Project Synergy Space - Phase 2 report

Feature and Functionality Specification

Pages:
General:
Authentication page.
Select feature/role page.
Admin:
Admin dashboard.
Space rental:
Owner:
- Spaces page
- Space page
    - Free status
    - Rented status

Tenant:
- Profile Page
- Search Space page
- Rented Spaces Page

Project collaboration:
Collaborator:
- Profile Page
- Projects Page
- Project page

User Stories:

General User:
- As an user, I would like to register on the system with an username, Email, and password.
- As an user, I would like to login to the system with my username and password.
- As an user, I would like to be able to reset my password when I forget my password.
- As an user, I would like to have my own profile page to display my information.
- As an user, I would like to be able to edit my profile page.
- As an user, I would like to be able to find my username back using Email when I forget my username.
- As an user, I would like to communicate with website administrator when needed.

Owner:
- As an owner, I would like to list out my space for rent.

- As an owner, I would like to have a page for my space to include its informations.
- As an owner, I would like to have an gallery for my space and upload pictures to its page.
- As an owner, I would like to rent out my space through the system.
- As an owner, I would like to select lease agreements for my space.
- As an owner, I would like to view potential tenants' record of renting.
- As an owner, I would like to rate my tenants by 1-5 stars and leave a comment.
- As an owner, I would like to send notifications to my tenants.
- As an owner, I would like to edit my published comments on tenants.
- As an owner, I would like to be able to read comments and marks on me.
- As an owner, I would like to report a tenant with offensive or illegal behavior.

Tenant:
- As a tenant, I would like to search space for rent based on criterias including location, rating, facility, and area.
- As a tenant, I would like to find view spaces other users are currently renting.
- As a tenant, I would like to apply to rent a space
- As a tenant, I would like to rate the space I've rented.
- As a tenant, I would like to view potential owners' record of renting.
- As a tenant, I would like to report a owner with offensive or illegal behavior.
- As a tenant, I would like to edit my published comments on owners.
- As a tenant, I would like to be able to read comments and marks on me.

Collaborator:
- As a collaborator, I would like to join a social-network for the space i'm renting.
- As a collaborator, I would like to see everyone sharing my space on my social-network.
- As a collaborator, I would like to create groups for my project.
- As a collaborator, I would like to view groups other people have created.
- As a collaborator, I would like to invite other people renting the same area in my space.
- As a collaborator,

System Admin:
- As a system-admin, I would like to be able to freeze or ban some illegal users.
- As a system-admin, I would like to add an IP address into the blacklist.
- As a system-admin, I would like to delete pictures from Owner's gallery.
- As a system-admin, I would like to delete Owner's space for rent.
- As a system-admin, I would like to delete Owner's space information page.
- As a system-admin, I would like to publish announcement on the mainpage of the website.
- As a system-admin, I would like to search and select users with some keywords or conditions.
- As a system-admin, I would like to look up the recorded history for a user.
- As a system-admin, I would like to shut-down the website for some hours to perform maintenance.

Personas:

John - Owner:

John is 40 years old, he owns a factory space in Missisauga and would like to renovate it and rent it out for office s He now badly need the money, and couldn't find appropriate tenants at once. He hear of this website before and come to us for help. His This factory space is pretty commodious and can be divided into rooms with arbitrar, so he decided to rent his factory to different groups of peopley He now runs 8 companies at same time, so he don't have any time deal with issues between tenants. Thus, he prefer to rent the factory space to the people who work or study quietly so that the other tenants won't complain about noise their neighbors made. He is rigorous, he doesn't trust what people saying, the only thing he cares about is their past history . For instance, he will never rent his factory to someone who delinquent rent before.
In order to make his space more popular, he wish to post some pictures of his factory as well as some extra comment about the furnitures he can provide. And he also want to modify the information whenever he want.

