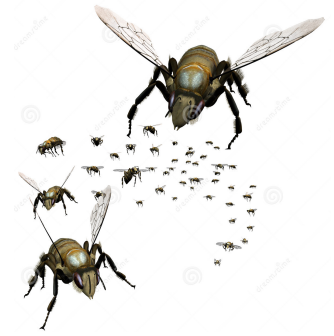# Estimate Swarm

Project vision and objectives

To develop a web application to assist with planning and estimation projects.
The key feature of system will be to use 'crowd' intelligence to predict the most likely outcome of a project. The system will combine the estimates of several experts to predict the most likely effort estimate for project tasks.

Project owner

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Project scope

The following features will be required:
• Building a functional decomposition of a project (tree structure of project tasks).
• Annotate tasks with description, comments by expert, checklists, labels, due dates.
• Adding attachments such as screenshots, wireframes, spread sheets, word documents to tasks
• Managing invitations to experts for task estimation
• Allowing experts to do multiple rounds of blind estimations
• Re-estimating tasks during project, to establish health of project
• Visualisation of the estimates will be a essential part of this project, some examples below
• Simple statistical analysis of data will be required to identify high risk tasks

Architectural requirements

• Will be browser based and should make use of AngularJS and D3 as JS frameworks.
• Should use REST & AJAX calls to communicate with the application server.
• Will use JEE application server with JPA for persistence of data.
• Should integrate with Google docs for storing and viewing of documents attached on tasks.

Project team skills requirements

• Proficient in Java programming language
• Proficient in JavaScript programming language
• Knowledge of AngularJS and JEE7 concepts will be an advantage
• Some knowledge of statistics will be an advantage

Examples of graphs required

A chart to show the distribution of estimates by various experts, this can show whether there is general consensus on how long a task will take, or if there is high levels of uncertainty and disagreement between experts.
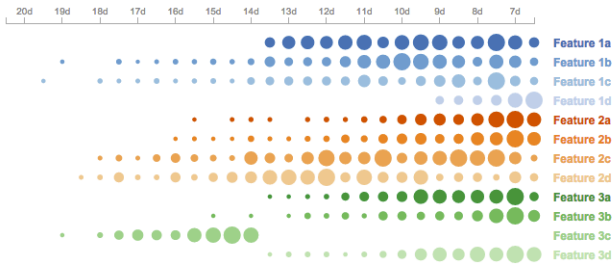
Charts may indicate rising or falling uncertainty as project progresses over time (cone of uncertainty).
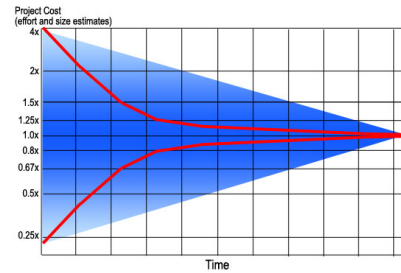
A standard Gantt chart to show the most likely scenario based on consensus. It will also need to be enhanced to include concepts such as worst case scenario for tasks with high levels of disagreement and uncertainty.
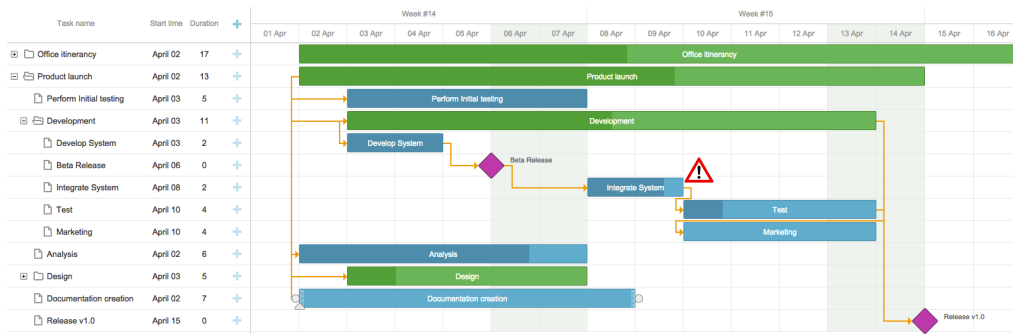
Other charts such as high / low and medians of estimates, similar to what is used in financial analysis will be required.
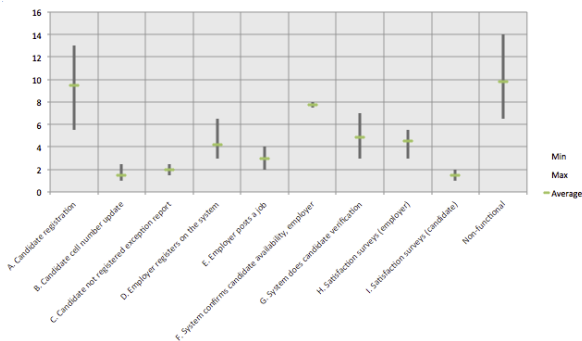
Plotting complexity, uncertainty and size of project tasks may indicate items which require attention to mitigate risks.