates both in bar chart and graph formats. To track the project progress, this software calculates schedule variances and plots an s-curve comparing budgeted cost of work performed against budgeted cost of work schedule. In addition, given construction progress, the software updates the schedule of the remaining work by using original project information or a revised one provided by a user.

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