

# PROJECT REPORT ON

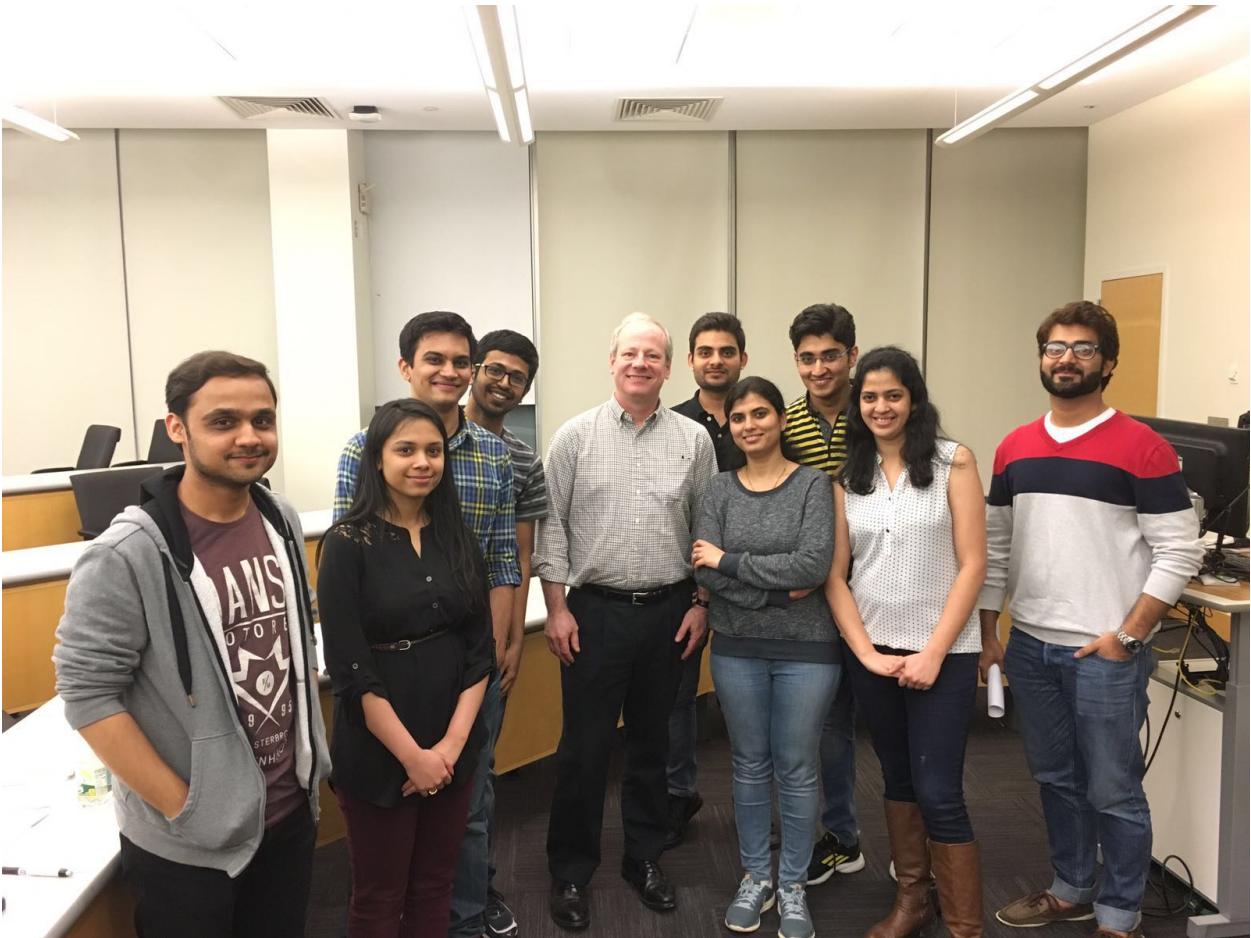
## WHATS HAPPENING AROUND ME (WHAM)

**Course: CS 5500**

**Guide : Prof. Michael Weinturb**



## TEAM



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# FAESIBILITY STUDY

## 1.1 Project Description

The project encompasses the idea of showing the user with the events that are happening around the user. The project WHAM (What is Happening Around Me), will act as a user-centric web application. This application will collect user preferences initially, and based on these preferences is expected to provide the user with the events that are happening around the user. The category of preference can include Sports, Food, and Music etc. Events can belong to various categories and event details should contain details like time, place and name of the event etc. User should be able to post an event and view an event. Both mobile and PC clients should be supported.

## 1.2 Client

The client is Northeastern University Information and Technology Services and Department of Computer and Information Science. Information Technology Services (ITS) is the central provider of technology infrastructure, services and applications for more than 30,000 students, faculty and staff at Northeastern University. From providing the myNEU portal to secure networks to training on critical applications, ITS partners with stakeholders across the university to equip students, faculty and staff with the tools necessary to achieve academic excellence. The division serves as a technology partner with the university, evaluating and delivering innovative and collaborative solutions that promote and advance teaching, learning, research, and support for the Northeastern community.

## 1.3 Scope

The project is targeting the NEU community for this project. The NEU community includes NEU students and staff. The application aims to provide the user with details of events happening around the user. The user should be able to publish an event and view an event. This encompasses a wide range of categories of events such as Sports, Music, Arts, Cultural, Academic, and more. **The category list is unspecified and thereby unclear.** As provided in the project description, the application is expected to show events to the user based on user preferences.

This creates a necessity to have a category of events to be well defined to ensure user satisfaction. Meetings with client have ensured that there will be other teams working on this project. However, **the work distribution and responsibilities is yet to be discussed with the client.** It is a grey area as of now.

The client also talked about a feature where the user may be able to buy tickets for the event. This may require use of third party APIs and technologies for payment and ticket data. More research and discussion may clarify this, however if ITS, Northeastern University has such an API that can be used by us is still unknown. Since this is still unclear, **the determination of whether this feature can be implemented in given timeframe is unpredictable.** The client also talked about support for both mobile as well as PC client.

## 1.4 Expected Results

- *A single go-to place to for all the events at NEU*  
A single platform for NEU community is expected for the end users to browse for all the events.
- *Feature to provide publishing an event as well as viewing an event*  
The application is expected to provide the end user with the functionality of viewing as well as publishing an event.
- *User friendly UI*  
The UI is expected to be intuitive and friendly to use. The ease of use is a must have of this project
- *Modifiable preference dashboard*  
Since the application is supposed to provide preference based events to user, the preferences need to be accepted only once but should be modifiable at any point of time.
- *Log in authentication for NEU community*  
Since the project targets NEU community, the log in authentication is essential part of this project.

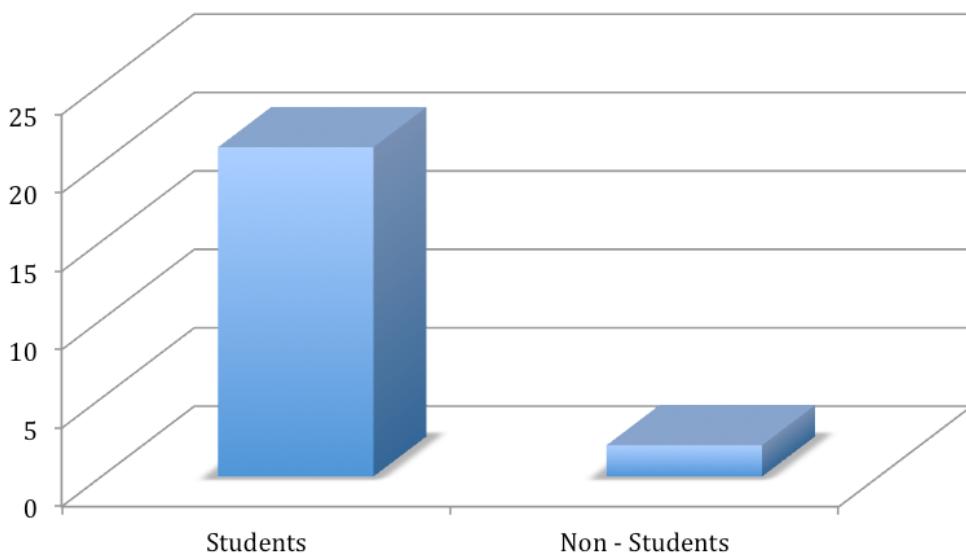
## 1.5 Market Analysis

Keeping the target audience in mind, our team has worked to create a short survey to get the estimation of success and popularity, given that the application is technically stable and ready for use. The analysis shows an extremely positive response for both students as well as working professionals. Since the scope of the project is limited to NEU community, the deeper analysis of trends preferred by NEU students during this survey clearly shows that students are willing to have such an application in place. An enthusiastic response from target audience clearly builds a strong possibility for success of the idea when implemented with technical expertise.

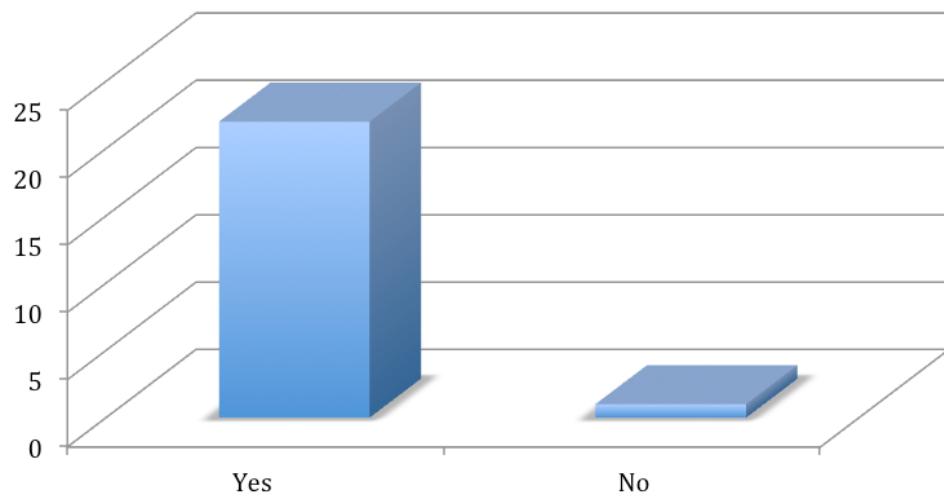
Following is the link to the survey:

[https://docs.google.com/forms/d/1pGZ2OVSyxrf58n4xos4ANxD06AUjJ4cQL\\_U\\_aeaRHw0/viewform](https://docs.google.com/forms/d/1pGZ2OVSyxrf58n4xos4ANxD06AUjJ4cQL_U_aeaRHw0/viewform)

## **Number of people who took the survey**



## **Would you like to know what is happening around you?**



### 1.6 Competitor study

There is an application called Eventbrite which provides a similar functionality. It allows the user to post an event, customize event page, online payment method, and tracking the progress in real time.

## 1.7 Benefits

The world is moving towards personalization and every user is interested in knowing about the events in which he/ she is interested, rather than viewing a pile of events which doesn't make any sense to the user. The NEU Community will be the first hand users who will benefit and be benefited with this application. The NEU Community members do not have a single place in terms of website or app where they can get to know all the events that are being held in the college. Although Facebook, twitter are able to do this work to some extent, each Department of the college has a different group and they post their respective events in that group. So, if the user is not aware of that group, then he/she may not receive the update. Also, there is no personalization in Facebook, where the user can specify the interests, for which he wants to receive the notifications about the related events! Thus, this application seems to be unique and provides a single place to the NEU community to know the events that are happening in and around the NEU.

This project also intends to integrate with other 3rd party ticketing applications, so that apart from the NEU events, the other events that are happening in the community will also be available to the user.

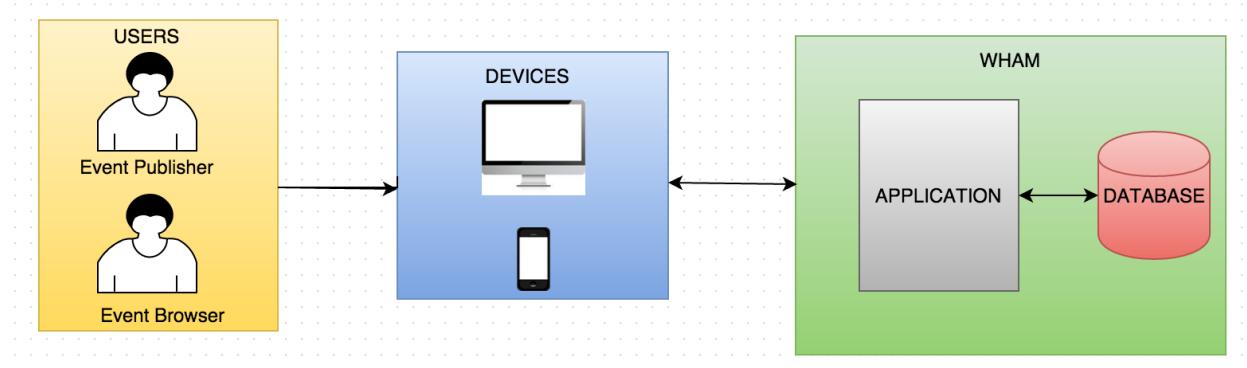
The user can view the details of the event and need not search for it at another place.

The user can access the events on both mobile and web that can give more friendly experience to the user.

This project can further be extended to integrate the events with other universities in Boston. Also, it can be integrated with other 3rd party ticketing applications so that it can pull the events from them and display it here. This can also act as a medium for various Groups of NEU to advertise themselves and make the NEU community aware of them.

## 1.8 Technical feasibility

### System Design



The user is going to access the application through the mobile or web, and is going to login using the NEU credentials. The user can setup the profile and list the preferences in terms of categories for which he/ she is interested in knowing the events around the campus. The user profiles are stored in the backend in the database mapped to a particular user.

The event publisher, uses this application, by logging into the system with the NEU credentials and posting the event. The publisher provides the details about the event and tags the event with the particular category or categories and publishes the event.

The user can view the events by logging into the system. When the user logs in, the application is going to filter the events which match the user preferences and will be displayed to the user. The user can get the details of the event by selecting the event. The user can later save or delete the events. If the user opts to save, then he/she will receive the notifications of the event when the publisher changes it. If the user opts to delete the event, then he may not be able to view the event again.

## 1.9 Possible Software choices

- Confluence for documentation
- Jira for project planning
- Jenkins for Continuous code integration/ release
- MySQL/ MongoDB database to store the events and user profiles
- Middleware can be developed using Java
- Apache Tomcat, to host the application
- HTML, CSS, jQuery, JavaScript for UI development
- Automation: Chef, Test Kitchen

## 1.10 Estimates of number of users

1. Total number of students around 16K
2. The size of each event cannot exceed more than 70 MB. (50 Mb video/ 3 images (5 MB each))
3. On an average at max 2000 users can use the application at a time! The users may use the application more during the weekends or close to the weekends(Fridays).

## 1.11 Planning and Resources

### 1.12 Equipment Needs

#### 1.12.1 Laptops/Mobile Devices

As this project is based on running an application on our computers and mobiles we will need laptops and mobiles that will be basically used for the development and testing of the application.

#### 1.12.2 Servers

The servers are required to host the application. The choice of server that will be used for hosting is still under consideration.

The project is managed and coordinated in multiple steps. At every phase there will be a review on the process followed and the discussions on further steps:

These steps are:

1. Requirement Gathering
2. Design
3. Database Design
4. Middleware Specification
5. UI Design
6. Quality Assurance
7. User Acceptance testing
8. Release

The project is going to be a result of direct communication between the client and the development team. The clients for this project are Prof. Michael Weintraub and Information Technology Services at Northeastern University, Boston.