Tom - Tenant:
Tom is 24 years old. He recently graduated from U of T and would like to start a business about developing IOS games. Tom invited his friends Peter, Sam and Cathy to join his group. All of them are software developers. They registered a company called TPSC Games, and Tom become the leader of this startup company. After couple weeks working in Tom's apartment, they realized they really need a place to work together. However, some offices are too expensive for them, and some offices are too far away from the city they are living in. It is not easy to find an affordable and comfortable working place for those startup companies like them. Somehow, they knew SynergySpace which is a platform connecting the owners of working space and the small companies looking for a working space. Tom also found SynergySpace provides coworking rental service. It means there would be many small companies or individuals working together in a shared space. This is exactly what Tom is looking for. Since Tom and his friends are all software developers, they may not have experience on designing the layout of their games or the graphics of their games. However, a shared working place enable them to find some collaborators who would like to join their team, or cooperate on their game developing. This would dramatically accelerate small startup companies like TPSC Games to find collaborators. SynergySpace has many other advantages attracting Tom. For example, you can see other tenants' comments on the owner. This would help Tom to make decision on many different working places.

Lisa - System Admin:
Lisa is years old. She has already administered a housing intermediary website for 3 years. Recently her website just experienced an attack: some people used script to register huge amount of accounts and automatically posted illegal advertisements and sending links with

virus to normal users. Lisa and her workmates tried their best to delete spams and ban illegal users, however, they could not massively handle messages or users so that the speed of script to register new accounts and post rubbish information is dramatically faster than the speed they handle them. Finally, Lisa had to shut down the website to stop this attack. Due to this failure to stop attack, Lisa was faired and had to find another website administrator job. Then she found SynergySpace. As a system administrator, she wishes to be able to select and control a group of users using keywords, tags, conditions or even their IPs. And could limit the number of new register number in a time period. With the help of a better admin layout, she is confident to handle any similar attack.

Project Plan

We will be following the agile software development method (hence the user stories and personas), and use the Jira Project Management Software. Here are the iteration plans for our project:

I1:

In iteration 1, we will develope the UI and use the InVision app to create semi-functional mock-up pages for our project. The development environment will also be setup, with a private github repo, app hosting on heroku, and Travis CI for continuous integration.

I2

In the second iteration, we will start building the backend, for the space rental part of the app.

I3

Development and integration of front-end of space rental.

I4

Backend for project collaboration

I5

Development and integration of front-end of project collaboration

I6

Administrator dashboard

I7

Feature checking, clean up of project.

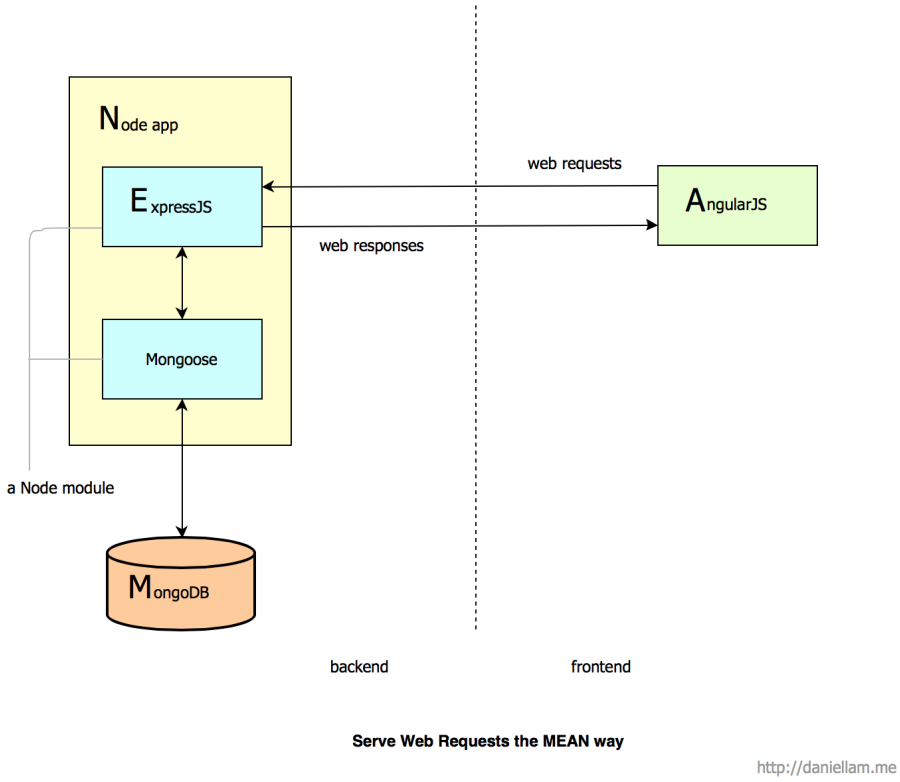
The user stories will be loaded to our Jira Project Board, distributed to each iteration that they belong to, and assigned to team members. And issues will also be discussed on the Jira board.

