Alumni Engagement Recording System Design Review

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COEN 174

Introduction

- Problem
- Motivation
- Solution

Requirements

Alumni

- View alumni events on a calendar
- Interact with these events online
- Submit unofficial events

Alumni Office

- View, approve, edit alumni events
- View and export data collected from user interaction
- Submit official events

Use-Cases

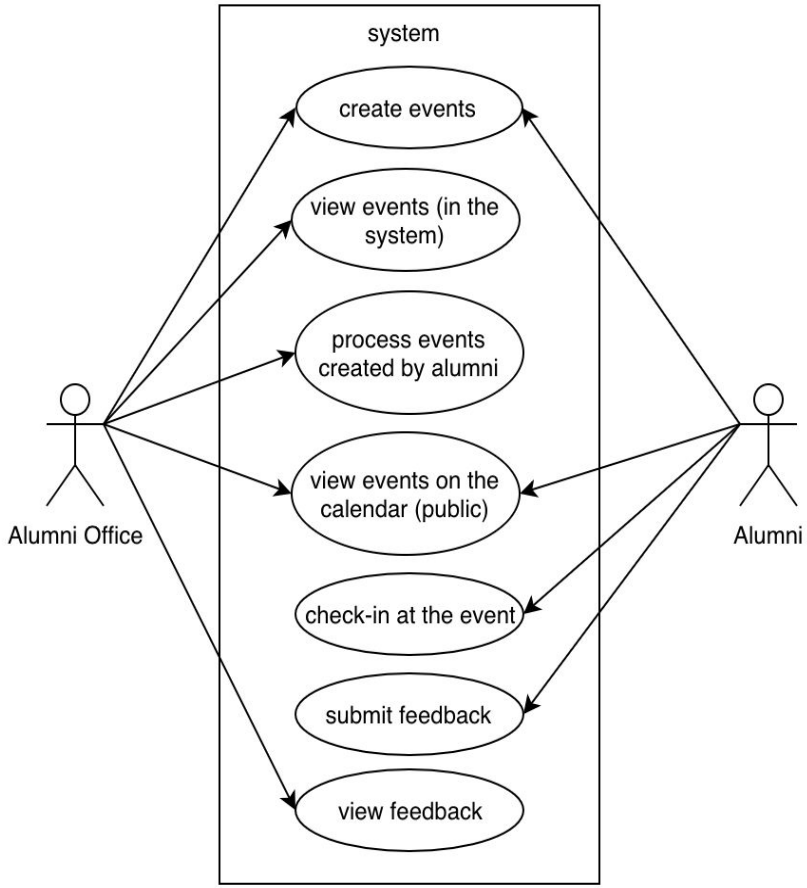


Figure 1: Case diagram of the system

Activity Diagrams

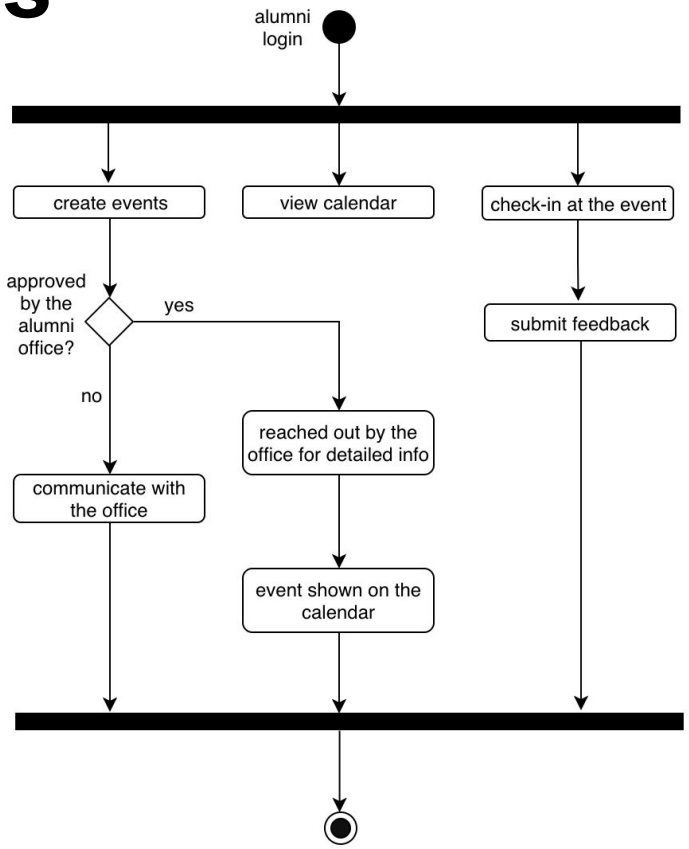


Figure 2: Activity diagram for alumni use

Activity Diagrams

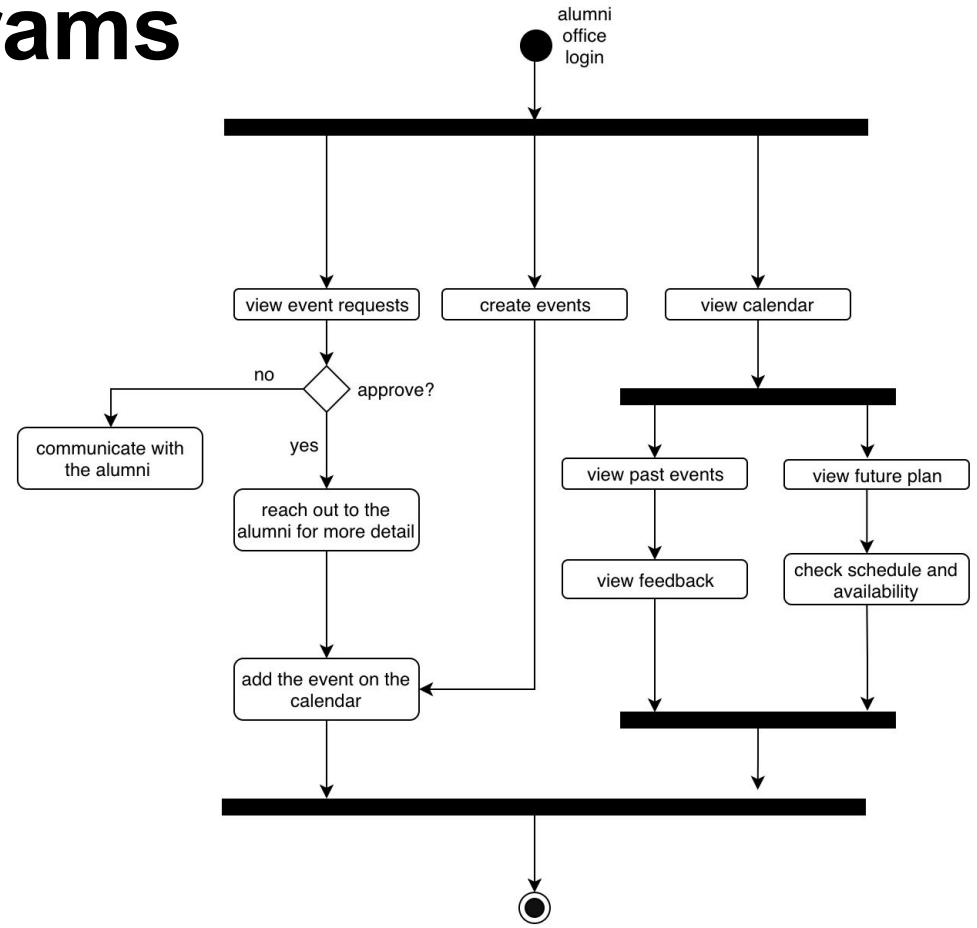
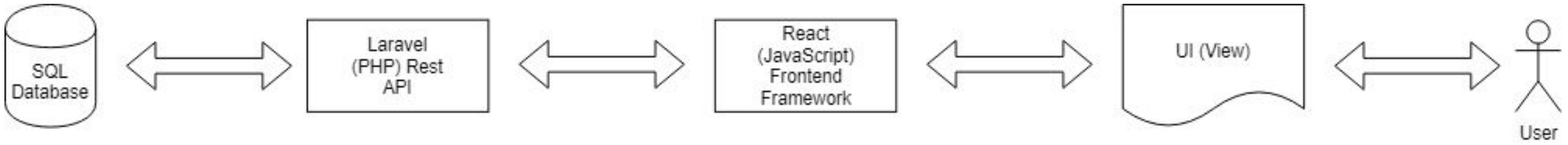