### 1.13 Delivery dates of the deliverables

Deliverable	Description	Delivery Date
Report on Requirement Gathering	This phase will act as a reflecting guard for our project to move forward and all other phases will be in some sense derived by the information that we collect during this phase.	Feb 01 <sup>st</sup> 2016
Design Strategy	The technical undertaking of the project all the design strategies and tool that will be used for designing will be discussed and finalized in this phase.	Feb 15 <sup>th</sup> 2016
Database Design	The database specification and designing will be done in this phase.	Feb 22 <sup>nd</sup> 2016
Middleware	The technologies, tools/programming languages which will be used for designing will be finalized in this phase.  This phase will work in parallel with Database design.	Mar 7 <sup>th</sup> 2016.
User Interface Design	The user interface design starts with database design and the final enhancements to the UI will be done in this phase.	Mar 14 <sup>th</sup> 2016.
Quality Assurance	The “fit for purpose” effectiveness will be checked in this phase, for every phase of development.	Mar 22 <sup>nd</sup> 2016

User Acceptance testing	The final procedure where the project will be checked if it can handle the functions it needs to perform will be done during this phase.	Mar 28 <sup>th</sup> 2016
Release	The project application will be released.	Apr 1 <sup>st</sup> 2016.

## 1.14 Budget

As this project is a part of Managing Software Development course there are no monetary compensations for the completion of this project. Thus this project is budgeted in “Efforts per week” in terms of hours.

It is expected that every member will contribute approximately 20hrs/week. Therefore, the total time allocation that we have for the project work is 80hr/week.

## 1.15 Equipment's and Buildings

The equipment's needed for the project completion are:

- A Machine: Where the product design and code can be done . The machine can be a laptop computer a PC or a PDA. Each team member owns a laptop.
- A Server: A server will be required to deploy the project as our application will require hosting. This server will be provided by the client.
- Buildings: A workstation that can be either a conference room or home. Northeastern University library group study rooms can be used for meetings and discussions. The team members can choose to work from home while working on independent tasks.

## 1.16 Release

The product will be available for use from April 1st 2016.

## 1.17 Alternatives and Risks

This project has been planned using limited resources and tight timelines. Hence, there are factors that can risk current project plan. Key factors that can risk project are as under.

- **Availability of client:** Client availability as per defined current schedule and future functional requirement gathering would be very critical. Any delay can impact project deadlines.

- **Machine Failure:** Development activities would be carried out on personal machines. Application would be hosted on CCIS servers. Any machine failure can delay development activities for the project.
- **Team Training:** Identified resources lack in mobile application development skills required for the project. Time would be required to train resources. Any critical issue in this area can impact project plan.
- **Permissions:** Development and deployment of sources files would require permissions from different teams on the client side. Any delay in the process will impact project plan.
- **Resources Availability:** The project is bound by limited number of resources. And there are no reserve resources available. Any health or personal issue with a resource will impact project plan.

Performance would be monitored very closely using following measures.

- Tasks would be defined and assigned to resources as stories. Every task will have a completion date.
- There would be internal project status meetings every alternative working day of the week.
- Weekly client meetings to update client on the progress of the project. A feedback on the current progress would be taken after every meeting.
- Milestones have been identified to track progress of the project at every stage.

Any identified risk factor can impact deadlines of project and as project cannot be extended beyond expected date. Following approaches have been identified in case of failure.

- **Approach 1:** Team would handover related documents and resources developed as deliverables. A new team could be hired to finish remaining activities.
- **Approach 2:** If Approach 1 is not possible, Requirement documents should be revised and a new team should be hired to start development as per revised documents.

## 1.18 Conclusion of feasibility Study

WHAM (What's happening around me) is a useful application to publish and view events happening in and around campus. This would be single portal to manage all type of events. A brief on the feasibility of this project is as under.

1. Client is easily accessible and understanding.
2. Scope for the project has been identified. (Although we need more information on few queries)
3. The solution is feasible technically and a plan has been proposed.
4. Resources and equipment are available.
5. Milestones have been identified.
6. Key risk factors have been identified.
7. Fallback mechanism has been proposed.

## REQUIREMENTS

#	User Story	Importance	Functional or Non-functional	Date Recorded
	<b>Environment:</b>			
1	WHAM must support desktop browsers (this needs work)	HIGH	Non-Functional	2/9/2016
2	WHAM must support mobile devices (which ones?)	HIGH	Non-Functional	2/9/2016
3	WHAM should run at Amazon Web Service, Elastic Beanstalk (need to be confirmed)	HIGH	Non-Functional	2/9/2016
	<b>User Sign Up, Login, and Preferences:</b>			
4	A user must be able to sign up for a WHAM account.	HIGH	Functional	2/9/2016
5	WHAM must accept a user's name, email, phone number, password, organization, and role during account signup.	HIGH	Functional	2/9/2016
6	WHAM must authenticate user role(s) during account signup	MEDIUM	Functional	2/9/2016
7	A user must be able to log in to their WHAM account	HIGH	Functional	2/9/2016
8	A user must have account preferences that are configurable	HIGH	Functional	2/9/2016
9	Account preferences must persist between user logins across all devices	HIGH	Functional	2/9/2016
10	The user must belong to NEU community i.e the user must be	HIGH	Functional	2/9/2016

#	User Story	Importance	Functional or Non-functional	Date Recorded
	NEU student, NEU faculty, NEU staff (and their families)			
10a	The system must have user log-in and authentication to verify that user belongs to NEU community	HIGH	Functional	2/9/2016
11	The system should show the Code of conduct for the users at the startup before they login.	LOW	Functional	2/9/2016
12	The application must be personalized for the user! Like, the UI should greet the user (say Hello XYZ)	LOW	Functional	2/9/2016
	<b>Search and Map Behavior</b>			
13	WHAM must detect a user's location	HIGH	Functional	2/9/2016
14	WHAM must display a user's location on a map interface	HIGH	Functional	2/9/2016
15	WHAM must use the user's location as the default starting center for the map interface	HIGH	Functional	2/9/2016
16	WHAM must show the events around a user's location based on their preference defaults.	HIGH	Functional	2/9/2016
17	User when logs in and searches for events nearby, he <b>must</b> be able to get search results based on his preferences and interest that the setup in the beginning	HIGH	Functional	2/9/2016
18	WHAM must search and display events from Eventbrite using the existing code from last semester	HIGH	Functional	2/9/2016

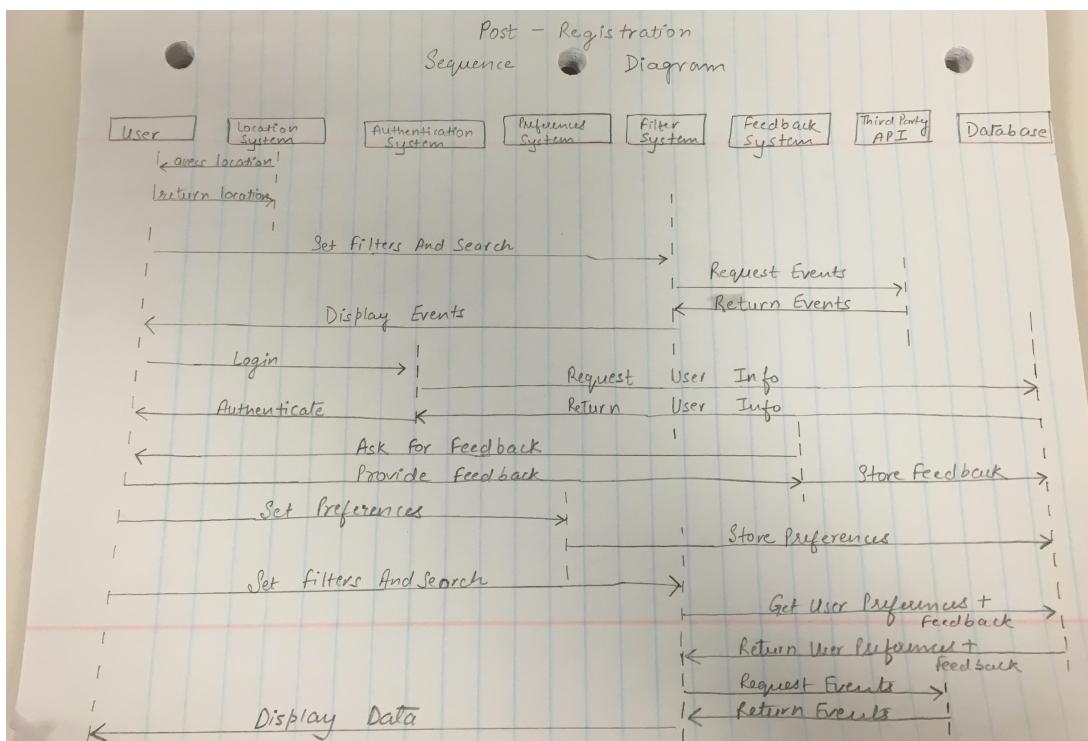
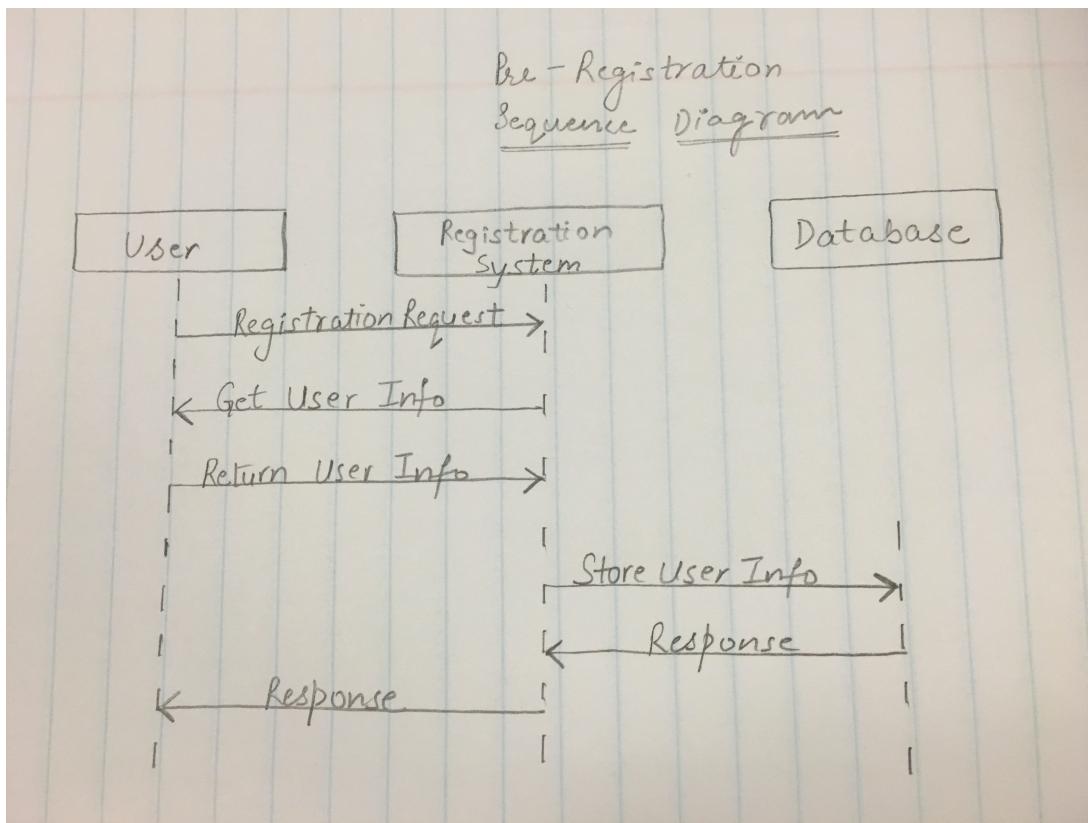
#	User Story	Importance	Functional or Non-functional	Date Recorded
19	WHAM must search and display events from <a href="#">Ticketmaster.com</a>	MEDIUM	Functional	2/9/2016
20	WHAM must search and display restaurants and bars from a third party API (Yelp?)	LOW	Functional	2/9/2016
21	WHAM must display event search results on a map interface	HIGH	Functional	2/9/2016
22	WHAM must show event details after a user selects it from the map interface	HIGH	Functional	2/9/2016
23	User <b>may</b> set the notifications timings as per his/her convenience, for example, may set the notification timer to notify 24 hours prior to the event or 4 hours prior to the event, even days if needed	LOW	Functional	2/9/2016
	<b>Likes, Dislikes, and Their Impacts</b>			
24	The user <b>shall</b> be able to like or dislike the events and must be able to provide specifics about it.	HIGH	Functional	2/9/2016
25	Users must be able to like or dislike a category of events	HIGH	Functional	2/9/2016
26	Users must be able to like or dislike components within an event (might need more work)	HIGH	Functional	2/9/2016
27	Disliked events or events with disliked components must not appear the next time a user searches in WHAM	HIGH	Functional	2/9/2016

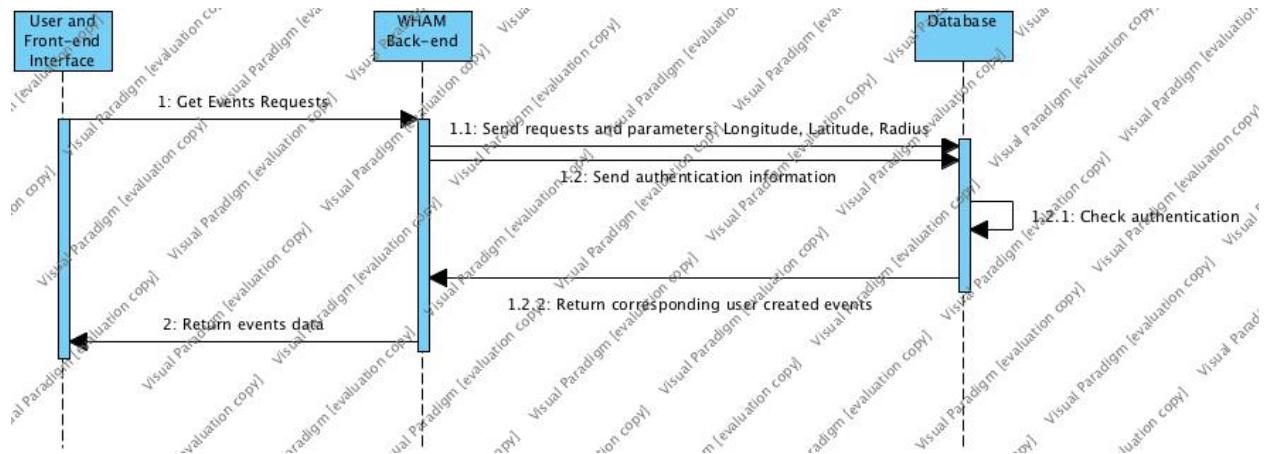
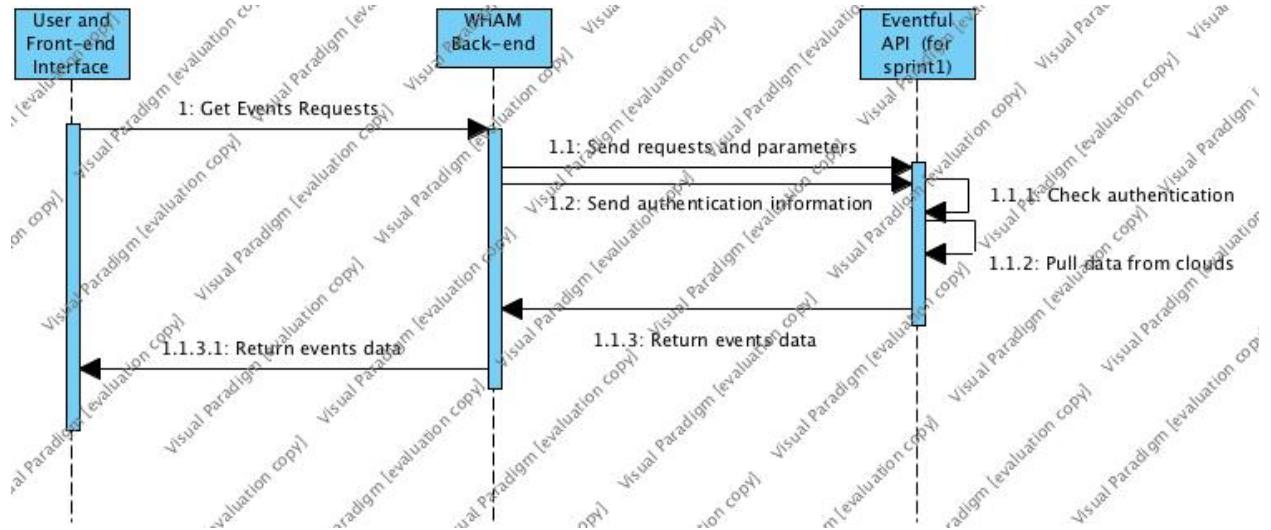
#	User Story	Importance	Functional or Non-functional	Date Recorded
28	WHAM must not display events that have past their end or expiration date.	HIGH	Functional	2/9/2016
	<b>Event Creation</b>			
29	WHAM must allow users to create new events.	HIGH	Functional	2/9/2016
30	The user logs into the app and <b>must</b> be able to view and recognize which events are official (posted by college authorities) and which are non-official	HIGH	Functional	2/9/2016
31	User while viewing the event list <b>must</b> be able to discriminate between the official events and non-official ones, by seeing a special mark or icon on the event	HIGH	Functional	2/9/2016
32	Users <b>must</b> be able to specify an end or expiration date for new events	HIGH	Functional	2/9/2016
30	Users <b>must</b> be able to upload attachments (pdf, png, etc) to new events during event creation.	HIGH	Functional	2/9/2016
31	The system must only allow NEU staff/faculty to post an official NEU event	HIGH	Functional	2/9/2016
	<b>Event Tracking</b>			
32	WHAM must track which users are going to which events	HIGH	Functional	2/9/2016
33	The client <b>may</b> be able to pull out data regarding the usage of the app and what type of events are	LOW	Functional	2/9/2016