Roles and responsibilities:

Eric Ren - Project management, project deployment, testing
Jiachen Yue - Database modeling
Jiawei Li - back-end modeling
Yifei Yang - UI, front-end

Software Architecture and High-Level Design

The System will be built using the MEAN stack (MongoDB, Express.js, Angular.js, Node.js).
The components and their functionalities are as follows:
MongoDB: a NoSQL database
Express.js: a web application framework
Angular.js: a javascript MVC web apps framework
Node.js: a software platform for scalable server-side and networking applications.



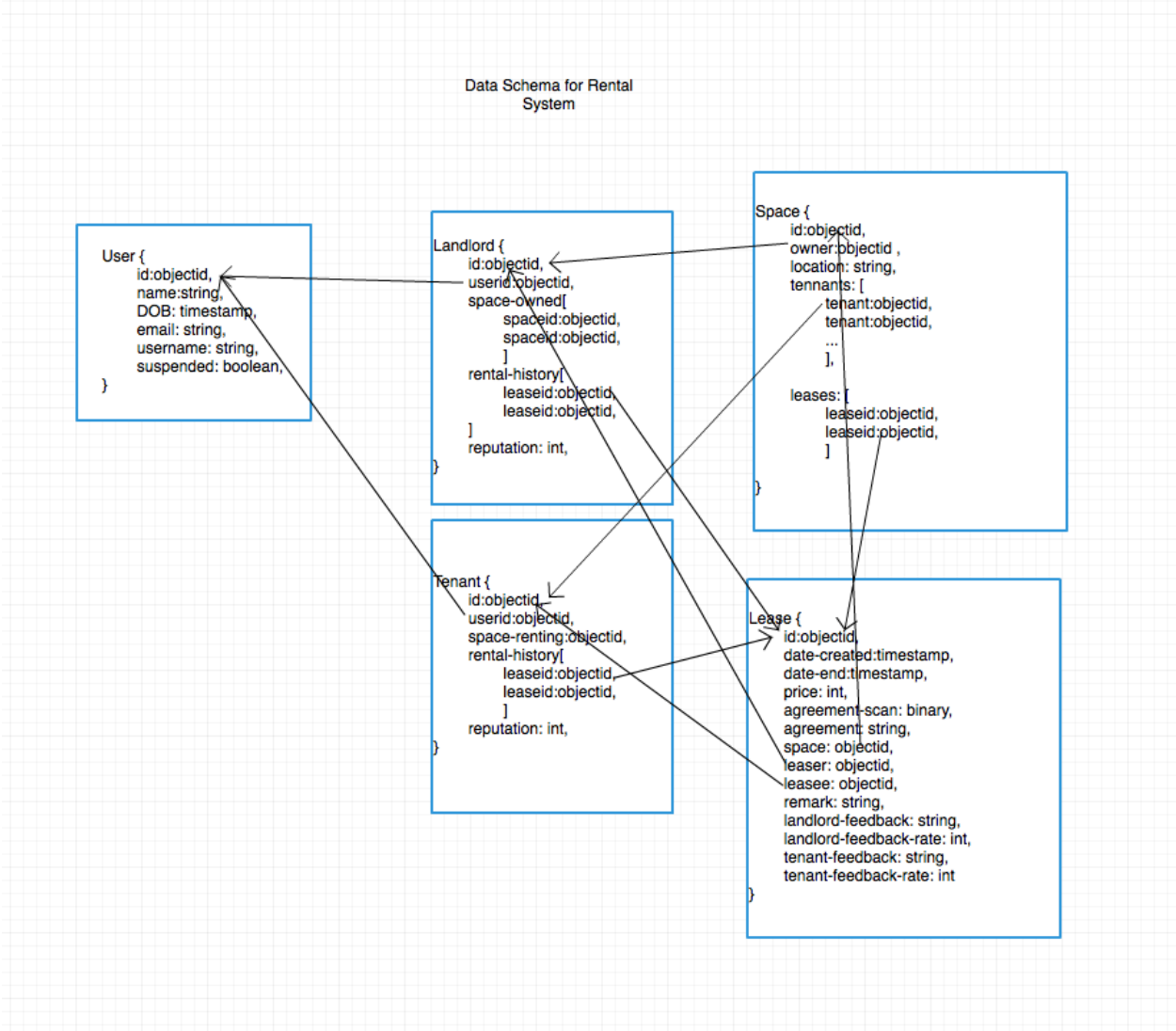
[image credit: http://daniellam.me]

