Scrumspace ER Diagram Description

Diagram Notation

In the ScrumSpace ER diagram, we used a similar notation to the one used in class. Blue boxes are entities, with optional attributes inside. Quantities are also labeled in the same way as the ER from class. Our only possibly differentiation is our use of double connector lines. We have used these double lines in circumstances where the connection requires total participation (see Cardinality).

Entities

User

Users are people that have unique accounts in our database. Multiple users are represented by individual *User* entities. Each entity has fields to store the user's name, email, ID, display name and a hashed password.

Project

Projects are entities that store the current working details of a project. Each project contains a title, description, referenced users and a current sprint.

Sprint

Sprints are the current working portions of a project. Sprints have a start and end date, along with a time for the daily meeting (*or scrum*).

Story

Stories represent a feature that the team is looking to implement into the project. A sprint has a unique ID, a timeframe, a short title to identify it, as well as a more in depth description of what the feature looks to accomplish. Stories also have associated tasks, which are the technical tasks that are required to implement a feature. User names are added to let team members know which members are assigned to the story. Additionally, each story is associated with a sprint, or may be created separately to be added to a later sprint.

Task

Tasks are the work assigned to the user. Each task has an ID, completion-status, a description, history of the task, any attachments and the story it belongs too. There are several different types of tasks:

Unassigned Task

Unassigned Tasks (*extends* <u>Task</u>) do not have any unique properties, merely a unique state. In a sprint, they sit in a the "Tasks" column of the Scrum Board Interface, waiting to be assigned to a user.

Assigned Task

Assigned Tasks (*extends* <u>Task</u>) possess at least one assigned <u>User</u>. There are 3 different types of assigned tasks:

Doing Task

Doing Tasks (*extends* <u>Assigned Task</u>) are tasks that are currently being worked on. An added property of 'Doing' tasks are their start date. These tasks are located in a "Doing" column in the Scrum Board interface.

Blocked Task

Blocked Tasks (*extends* <u>Assigned Task</u>) are are tasks that are unable to be accomplished immediately because of another task that must be accomplished first. These tasks are located in a "Blocked" column in the Scrum Board interface.

Done Task

Done Tasks (*extends* <u>Assigned Task</u>) are tasks that have been marked as completed.These tasks are located in a "Done" column in the Scrum Board interface and have the added property of a start date.

Entity to Page Relationship

Dashboard

The dashboard makes use of the <u>Assigned Tasks</u> by displaying the upcoming <u>Tasks</u> due for that particular <u>User</u> logged in. The dashboard will also display a visualization of how tasks are distributed in their types (aggregated for all *current* <u>sprints</u> the <u>user</u> is in). Also it will visualize when tasks were changed into <u>completed</u> status over time for current <u>sprints</u>.

New Project

The 'New Project Creation Page' primarily makes use of the <u>Project</u> entity because we are creating a new item in the database with this page. Once the initial properties, such as a title and team members (<u>User</u>), are added by the creator, the <u>User</u>'s will have access to the Project Planning page, which largely makes use of the <u>Sprint</u> entity.

Planning (Project)

In Project Planning, the User has the option to create Stories and associated Tasks,and plan Sprints for a particular Project. Stories are created and described and children Tasks are created, and these planned Stories move into a backlog container. The Sprint planning process (also on this page), makes use of these items in backlog, associating them with the Sprint, as well as facilitating the initializing of basic properties in a Sprint, like it's starting and ending date.

Scrum Board (Project)

The Scrum Board, containing the majority of the functionality in the application, makes use of all of the entities in the ERD. Pulling the current sprint from the Project, we present the Sprint details at the top of the page, along with a visual representation of the state of the Sprint (calculated by analyzing the state of the associated Tasks). The Scrum Board Interface itself is divided into Stories, with each row containing all of the associated Tasks, existing in their respective columns (see Assigned Tasks). The Tasks themselves contain the details of the task, as well as displaying the assigned User (if there are any). The Task entities in the UI can be dragged to different columns, allowing for the change of a Task's state.

Settings

The settings page makes use of the User entity because it contains personal information about the user. In addition, the settings page allows for project management, which thus makes use of the Project entity..

Task Detail

The task detail modals are used to give more information about each particular task. It makes use of the Task entity. The Tasks are of two different types: Assigned Task and Unassigned Task. Assigned Tasks are further divided into Doing Task , Done Task and Blocked Task. The task detail view allows users to add members (Users) to an unassigned task which causes the task to turn into an assigned task. Multiple users may be added to a task. Attachments pertaining to a certain task may also be uploaded to Task Detail.

Scrumspace-Git Statistics ER Diagram Description

Entities

Note: In the diagram, there is an entity titled 'Git-Statistics'. All the entities connected to that one and below belong to this feature.

Git Statistics

Git Statistics displays all of the statistical data that is available to the user. There are 2 types of statistics, personal-stats and group-stats, which are displayed as a part of this entity. The number of personal-stats and group-stats graphs will be equal.

Personal-Stats

Personal-Stats display the user's own contributions to their projects. Users can have multiple UserProject-Stats.

UserProject-Stats
UserProject-Stats display the user's own commits for that particular project. Users have a UserProject-Stats display for every project they are a part of.

Group-Stats

Group-Stats display the user's own contributions to their projects. Users can have multiple GroupProject-Stats. Each entity has two parts:

Sprint-Stats
Sprint-Stats displays each group member's contributions to the project for the current sprint. The metrics used are number of commits and group members.

Project-Stats

Project-Stats are similar to to Sprint-Stats except they display group members' contributions over the entire duration of the project. The same metrics (number of commits and group members) are also used.

Commits

Commits are main entity used to track a user's contributions to a project. Commits correlate to GitHub commits and if used properly, they portray how much a user contributes to a project. The

commit name and date will be stored in the database in order to facilitate the creation of graphical displays.

Entities to Project Relationship

This feature primarily uses the <u>User</u> and <u>Project</u> entities. Users and Projects will 'have' access to git statistics in the database in order match statistics belong to which entity. This feature was meant to be largely isolated from the rest of the app data-wise. All it really needs are project commits, which are based off the work done. The feature doesn't need any direct info from the dashboard, tasks or any other entities.