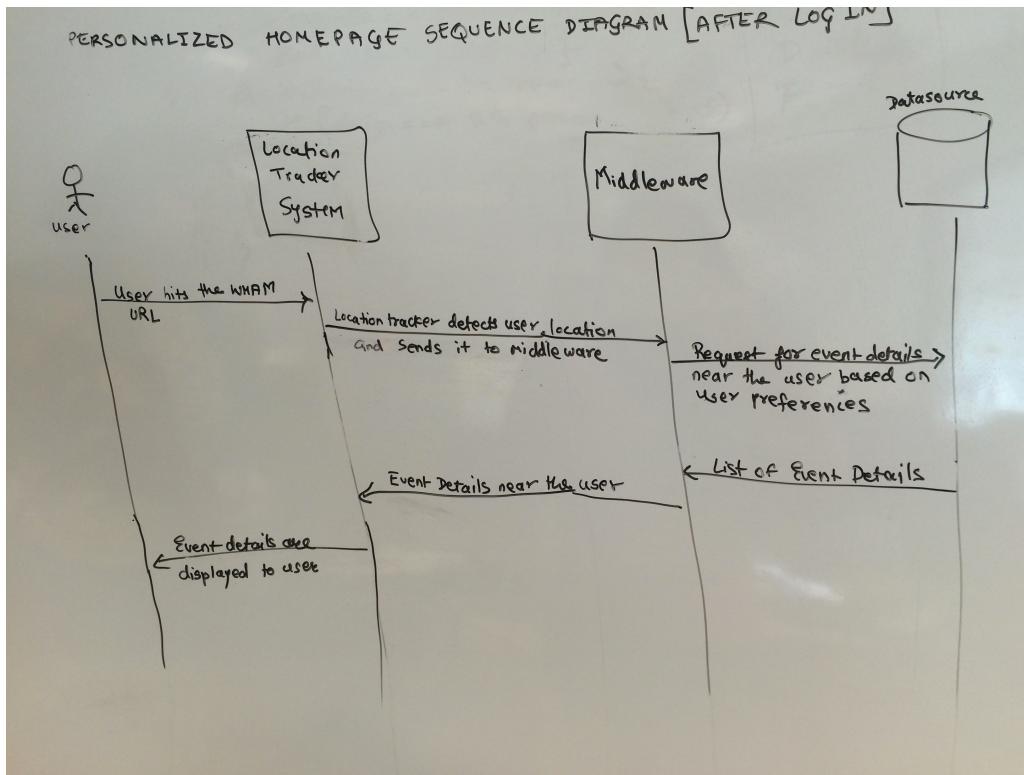
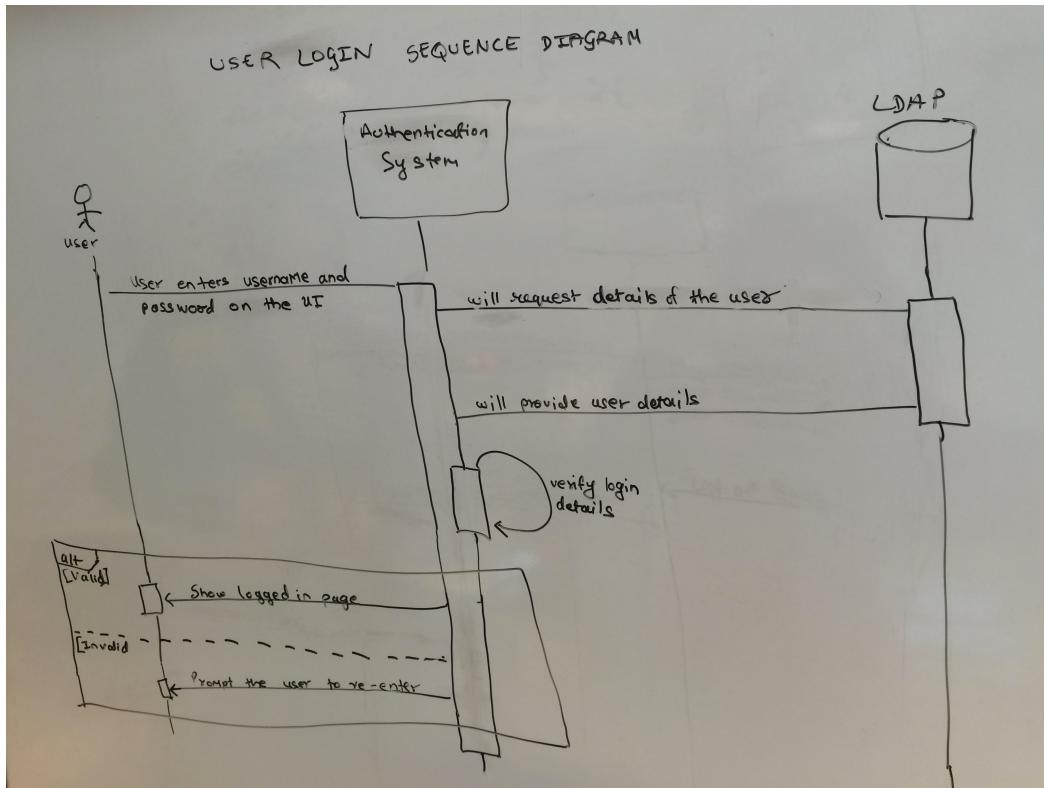
#	User Story	Importance	Functional or Non-functional	Date Recorded
	seeking more attention to work on future organizational partnerships			
34	WHAM must solicit feedback from users after an event occurs	HIGH	Functional	2/9/2016
35	The system may collect the feedback in the form of rating system	MEDIUM	Functional	2/9/2016
	<b>Ticketing</b>			
36	WHAM must direct users to third party vendors when attempting to purchase tickets	HIGH	Functional	2/9/2016
37	Req 15 and 16 also exist as a part of ticketing module			
	<b>OTHERS</b>			
38	Once a user registers for the event, it <b>must</b> get synchronized with a user's personal calendar	HIGH	Functional	2/9/2016
39	The user <b>may</b> be able to connect to the social networking sites via app and share events details there as well	LOW	Functional	2/9/2016
40	Access <b>may</b> be provided to entire university community and not limiting to students, faculty and admin. People other than the NEU community may also be able to use this application (like the restaurants near by) , but they need to authenticated.	LOW	Functional	2/9/2016
41	A user registers for an event from the app,	MEDIUM	Functional	2/9/2016

#	User Story	Importance	Functional or Non-functional	Date Recorded
	he <b>should</b> be able to get a reminder on his/her mobile device close to the event date			
42	The system should also display the NEU global community news (like alumni news, sports...)	LOW	Functional	2/9/2016