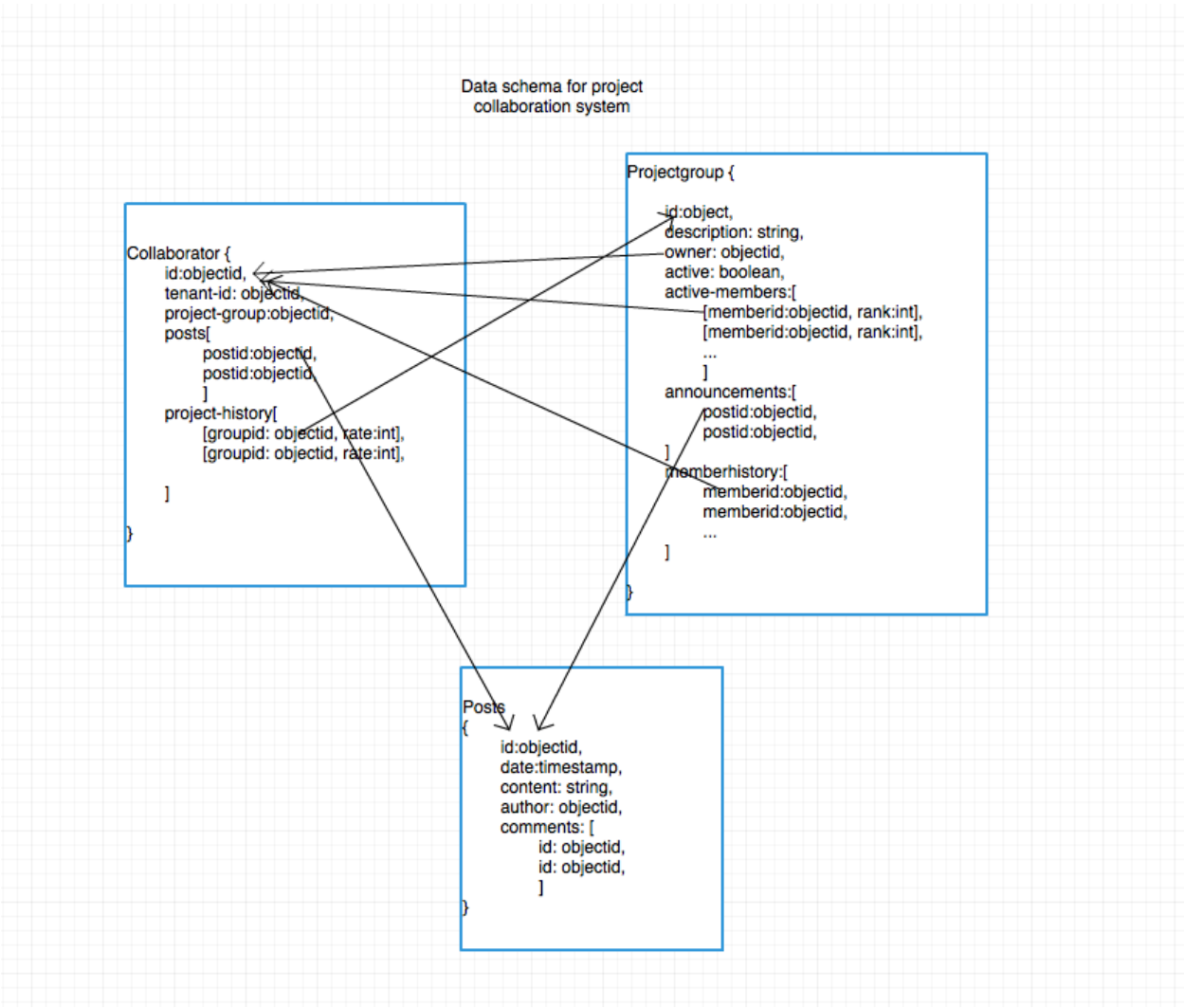
The project itself is devided into two parts, the space rental part, and project collaboration part.