Figure 3: Activity diagram for Alumni Office use

Technologies Used

- Back-End (Server-Side)
  - MySQL Database Management System
  - Apache (HTTP Server)
  - PHP 5
- Front-End (Client-Side)
  - Single-Page Application
  - Latest versions of HTML, CSS, JavaScript
  - ReactJS and Bootstrap UI Libraries
  - Webpack

Architectural Diagram



Design Rationale

- Accessible and functional
- Technological choices impacted by host
- Low coupling, high cohesion
- Mobile-friendly
- Intuitive and navigable

Demo

http://students.engr.scu.edu/~rgajrawa/174L

Testing Procedure

- Completed Testing
  - Manual functional testing (partial site)
    - Sign-in
    - Event submission
    - Viewing events
    - Reporting
- Remaining Testing
  - Automated functional testing (entire site)
  - Pen testing
  - White-box testing
    - Security and logical analysis of code

Risk Analysis

Risk	Consequences	Probability	Severity (0-10)	Impact (Probability * Severity)	Mitigation Strategies
Time	System not fully completed on time	5%	7	0.35	Set deadlines Prioritize core features
Bugs	Users are unable to use system properly Can extend production time	99%	3	2.97	Write clean, readable code and have peers review code Implement functional tests to make sure all aspects of the site work
Group member missing	Loss of productivity, development may take longer	12%	4	0.48	Make sure group members know what all other group members are doing Check-in (commit) code as often as possible

Risk Analysis Cont.

Risk	Consequences	Probability	Severity (0-10)	Impact (Probability * Severity)	Mitigation Strategies
Design Center downtime	Loss of productivity. development may take longer Complete site failure	0.01%	10	0.001	Have a mirror site on another server Use personal computer to develop website in the meantime
Too many users in DC (resource starvation)	Site slows down	0.1%	9	0.009	Have a mirror site on another server
Data breach	User data can be used to send targeted spam/fraud/phishing emails Fake events can be created; alumni could end up in a dangerous situation	0.001%	10	0.0001	Make sure passwords are secured and cannot be read by other DC users. Install database and runtime security updates.

Tasks Left to Complete

	Task Name	week9 (Nov. 12-18)							break (Nov. 19-25)						
		M	T	W	T	F	S	S	M	T	W	T	F	S	S
1	Simplify main page	Ronak													
2	Fullly-featured feedback	Yutong													
3	Fully-featured reporting			Ronak											
4	Verification of alumni status by Alumni Office				Yutong										
5	Ability to edit event					Yutong									
6	Ability to approve events for Alumni Office					Ronak									
7	Table of collected data						Ronak								
8	Testing								Group						
9	Final report								Group						

Obstacles Encountered

- Missing teammates
- Efficient workflow
  - Ability to update code with less overhead
- Incompatibility between technologies
  - Discrepancies between PHP and Javascript objects
- Inexperience with technologies
  - React is a new framework

Lessons Learned (Conclusion)

- More detailed planning
  - Alternatives
- Follow the plan
  - Time management
  - Meet deadlines
- Work allocation
  - Play to teammates' strengths

Thank you
Questions?