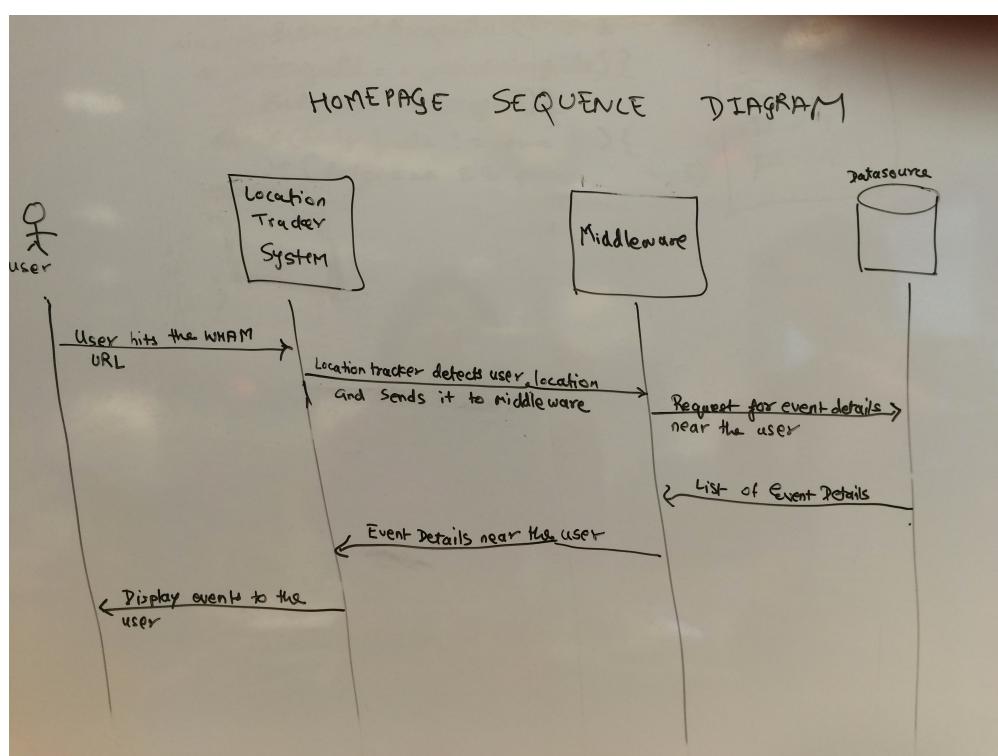
## SEQUENCE DIAGRAM



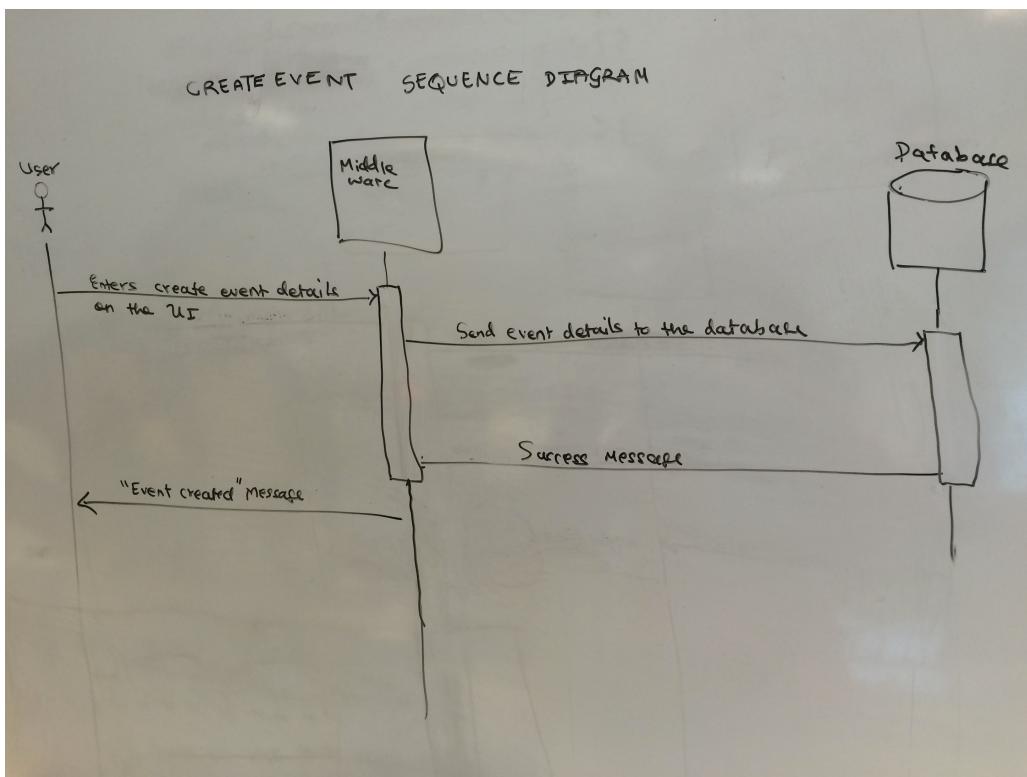


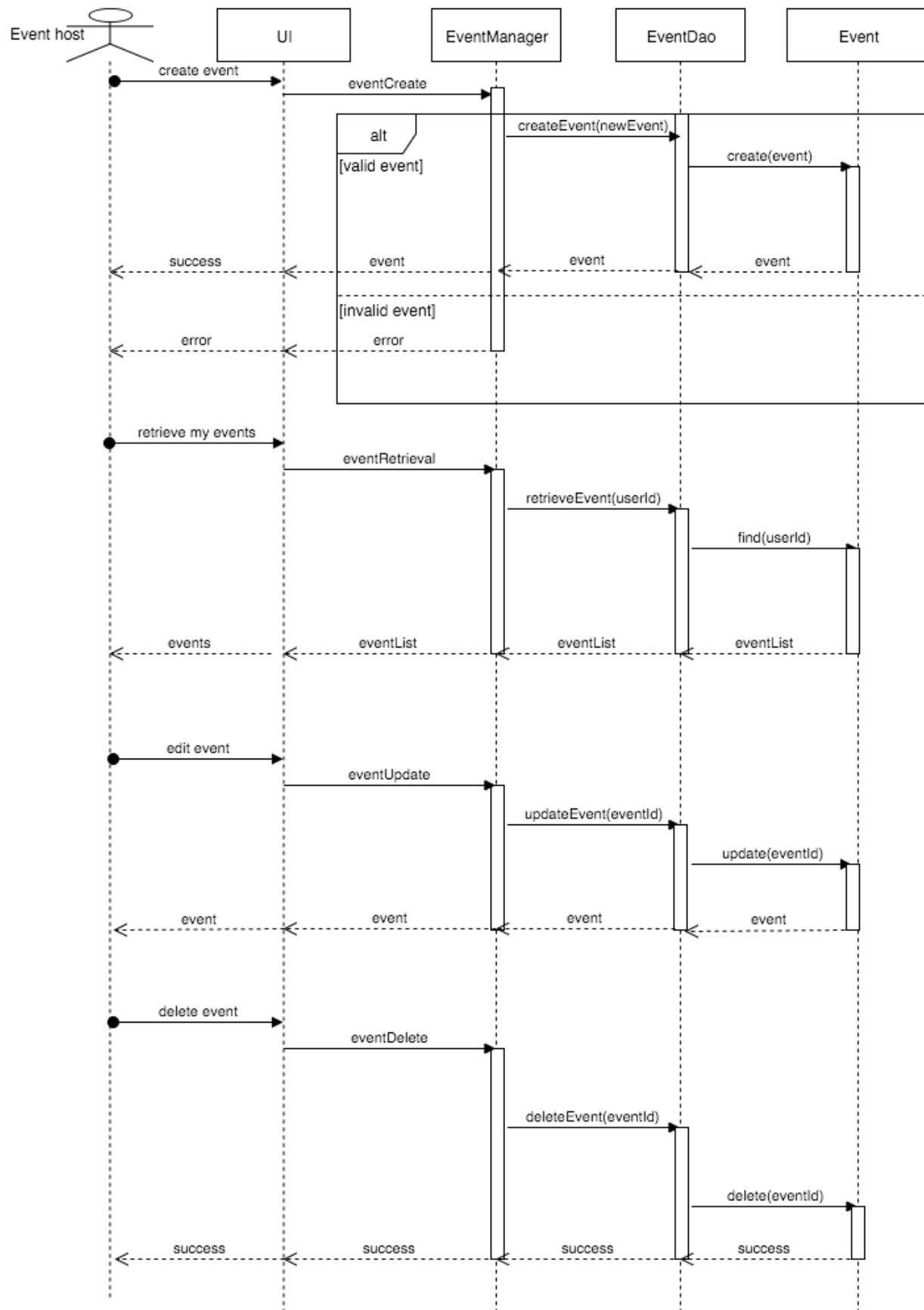


### Homepage Sequence Diagram



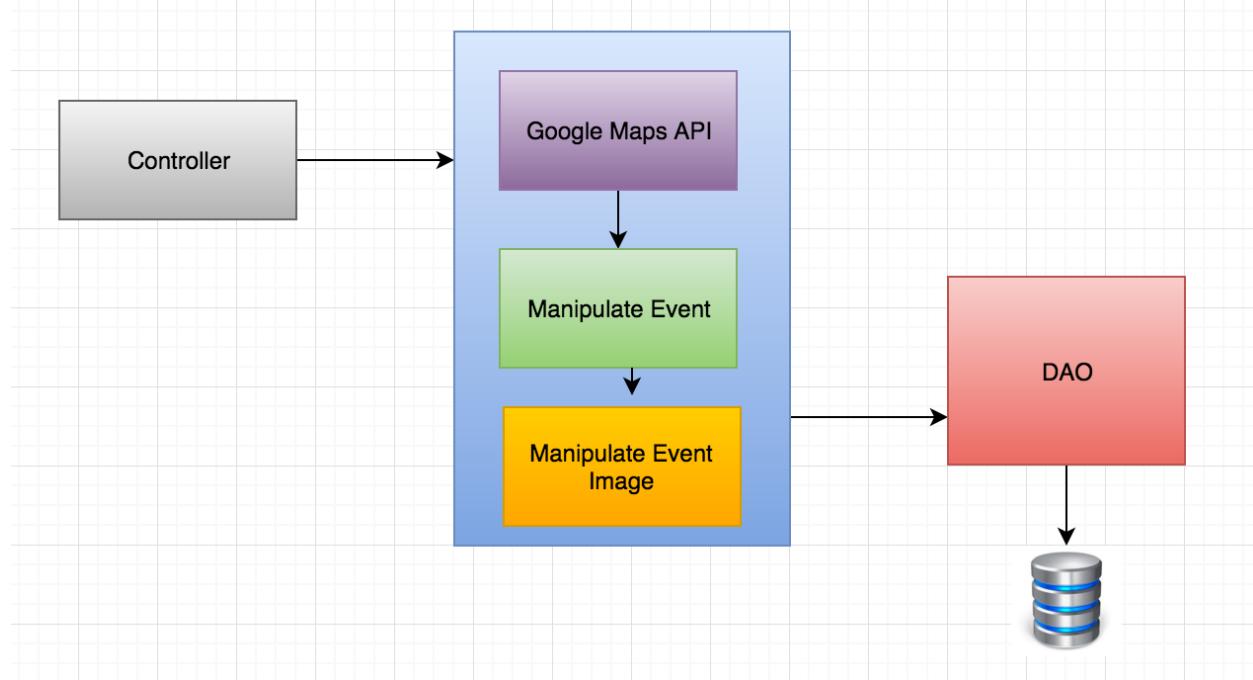
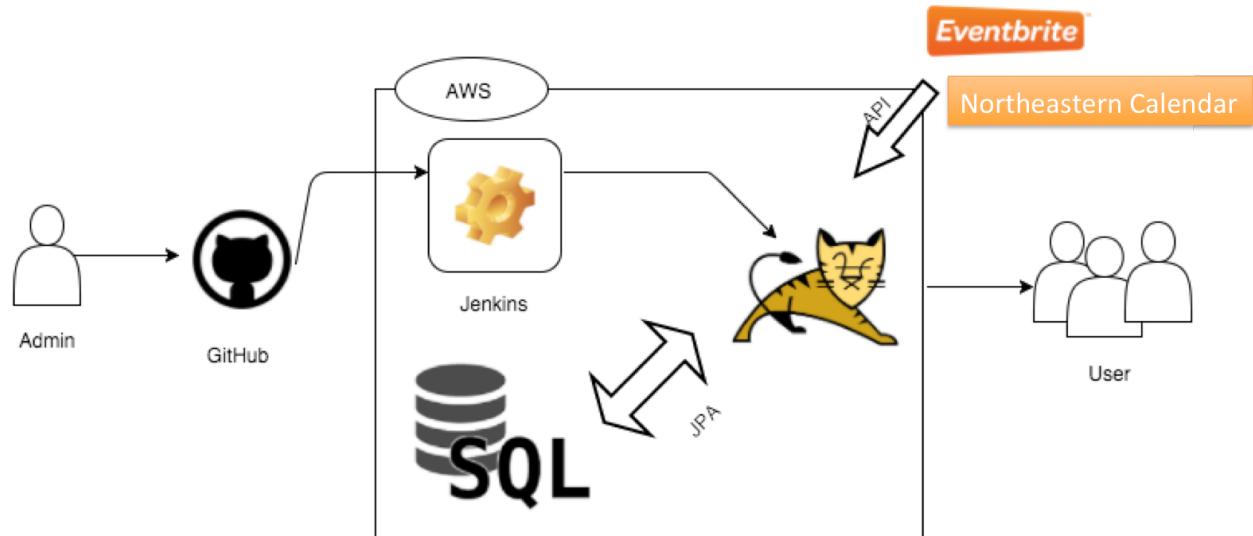
### Create Event Sequence Diagram