The modules that we are planning to implement are as follows:
Authentication Module,
Project Management Module,
Reputation Module,
Space rental management module.
User management module.

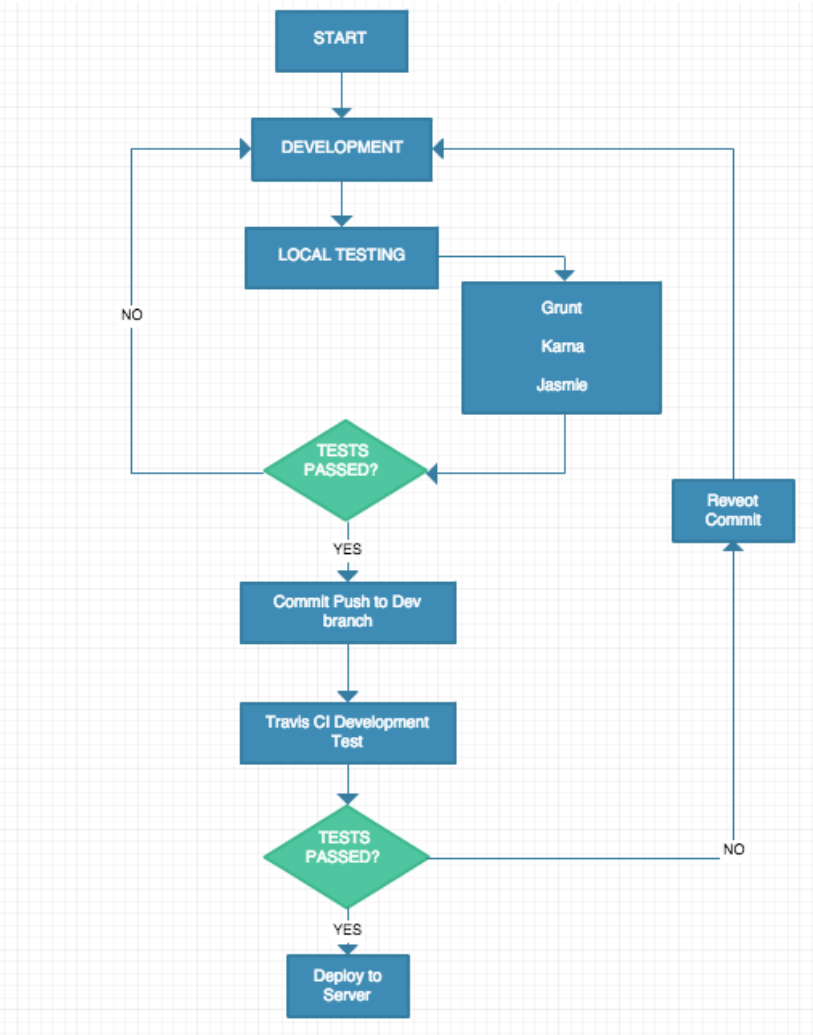
Information Representation

MongoDB data model:




Data schema for project collaboration system
Collaborator {
id:objectid,
tenant-id: objectid,
project-group:objectid,
posts[
postid:objectid,
postid:objectid
]
project-history[
[groupid: objectid, rate:int],
[groupid: objectid, rate:int],
]
}
Projectgroup {
id:object,
description: string,
owner: objectid,
active: boolean,
active-members:[
[memberid:objectid, rank:int],
[memberid:objectid, rank:int],
...
]
announcements:[
postid:objectid,
postid:objectid,
]
memberhistory:[
memberid:objectid,
memberid:objectid,
...
]
}
Posts
{
id:objectid,
date:timestamp,
content: string,
author: objectid,
comments: [
id: objectid,
id: objectid,
]
}

Test Strategy and Test Plan

We will host our project on heroku, using Grunt for continuous development, Karma & Jasmine for Unit-Testing. and using Travis CI for continuous integration.
A brief scenario for successfuly deploying the system/ pushing a new feature:

- A team-member finishes a task(user story) assigned to him
- He tests the features on his own machine using grunt
- grunt runs through the test cases, they all pass
- He pushes the working code to the dev branch of the project repository.
- Travis CI installs the necessary modules, and runs grunt to test the application
- All test passes, Travis CI deploys the app to heroku.