[P14] Vision-Based Project Management System for Home Decoration Companies

Requirements

The target of this project is to create a vision enabled project management system for a home decoration company. This system aims to show the project scheduling of a typical home decorating project. It collects daily project schedule and resource status and provides a WeChat-based interface to present the results to stakeholders. The client is the project supervisor who acts as a project manager who himself/herself strives to promote the user-experience (including the project manager, the owner of a house/apartment and other potential users of the system) under a mind of serious scheduling control, and who also would like to promote such system to a wider audience.

Background

Project managers of a home decorate project face some challenges in order to monitor the progress of a project and minimize the completion time of a project. A project consists of a serious of tasks, where the precedence relations between tasks are given. Resource required to fulfil each task is known.

In the system, a network fixed project plan (PP) is given. The system considers to give a schedule for all tasks in the PP considering the precedence constraints and resource volume constraints. Accurately recording and tracking each task's completion status is vital for the completion of the entire project. There will be different users in the system with different functionalities and permission. Vision-based techniques will be used to present the status of a project completion for different users.

Outline

The selected students will form a software engineering team, and work together to complete a full cycle (may be several full cycles) of the software engineering process, resulting in delivery of a vision based project scheduling system, as requested by the client.

The system should focus on tracking the status of each task in a project, including the completion status and resources preparation for each task. It should present vividly the status of each project as well as each task in the project to the manager through a WeChat applet. Some statistic results should be exhibited in hierarchical detail levels. Other users, such as the resource provider of a task should be able to see and edit the status of the task. The applet should follow a freemium model for the project managers, but with limited access for other users who may register in the system.

Tasks & Deliverables

The team will need to produce serval artefacts, including (but not limited to):

- A report on the current main challenges of the home decorating company

- A requirements specification for the targeted system

- Design document

- Prototypes

- Progress reports

- Verification and validation plans

- Code and code document

- Instruction manual book