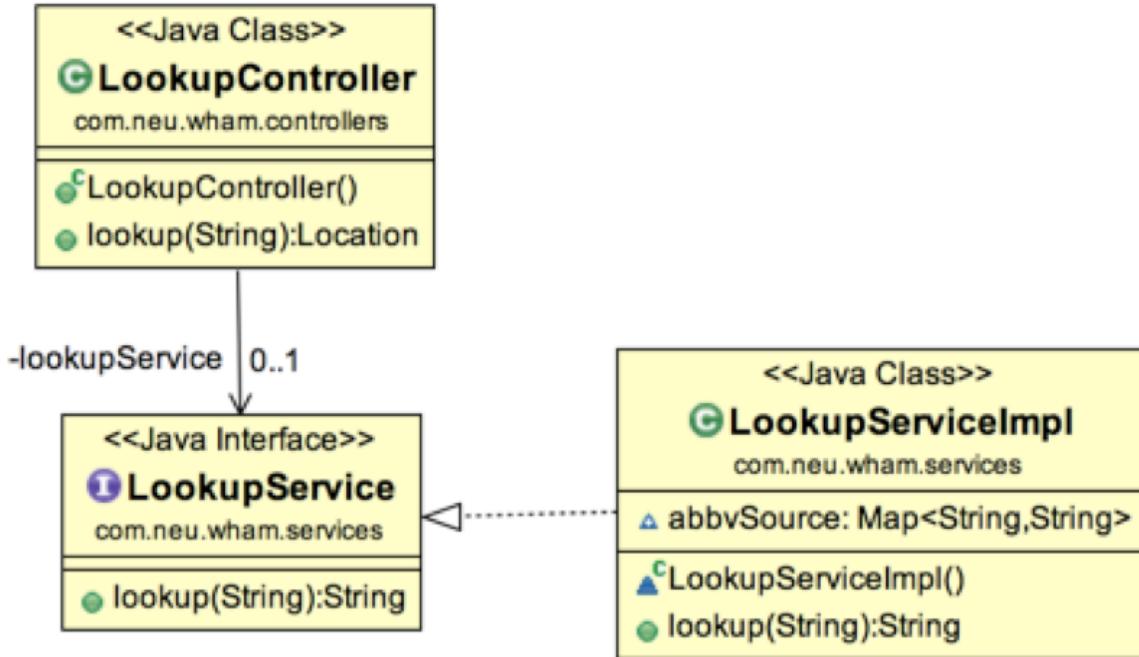
## HIGH LEVEL ARHITECTURE

Architecture Diagram WHAM

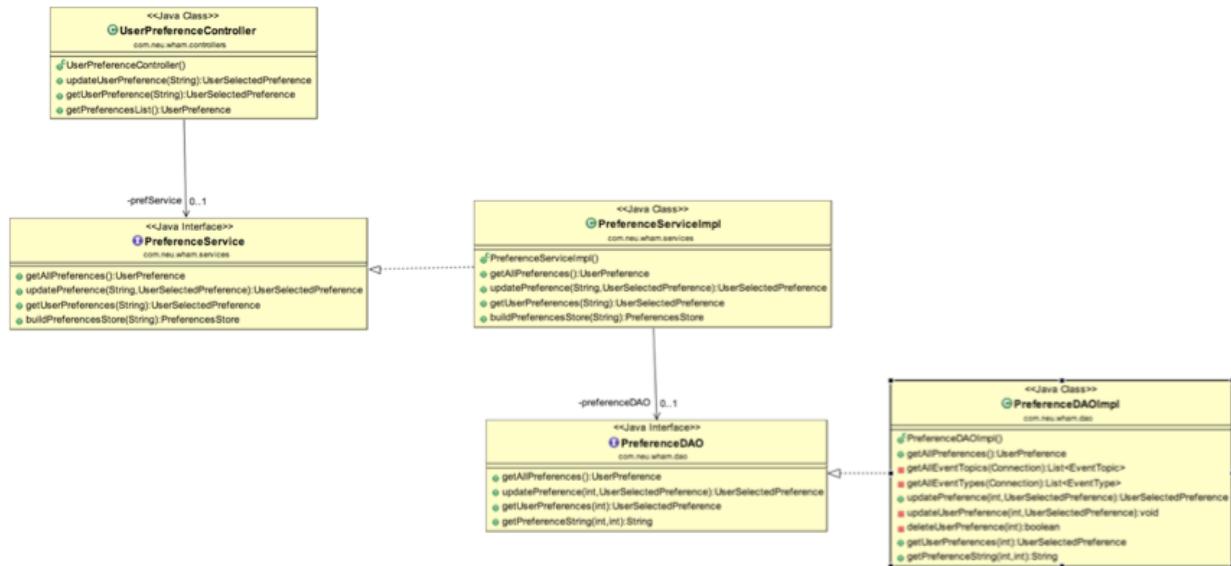


## CLASS DIAGRAM

### LOOKUP ADDRESS



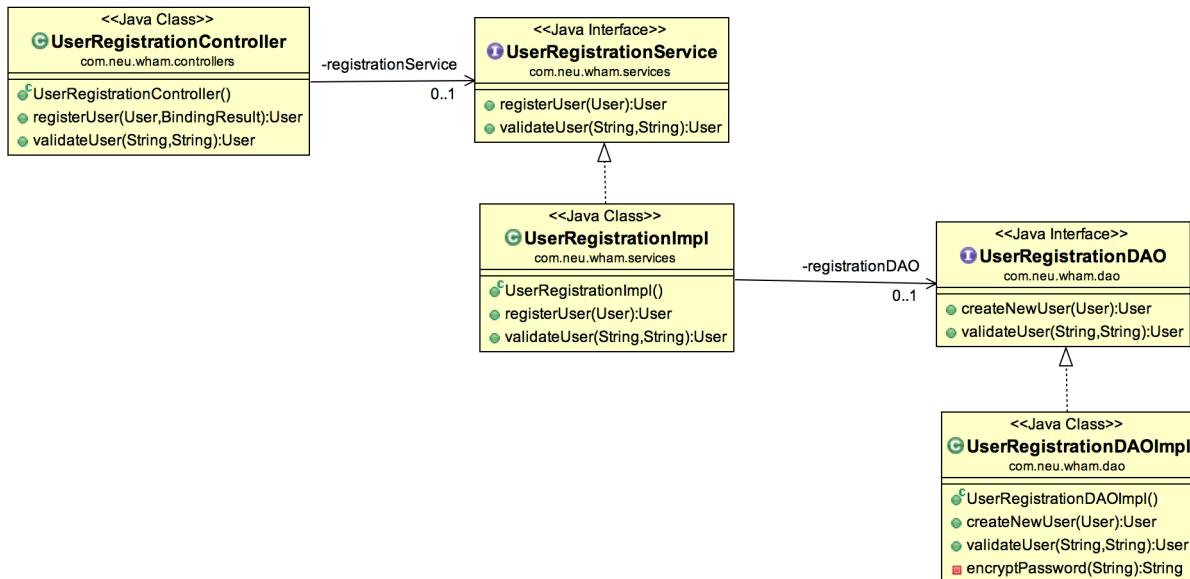
### USER PREFERENCE



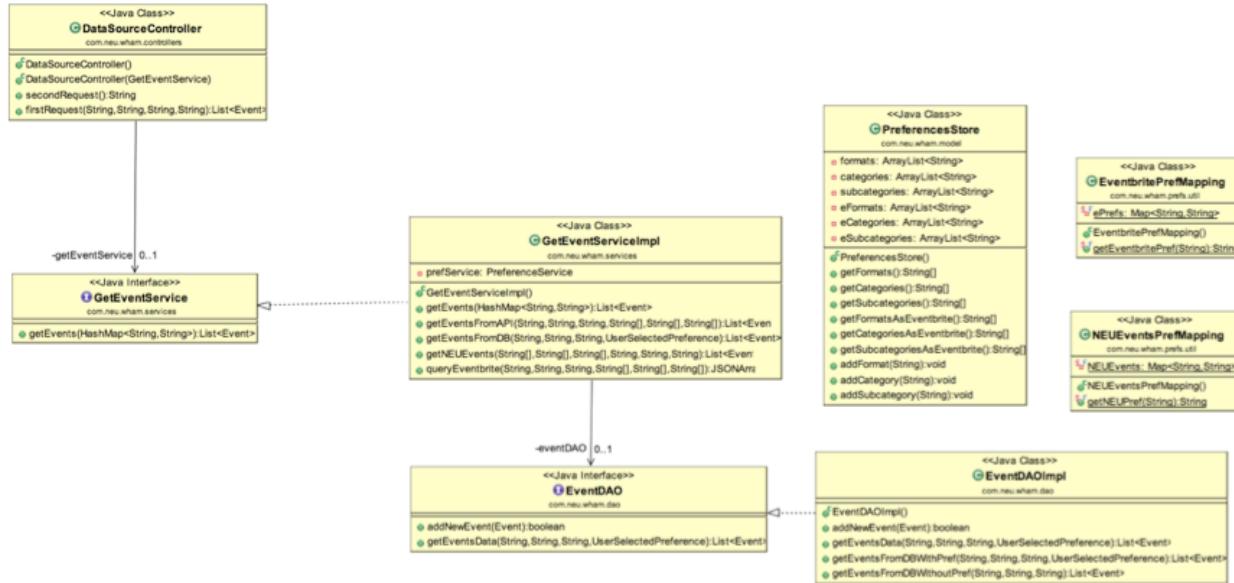
## EVENT HANDLING



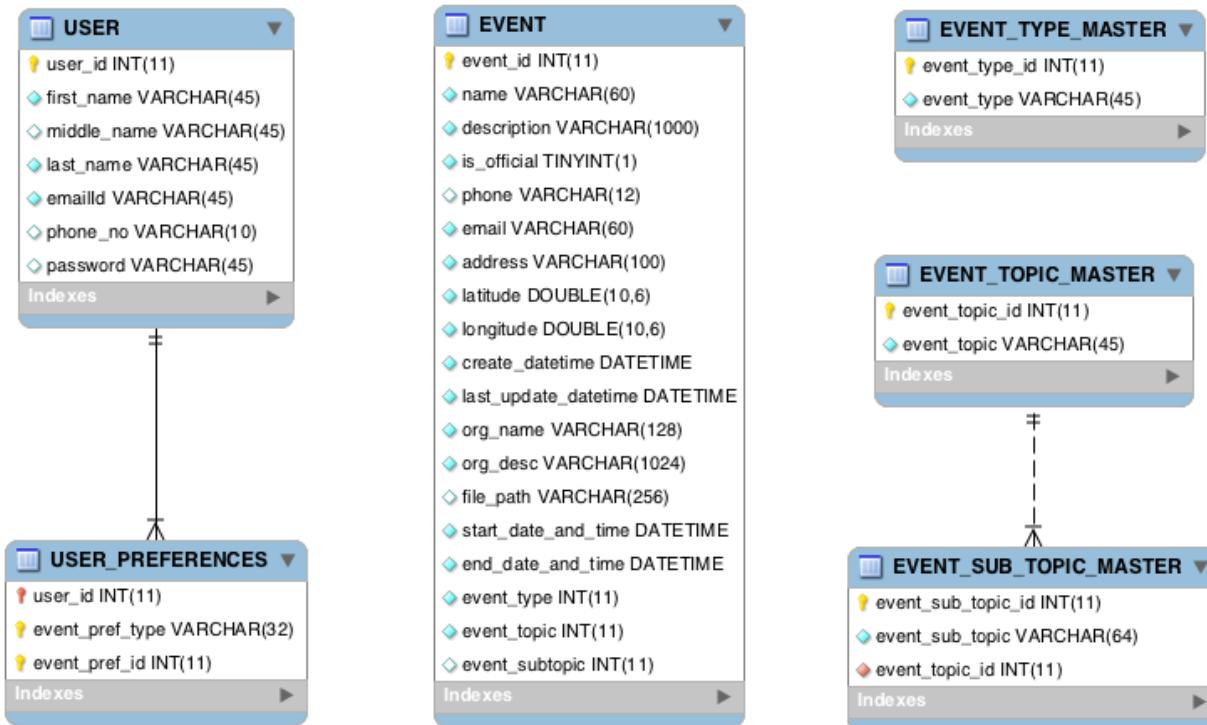
## USER REGISTRATION AND VALIDATION



## EVENTS



## DATABASE DESIGN



## TECHNOLOGY STACK DISCUSSION REPORT

Operating System	Linux (Either Ubuntu or CentOS)
Storing code	GitHub
Web Server	Apache TomCat
Build Automation Tool	Maven
Requirements Gathering	Confluence
User stories and Bug tracking	JIRA
Testing Framework	Will vary with UI technologies and backend technologies. But for Backend and middleware: JUnit can be used and for UI manual testing would prove more fruitful according to me
Middleware	Java
Data exchange format	JSON
Database	MySQL (is opensource)
Web Technologies	HTML5, CSS3, Javascript, jQuery
IDE	Eclipse
Automation packaging	Jenkins

1. Operating System (Server OS for deployment): Linux (Either Ubuntu or CentOS)  
The client suggested this and I thereby did not go through the choice list of possible operating systems. We can discuss about flavor of Linux  
Other choices: Windows 10, MacOSX
2. Storing Code: GitHub  
The TA (Ashish Khanna) suggested this and I thereby did not go through the choice list of possible software for storing the code.  
Other choices: SVN

### 3. Web Server: Apache Tomcat

Benefits:

Is open source

Has an administration console

Has the latest stable version since 2015

Allows virtual hosting

Has support for Java Servlets

Apache License

Supports processing dynamic content natively

Is light weight

Other choices:

Nginx:

BSD family of licenses,

No ability to process dynamic content natively

Is not as stable as Apache (although it is becoming stable)

Glassfish:

Is Heavy Weight

If in the future, the client wishes to move from Java to Node.js as a middleware, Glassfish would cause a problem whereas, Apache being just a web container, will allow this migration to happen easily [Both Apache and Node.js can be installed, few requests can start hitting node.js server while others can be directed to Apache Tomcat]

### 4. Build Automation Tool: Maven

Benefits:

Easy to integrate it will all IDEs

Takes care of package dependencies

A definite directory structure is followed

### 5. Requirements Gathering: Confluence

### 6. User stories and Bug tracking: JIRA

### 7. Testing Framework

JUNIT for JAVA

### 8. Middleware: Java

Benefits

Strong Object Oriented language

Very stable

Has excellent IDEs

Support for numerous libraries  
A stable performance for web applications

Other choices

PHP:

PHP library support is really limited  
PHP still struggles for performance  
Only has semi platform independent libraries  
No deprecation mechanisms

Node.js:

Node.js is pretty stable and has shown high throughput for number of users using the web application at the same time. For our project our choice for Java is mainly because of the choice of Database. We plan to use MySQL at the backend. This is because, using Mongo DB (which is noSQL database), there will be data duplication for fields like husky ID, which can easily act as a foreign key. Please refer why MySQL in the discussion points below. Relational DB tools for Node.js are said to be in their early stages. However, I am not sure if this is just a notion. We are open to comments on this one. Lot of computation is also needed at server side, which involves preference matching. Node.js is single threaded and uses a single CPU core. Although this may not be a problem initially, this may cause issues when the project is live and needs has complicated CPU intense operations PHP still struggles for performance

## 9. Database:MySQL

Benefits:

It is open source. I think the client would not want to pay for a database license for this project  
Has constraints, schemas, PL/SQL which I think is needed for this project. I think for this project it is important to have a definite schema, rather than allowing the middleware to enter anything more or less in the database.

Since the student login username would be used everywhere to find the student uniquely, it makes more sense to use it as a foreign key to achieve data consistency rather than duplicating every record in every MongoDB document, say for example preference change related to a student.

Data integrity should exist. For example, middleware should not be able to delete records related to student preferences from the preference table

Other choices

MongoDB:

For the reasons stated above, for the current project, to me it does not make any sense to use a NoSQL database

## Oracle DB:

Is not open source, if the client is willing to license, no problem using this Database

## 10. Web Technologies: HTML5, CSS3, Javascript, jQuery

Benefits:

Are standard

Are stable technologies for front end

Why not angular.js?

Dependency Injection problems reported for angular.js

Insufficient documentation

Two-way Data Binding of angular causes extra complicated function calls for no reason

## 11. IDE: Eclipse

## 12. Automation packaging: Jenkins

# PRE STUDY on INTERFACES

## EVENT BRITE INTERFACES

URL Structure	Results Description
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12878&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12878&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Type of the events returned would be "Comedy" for which the ID is 12878
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12917&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12917&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Events returned would be specific to "College of Engineering" for which ID is 12917
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;venues=curry_student_center&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;venues=curry_student_center&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Events returned would be happening in Curry Student Center only
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;exclude_types=12895&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;exclude_types=12895&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Events returned will NOT include events of type "cultural" as it is intentionally excluded ID for "cultural" events is 12895
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;exclude_types=27719&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;exclude_types=27719&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Events returned will NOT include events related to "Department of History" as it is intentionally excluded ID for "Department of History" related events is 27719
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;days=31&amp;num=50&amp;sponsored=1&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;days=31&amp;num=50&amp;sponsored=1&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format. All these events will be sponsored
<a href="http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12877%2C12906&amp;days=31&amp;num=50&amp;format=xml">http://calendar.northeastern.edu/widget/view?schools=northeastern&amp;types=12877%2C12906&amp;days=31&amp;num=50&amp;format=xml</a>	Returns 50 NEU Events happening within 31 days from today in XML format Type of the events returned would be "Class" and "other".

## EVENTS MAPPING

Event Type	Event Id	Event topic
Address	12896	Academic Event
Admissions	14363	Academic Events
Alumni	14360	Family and Education(done)
Athletics	12876	Sports and Fitness
Book Talk/Reading	12890	Hobbies And Special Interest
Career Building/Networking	12901	Business And Professional
Ceremony/Observance	12892	Community And Culture
Charity/Fundraising	12900	Charity And Causes
Class	12877	Academic Events(done)
Comedy	12878	Film, Media And Entertainment
Concert	12879	Type: Concert or Performance (done)
Conference	12884	Type: Conference (done)
Cultural	12895	topic : Music (done)
Dance	12903	topic : Performing And Visual Arts (done)
Exhibition	12886	topic : Performing And Visual Arts
Film	12885	topic: Film, media and Entertainment (done)
Food/Catering	12899	food and drink
Karaoke	12902	topic: Hobbies And Special Interest
Lecture	12881	topic : Academic Events (done )
Live Performance	12887	topic: Performing And Visual Arts
Meeting	12891	topic: Academic Events (done)

Event Type	Event Id	Event topic
Memorial	12893	topic: Community and culture
Music	12888	Music is already a topic
Northeastern Art	46561	topic: Performing And Visual Arts
Open Mic	12905	topic: Academic Events (done)
Other	12906	everytime
Panel/Roundtable Discussion	12897	topic: Academic Events
PhD Defense	30000	topic: Academic Events(done)
Presidential	12880	topic: Business and Professional
Rally	12898	topic: Academic Events(done)
Seminar	12882	type: seminar or Talk (done)
Sustainability	16080	topic: Business and professional
Theatre	12889	topic: Performing And Visual Arts (done)
Trivia Night	12904	topic: Performing And Visual Arts
Webinar	12894	topic: Academic Events
Workshop	12883	type: class, training or workshop (done)

## URL MAPPINGS

*User registration:*

<b>URL</b>	/wham/registerUser
<b>METHOD</b>	POST
<b>SAMPLE REQUEST</b>	{"userId": "Def", "firstName": "Def", "middleName": "Xyz", "lastName": "Green", "emailId": "abc@xyz.com", "phoneNo": "1234567890", "password": "ihavepassword"}

<b>URL</b>	/wham/registerUser
<b>SAMPLE RESPONSE</b>	{"userId":10,"firstName":"Def","middleName":"Xyz","lastName.":"Green","emailId":"abc@xyz.com","phoneNo":"1234567890","password":"ihavepassword"}

#### USER VALIDATION:

<b>URL</b>	/wham/validateUser?emailId={emailId}&password={password}
<b>METHOD</b>	<b>POST</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	{"userId":10,"firstName":"Def","middleName":"Xyz","lastName.":"Green","emailId":"abc@xyz.com","phoneNo":"1234567890","password":"ihavepassword"}

#### GET EVENTS

<b>URL</b>	/wham/datasource/{lat}/{lon}/{rad}?userId={userId}
<b>METHOD</b>	<b>GET</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	[ {"eventName":"basketball game","eventDesc":"NEU vs BU men basketball game","eventLocation":"Arena center, 360 Huntington ave, Boston","phoneNumber":"1234567890","emailId":"abc@husky.neu.edu","startDateAndTime":"05/23/2016 15:00 a","endDateAndTime":"05/23/2016 17:00 a","latitude":"42.351955","longitude":"-71.123420","filePath":"http://ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/user_images/Vijet_1459903298283_holi.jpeg","organiserName":"student union","organiserDesc":"student union","isOfficial":"true","creationTime":"2016-04-07 12:22:39","lastUpdateTime":"2016-04-07 12:22:39","eventType":"13","eventTopic":"14","eventSubTopic":"484","extLink":""}]

## LOCATION RESPONSE

<b>URL</b>	/wham/datasource/{lat}/{lon}/{rad}?userId={userId}
<b>METHOD</b>	<b>GET</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	{"location":"bk","address":"30 Leon St"}

## UPDATE PREFERENCES

<b>URL</b>	/wham/getPrefList
<b>METHOD</b>	<b>GET</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	{"userId":10,"eventType":[{"eventId":1,"eventName": "Appearance or Signing"}, {"eventId": 2,"eventName": "Attraction"}], "eventTopic": [{"topicId":1,"topicName": "Academic Events", "subTopicsList": [{"eventId": 371,"eventName": "Class"}, {"eventId": 372, "eventName": "Lecture"}]}, {"topicId": 2,"topicName": "Auto, Boat And Air", "subTopicsList": [{"eventId": 378,"eventName": "Air"}, {"eventId": 379,"eventName": "Auto"}]}]}

## GET PREFERENCES

<b>URL</b>	/wham/getPref/{userId}
<b>METHOD</b>	<b>GET</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	{ "userId":2,"userPreference": [ {"eventId":1,"eventCategory":"0"}, {"eventId":1,"eventCategory":"1"} ] }

## UPDATE PREFERENCES

<b>URL</b>	/wham/updatePref
<b>METHOD</b>	<b>POST</b>
<b>SAMPLE REQUEST</b>	-
<b>SAMPLE RESPONSE</b>	{ "userId":2,"userPreference": [ {"eventId":1,"eventCategory":"0"}, { "eventId":1,"eventCategory":"1"}]} } }

## IMPLEMENTATION

### CONTROLLERS



There are six controllers in the project. Some of their interfaces are stated in last section. DataSourceController provides services to all get events based on latitude, longitude and radius. EventController provides service to create new event. HomeController simply selects the home review to render by returning its name. LookupController provides service to translate abbreviated location name within Northeastern campus to validate Google Maps address. UserPreferenceController provides services to update user preference, get user preference and get all preferences. UserRegistrationController provides services to register new user, validate user id and password. Controllers receive request and invoke specific autowired service interfaces to response to UI.

## SERVICES

- ▼  com.neu.wham.services
  - ▶  EventServiceImpl.java
  - ▶  GetEventService.java
  - ▶  GetEventServiceImpl.java
  - ▶  LookupService.java
  - ▶  LookupServiceImpl.java
  - ▶  NewEventService.java
  - ▶  PreferenceService.java
  - ▶  PreferenceServiceImpl.java
  - ▶  UserRegistrationImpl.java
  - ▶  UserRegistrationService.java

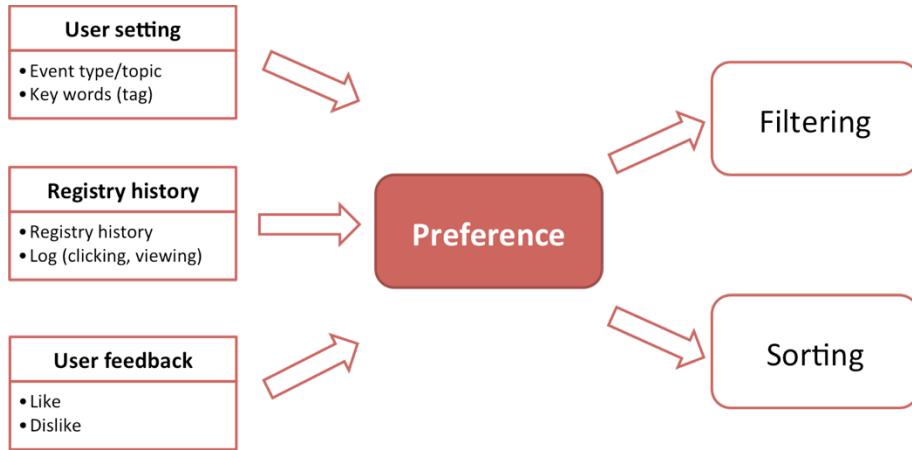
There are service interfaces and their implementations. Services implement certain application functionalities and provides results to controllers. Each controller has one or more related services. Particularly, in GetEventService, retrieved events include events created in the application and events from EventBrite and Northeastern Calendar. And then events are filtered by user preferences, if any. GetEventService maps and supports all event types and event topics from all sources (detailed preference categories refer to [Preference Categories](#)).

## USER PREFERENCES

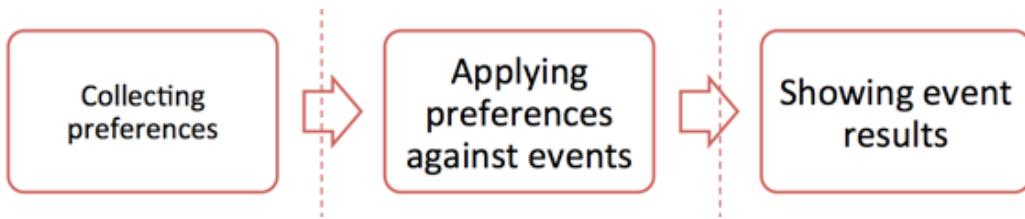
### PROPOSAL - I

In WHAM, system should sort or filter certain events based on user preferences. User preferences could come from user setting, events registry history and like/dislike. System must allow user to explicitly set up and edit events preferences in user profile. Preferences can be set up as type, topic and even key words. Also, system should be able to extract user preferences from users' event registry history. For example, if user registered a career workshop before, then the system could extract "career" as user's preference.

Preferences could also come from user's feedback by clicking "like/dislike". Events liked by users will be used to extract preferences, while attributes from disliked events should be used for filtering. Only explicitly disliked events should be extracted and used on filtering. In summary, system utilizes positive preferences from multiple resources on sorting events and negative preferences from dislike on filtering events.



System applies some mechanism and algorithm to apply positive preferences on sorting events. System should extract preferences from user setting, registry history and feedback. Then system scores each event by calculating the matching degree between events' attributes and user's preferences. At last, system ranks events by their scores and presents sorted events to the user. Extracting, scoring and ranking are three main sub-modules. Each of them could be implemented with some algorithm.



Considering the feasibility of our project, we propose following algorithm.

First, system only extracts preferences from user setting for now.

- When host is creating a new event in system, he or she should specify a list of attributes including event type and topic, such as sports, food, music, game, etc.
- These attributes are selected from a default attributes set. And when user is setting up preferences, system must allow user select multiple preferences in the same system default attributes set.
- By default, preceding preference takes high priority. For scoring, system scores each event by applying a binary scoring algorithm. For each event, system creates a binary number with zeros in all bits. The length of the binary number is the same with length of user preferences. The order of the preference and the position of each bit are one-to-one corresponding. That is to say, the first preference is corresponding to highest bit in the binary number, and so on.
- If event has same attributes with some preference, corresponding bit is set to one. So the score of the event is the decimal number of this binary number. At last, system ranks all events by their scores and outputs the sorted list of events.



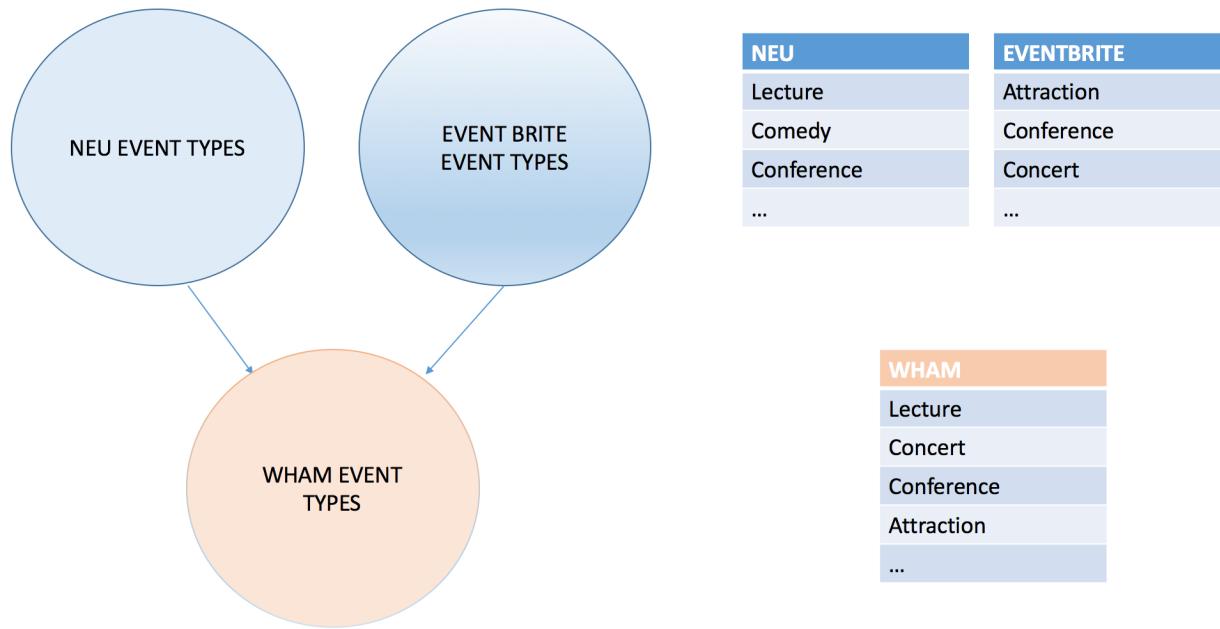
Game, sports, Food, Career, Music

Event A: Basketball, game, free pizza	1 1 1 0 0 = 28
Event B: Concert, jazz	0 0 0 0 1 = 1
Event C: Career fair, food	0 0 1 1 0 = 6

Event A > Event C > Event B

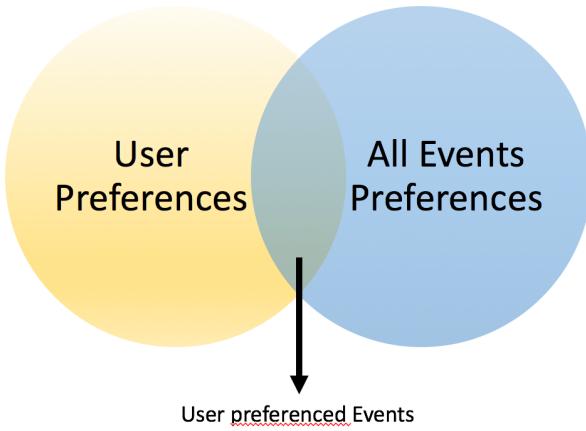
As mentioned before, we are very careful with filtering events because it may cause that user miss some important events. Analyzing user preferences is complicated not only because estimating whether user loves certain events is complicated but also user would change their favor. So in our consideration, showing more disliked events at the end of the list is better than screening important events improperly. Therefore, system will filter out events only if they have high similarity with events that user marked as dislike explicitly. The mechanism of deciding similarity is open to brainstorm now.

## PROPSAL -II

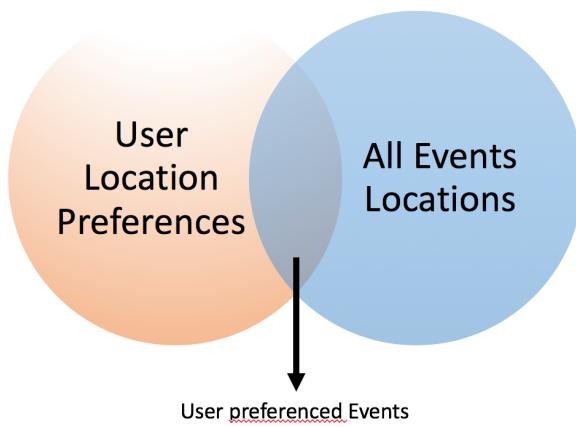


Comedy (in NEU) = Concert(in EB)=Concert(WHAM)

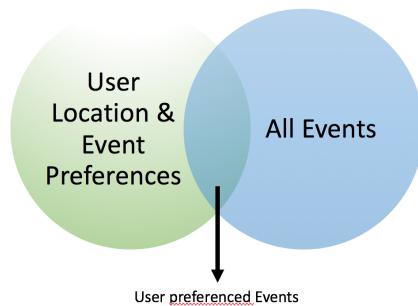
Event Preferences are specified



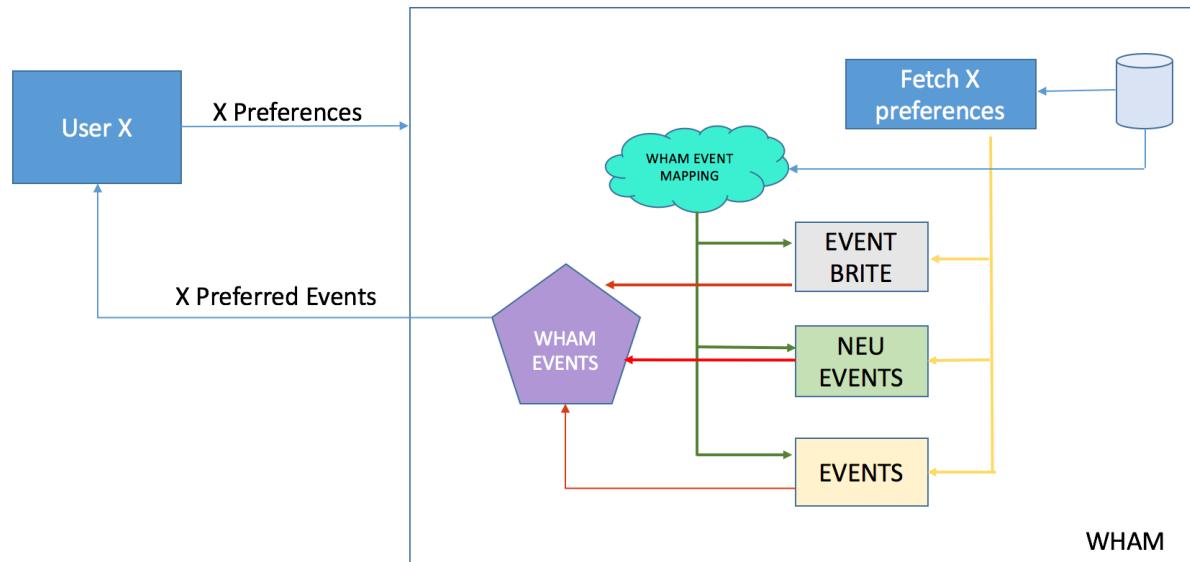
Location Preferences are specified



Location & Event Preferences are specified



## ARCHITECTURE



## CODE REVIEWS

<b>Review #</b>	1
<b>Code by</b>	Mavez Singh Dabas
<b>Reviewer</b>	Vijet Badigannavar
<b>Module</b>	UserRegistration Controller
<b>Comments</b>	<p>Proper naming convention for variables and functions.</p> <p>Modifying the UserRegistrationController from RegistrationController</p> <p>Mapping the URL to the "registerUser" rather than "userRegistration"</p> <p>Validate check on the incoming request</p> <p>Commenting and Documenting the code.</p>
<b>Status</b>	Completed

<b>Review #</b>	2
<b>Code by</b>	Vijet Badigannavar
<b>Reviewer</b>	Mavez Singh Dabas, Vaibhav Tyagi ,Jue Yang ,Harsh Shukla
<b>Module</b>	UserPreferences Design
<b>Comments</b>	<p>Separate the Impl and Dao via interface</p> <p>Move the database constants to a separate util class</p> <p>processPreference() is redundant</p>
<b>Status</b>	Completed

<b>Review #</b>	3
<b>Code by</b>	Vaibhav Tyagi
<b>Reviewer</b>	Mavez Singh Dabas, Harsh Shukla
<b>Module</b>	Mapping of Preferences
<b>Comments</b>	<p>Checking the documentation of the preference module</p> <p>Modify "Other" sub topic event in the sub topic category</p>

<b>Review #</b>	3
	Checking if all the Event Topics and Dependent subtopics are in sync.
<b>Status</b>	Completed

<b>Review #</b>	4
<b>Code by</b>	Vijet Badigannavar
<b>Reviewer</b>	Vaibhav Tyagi
<b>Module</b>	UserPreferences Implementation
<b>Comments</b>	Use prepared statement instead of statement in DAO Change the Service DAO to PreferenceService and PreferenceServiceImpl Docuemnt the code Document the Event model Clean the fields that are not used
<b>Status</b>	Completed

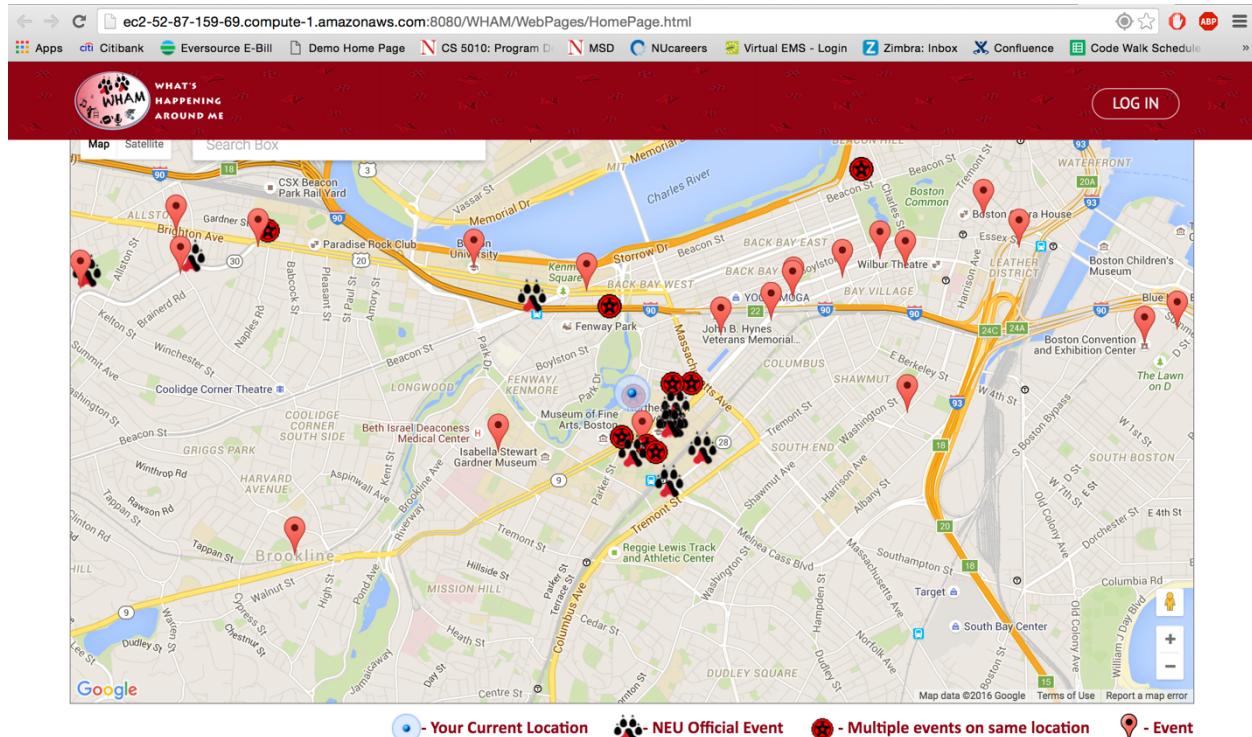
<b>Review #</b>	5
<b>Code by</b>	Harsh Shukla
<b>Reviewer</b>	Jue Yang
<b>Module</b>	Test cases for UserRegistration
<b>Comments</b>	Test for Negtive cases for Lastname and firstname Delete the testing values that you used for testing Document the test code (low priority)
<b>Status</b>	Completed

<b>Review #</b>	6
<b>Code by</b>	Jue Yang

<b>Review #</b>	6
<b>Reviewer</b>	Harsh Shukla
<b>Module</b>	Test cases for UserPreferences
<b>Comments</b>	Dont hardcode the userId -ive test for invalid UserId Document the test code (low priority)
<b>Status</b>	Completed

## SCREEN SHOTS

### HOME PAGE

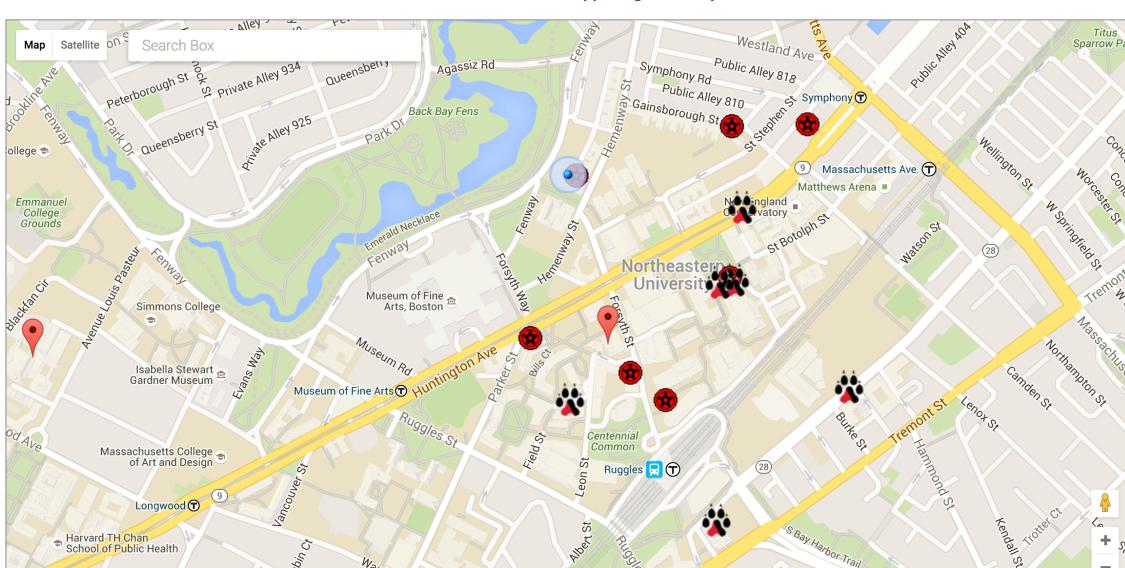


### LEGEND

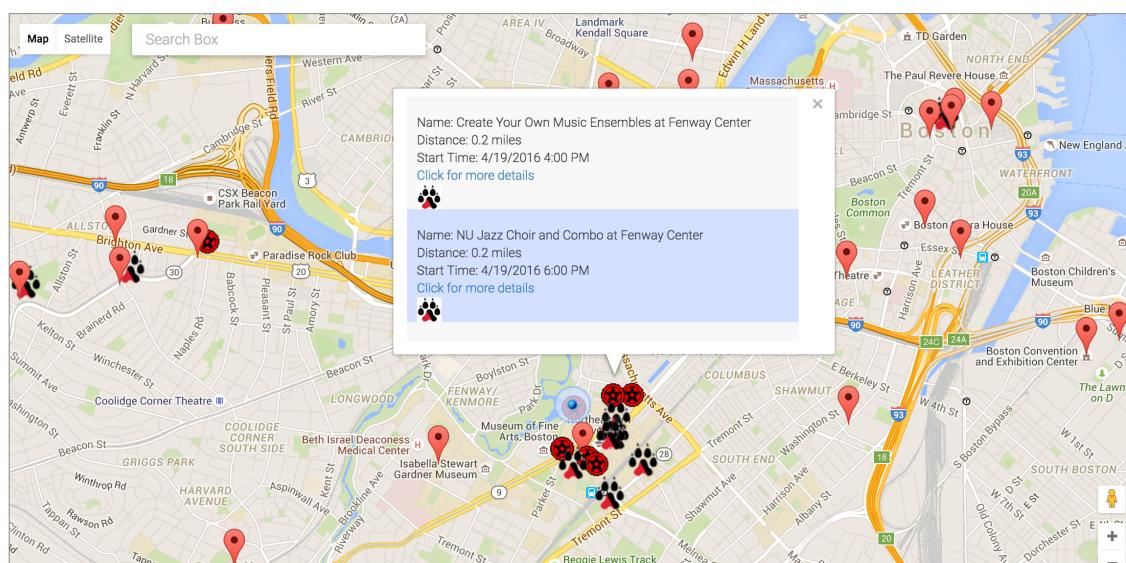
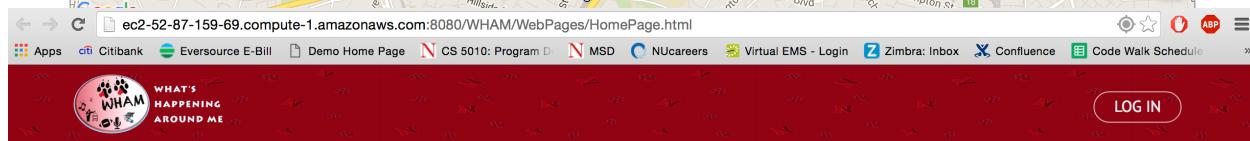
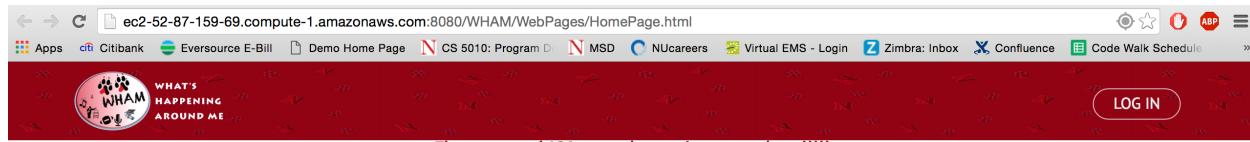


## WITH USER LOCATION

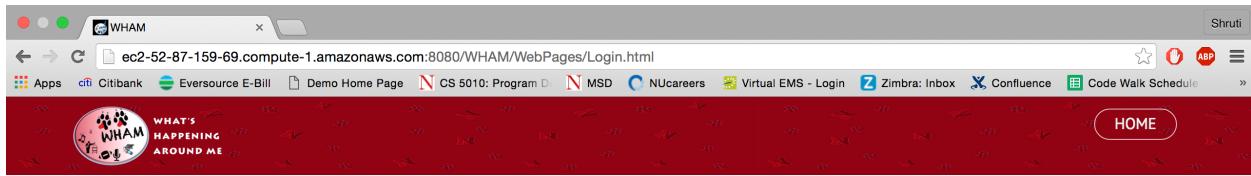
Screenshot of a web browser showing a map interface. The title bar reads "ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/HomePage.html". The main area displays a map of a city with a red marker indicating the user's current location. A message at the top says "There are total 104 events happening around you!!!!".



## WITH EVENT DETAILS



## LOGIN PAGE



### Log In

Email ID

Password

Remember me

**Login**

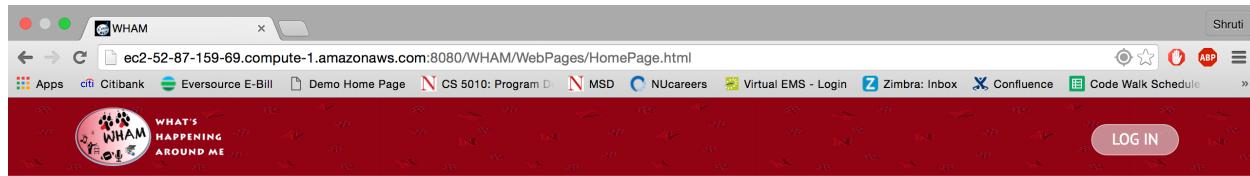
[Sign Up](#)

ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/UserSignUp.html

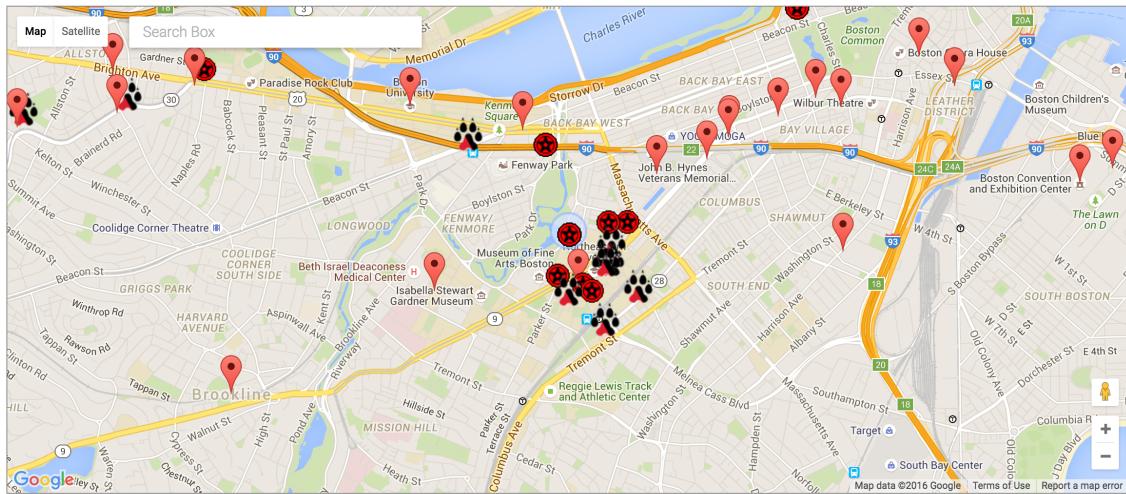
## SIGNUP PAGE

A screenshot of a web browser window titled "WHAM". The address bar shows the URL "ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/UserSignUp.html". The page has a red header with the text "WHAT'S HAPPENING AROUND ME" and a logo. It features a large red "SIGN UP" heading and seven input fields arranged in two columns: "Your First Name\*", "Your Middle Name", "Your Last Name"; "Your Email\*", "Your Phone No.", "Confirm your password"; and "Your Password", "Retype Password". A red "Submit" button is at the bottom.

## USER LOGIN PAGE

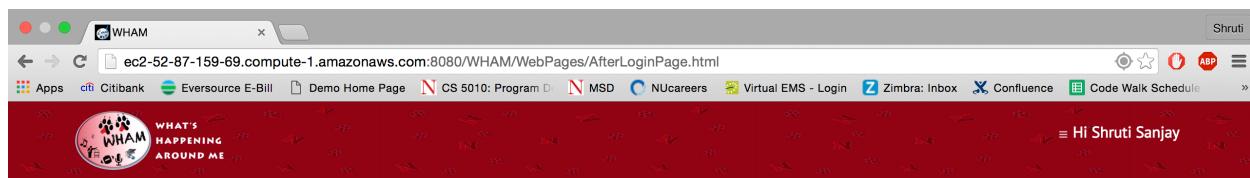


There are total 104 events happening around you!!!!!

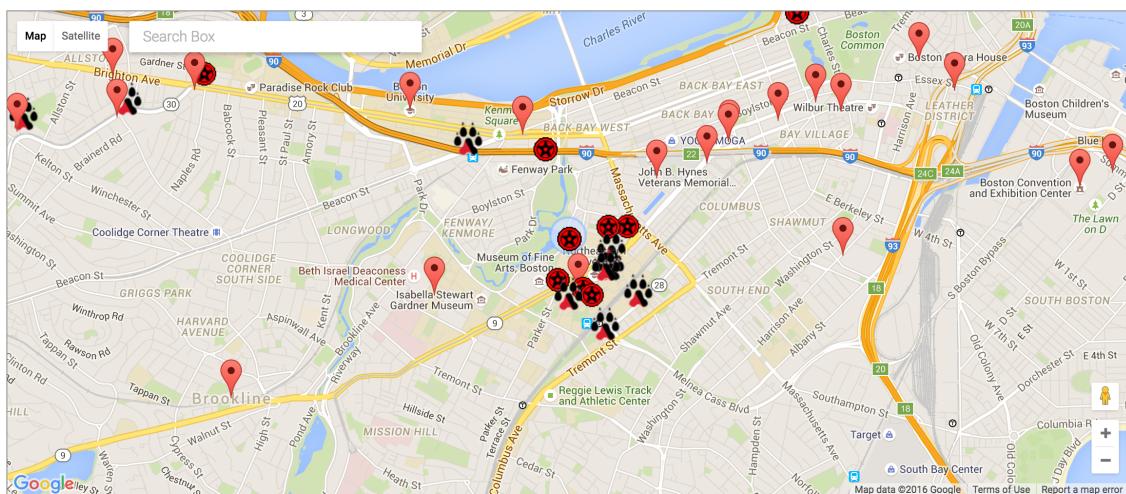


[ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/Login.html](#) Your Current Location [NEU Official Event](#) [Multiple events on same location](#) [Event](#)

## USER PREFERRED EVENTS PAGE



There are total 104 events happening around you!!!!!

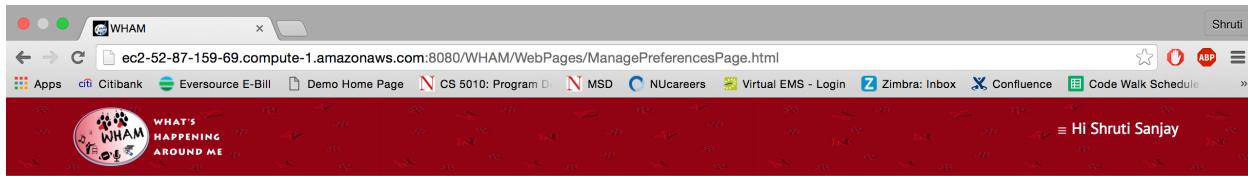


Apply my preferences [Your Current Location](#) [NEU Official Event](#) [Multiple events on same location](#) [Event](#)

## PREFERENCE MANAGEMENT PAGE

The screenshot shows a web browser window titled "Choose Your Preferences". At the top, there are dropdown menus for "EVENT TYPE" (with "Select event type" selected), "EVENT TOPIC" (with "Select event topic" selected), and "EVENT SUB-TOPIC" (with "All sub topics" selected). Below these are three buttons: "Add" (red), "Delete" (blue), and "Save" (green). The main area is titled "Selected Preferences" and contains a list of items. At the bottom right of the page, there is a red "Cancel" button and a green "Save" button.

This screenshot is identical to the one above, but it includes a detailed view of the "Select event type" dropdown menu. The menu is a scrollable list with many options, and the item "Concert or Performance" is highlighted with a blue selection bar. Other visible options include Appearance or Signing, Attraction, Camp, Trip, or Retreat, Class, Training, or Workshop, Conference, Convention, Dinner or Gala, Festival or Fair, Game or Competition, Meeting or Networking Event, Other, Party or Social Gathering, Race or Endurance Event, Rally, Screening, Seminar or Talk, Tour, Tournament, and Tradeshow, Consumer Show, or Expo.



## Choose Your Preferences

### EVENT TYPE

Concert or Performance

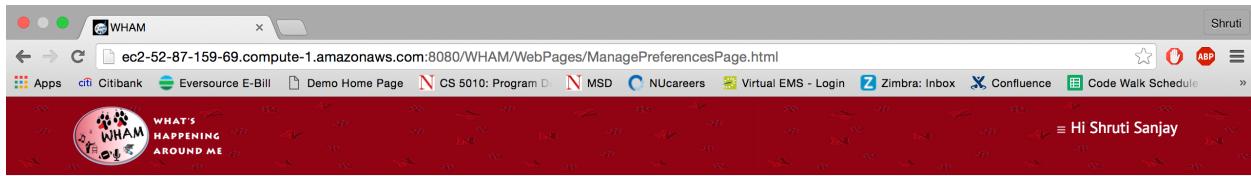
### EVENT TOPIC

- ✓ Select event topic
- Academic Events
- Auto, Boat And Air
- Business And Professional
- Charity And Causes
- Community And Culture
- Family And Education
- Fashion And Beauty
- Film, Media And Entertainment
- Food And Drink
- Government And Politics
- Health And Wellness
- Hobbies And Special Interest
- Home And Lifestyle
- Music**
- Other
- Performing And Visual Arts
- Religion And Spirituality
- Science And Technology

### EVENT SUB-TOPIC

All sub topics

nd Preferences



## Choose Your Preferences

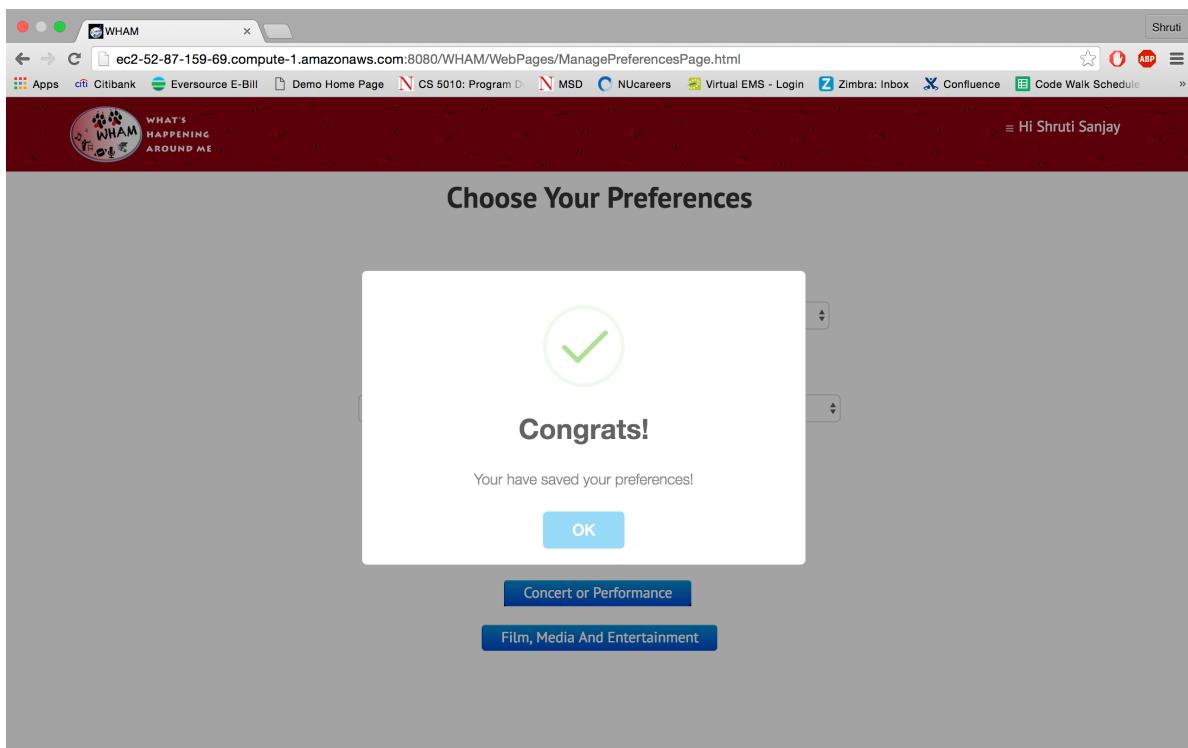
### EVENT TYPE

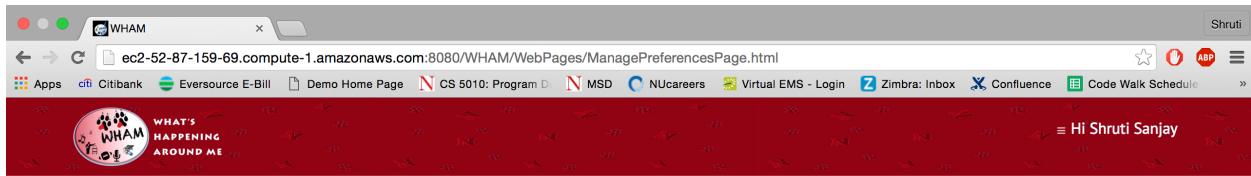
### EVENT TOPIC

### EVENT SUB-TOPIC

AddDeleteSave

### Selected Preferences





## Choose Your Preferences

### EVENT TYPE

Select event type

### EVENT TOPIC

Select event topic

### EVENT SUB-TOPIC

All sub topics

Add

Delete

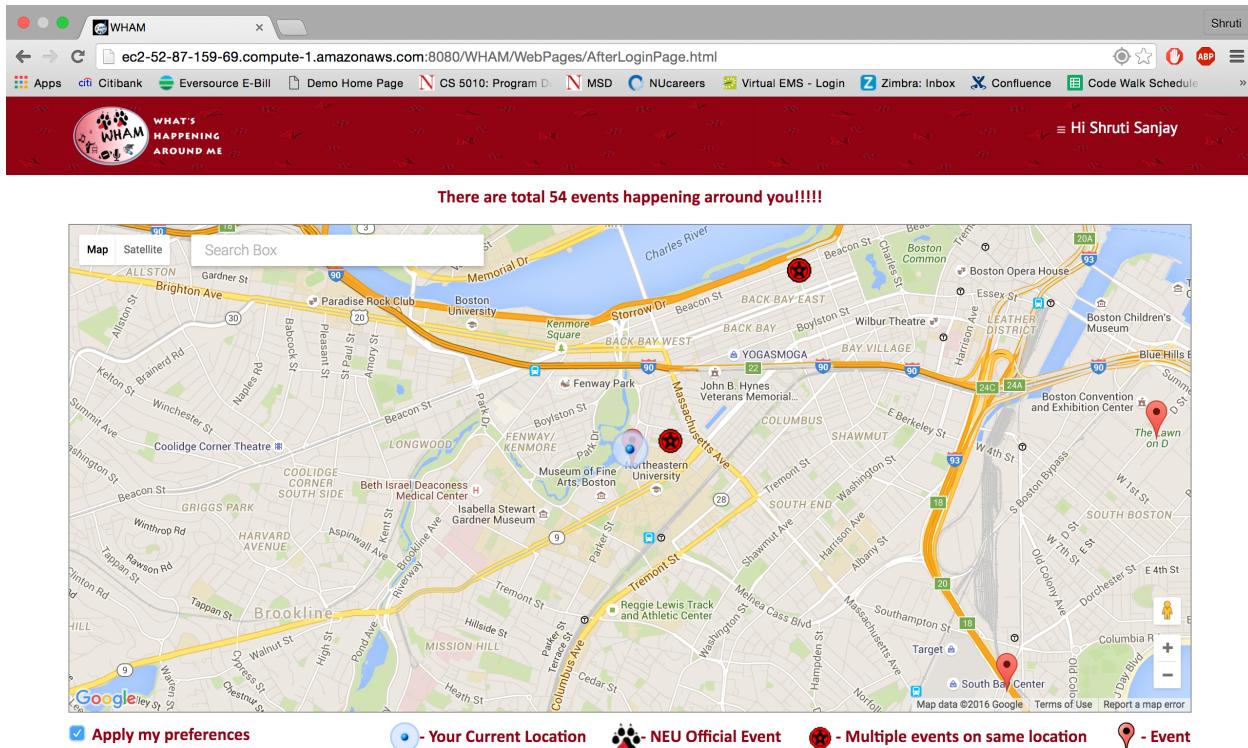
Save

### Selected Preferences

Concert or Performance

Film, Media And Entertainment

ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/AfterLoginPage.html



## EVENT CREATION PAGE

### Create your event

**Submit**

Event Name*	Organiser Name*
Care Of Magical Creatures Seminar	Hagrid
Event Description	Organiser Description*
Fantastic Beasts and Where to find them?	Professor at Hogwarts
Address Line 1*	Phone (optional)
84 Hemenway Street	
Address Line 2 (optional)	Email*
	hagrid@husky.neu.edu
City*	Event Name*
Boston	Seminar or Talk
State*	Event Topic*
MA	Academic Events
Zip code*	Event Subtopic*
02115	

WHAT'S HAPPENING AROUND ME

Hi Shruti Sanjay

Fantastic Beasts and Where to find them?

Address Line 1\*

84 Hemenway Street

Address Line 2 (optional)

City\*

Boston

State\*

MA

Zip code\*

02115

Start Date and Time\*

04/18/2016 1:53 PM

End Date and Time\*

05/18/2016 3:53 PM

Official NEU Event

Professor at Hogwarts

Phone (optional)

Email\*

hagrid@husky.neu.edu

Event Name\*

Seminar or Talk

Event Topic\*

Academic Events

Event Subtopic\*

Lecture

Choose File No file chosen

Upload a poster of your event above

Submit

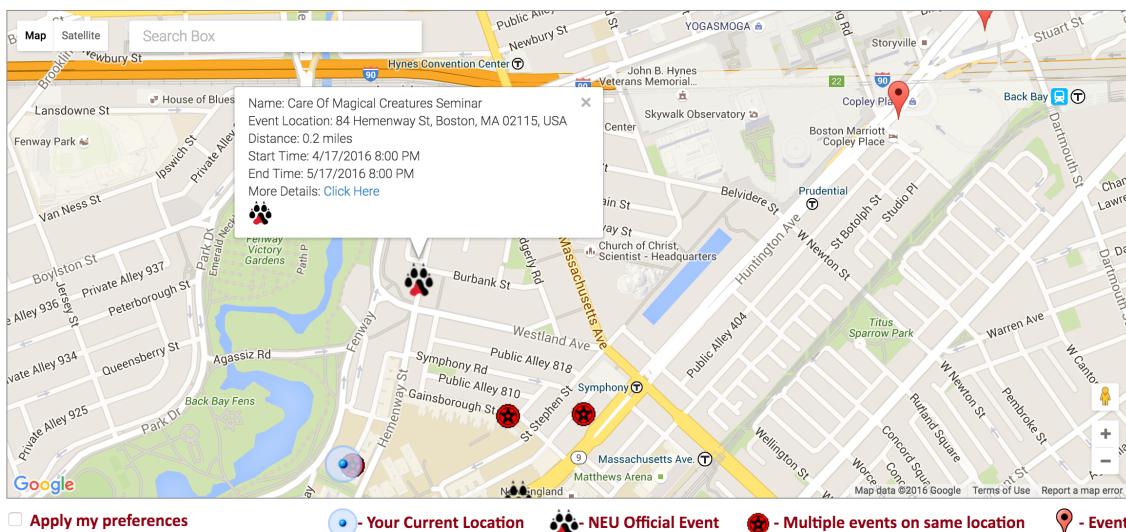
SHRUTI

ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/AfterLoginPage.html

Apps Citibank Eversource E-Bill Demo Home Page CS 5010: Program MSD NUcareers Virtual EMS - Login Zimbra: Inbox Confluence Code Walk Schedule

Hi Shruti Sanjay

There are total 105 events happening around you!!!!



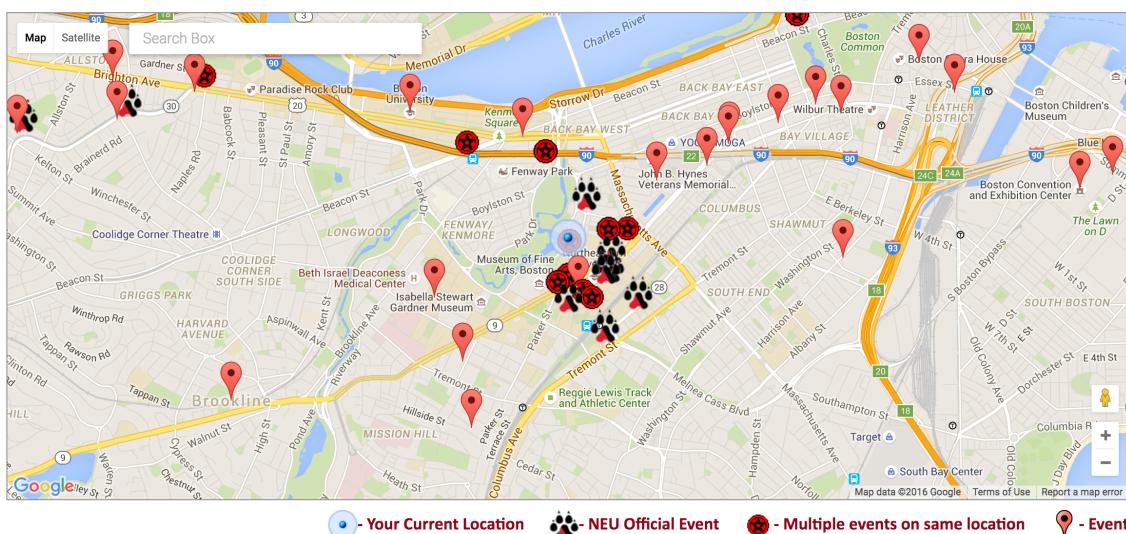
## PAGE AFTER LOGOUT

LOG IN

ec2-52-87-159-69.compute-1.amazonaws.com:8080/WHAM/WebPages/HomePage.html

Apps Citibank Eversource E-Bill Demo Home Page CS 5010: Program MSD NUcareers Virtual EMS - Login Zimbra: Inbox Confluence Code Walk Schedule

There are total 114 events happening around you!!!!



## TEST CASES

Nu mb er	Test Case Nam e	Test Case Scenario	Expected Output
1	Event name (Positive Scenario)	<p>Receive proper event name from UI.</p> <p>A proper event name should have length of 60 alphanumeric characters.</p> <p>Example:</p> <p>"name":"Valleyball Match"</p>	Event is processed to database without errors and the entries are added to the column name t.EventName.
2	Event name (size error) (Negative Scenario)	<p>Receive improper event name from UI.</p> <p>The event name contains more than 60 Characters.</p> <p>Example of an improper event name</p> <p>"name":"Volleybbb"</p>	<p>Event is not processed to the database and an error message is returned.</p> <p>The error is size related.</p>
3	Event name (special characters)	<p>Receive special character as an input for the event name.</p> <p>Example of an improper event :"</p> <p>"name":"Volley%Ball Match"</p>	Event is not processed to the database and an error

	(Negative Scenario)		message is returned. The error occurs as an special character was used with the event name.
4	Blank event name	No event name is received from UI.  "name": " ".	Event is not processed to the database and an error message is returned.  The error is received because the field for event name was left null.
5	Event description (Positive Scenario)	Proper event description is provided by UI.  Example:  " Event Description ":"Women's Hockey East Quarterfinals - Game 2  Women's Hockey vs. Providence  Saturday, February 27, 2016 at 2:00 PM  Matthews Arena  Athletic Ticket Office: 617-373-4700 or <a href="mailto:huskytix@neu.edu">huskytix@neu.edu</a>	Event is processed to database without errors.The entries are added to the column

		Doors open at 1:00 PM"	t.EventDescription.
6	Event description (Negative Scenario)	No event description is provided by UI or size error.  Example:  Event Description:" "	" Event is not processed to the database and an error message is returned.  The error is received because the field for event description was left null.
6	Event location (Positive Scenario)	Proper event location that is recognized by google, is received from UI.  EventLocation [{"id": "12367", "Venue_name": "Mathews_Arena", "Address": "Northeastern", "City": "Boston", "State": "MA", "Zip-code": "02120", "Latitude": "42.338716", "Longitude": "-71.0905233"}]	Event is processed to database without errors.  The event location is added to the database and the request is forwarded to the Google Maps API .The google

			map API return the longitude and Latitude entries for the same.
7	Event location (Negative Scenario)	<p>Event location that is not recognized by google, is received from UI.</p> <pre>[{"id":"12367", "Address1":"65 Burbank Street",      // non-existing address "Address2":"", "City":"Bostn",                     // Optional, thus "State":"MC",                        // City not available "Zip-code":"021-20",                 // State or Abbreviation "Latitude":"420.338716", "Longitude":"71.0905233"}]</pre>	<p>Event is not processed to the database and an error message is returned.</p> <p>The error message is received as the data cannot be retrieved by the Maps API.</p> <p>The error condition here is the abbreviation used for state i.e MC.</p>
8	Event location	<p>Event location that is not recognized by google, is received from UI.</p> <pre>[{"id":"12367", "Address1": "",           // non-existing address "Address2": "",           // Optional, thus "City": "",               // City not available</pre>	Event is not processed to the

	(Negative Scenario)	<pre>"State":"", "Zip-code":"", "Latitude":"", "Longitude":""}]</pre> <pre>//      State or Abbrev: //      Zipcode Unrecognized</pre>	<p>database and an error message is returned.</p> <p>The error occurs as various fields are left blank.</p>	ai gl
9	Phone number (Positive Scenario)	<p>Proper phone number is received in the format (xxx-xxx-xxxx) and only contains numeric entry from UI.</p> <pre>"phone":"857-111-2222"</pre>	<p>Event is processed to database without errors.</p> <p>The phone number is inserted in proper format and therefore is added to the fieldt.PhoneNumber</p>	
10	Phone number (Negative Scenario)	<p>Phone number provided by UI does not follow the format(xxx-xxx-xxxx) or contains any other character except numerics.</p> <pre>"phone":"857-X88-8888" //Alphanumrics were Used or</pre> <pre>"phone":"8577-858585" //Wrong Format was Used</pre>	<p>Event is not processed to the database and an error message is returned.</p> <p>Error is generated</p>	

			as alphanum erics were used.
11	Email field (Posi tive Scen ario)	Proper email address is received in the format <code>(abc@neu.edu or abc@husky.neu.edu)</code> <code>email:"abc@husky.neu.edu"</code> or <code>email:"abc@neu.edu"</code>	Event is processed to database without errors.  The emailid is inserted in proper format and therefore is added to the field t.Ema ilID
12	Email field (Neg ative Scen ario)	Email address provided by UI does not follow the format <code>(abc@neu.edu or abc@husky.neu.edu)</code> <code>"email":"abc@gmail.com //gmail(external service provider)"</code> or <code>"email":"abc@neux.edu //error was made for an unregistered user"</code>	Event is not processed to the database and an error message is returned.  This error is generated as the entries made are not in sync with the strict

			policies of adding only neu or husky.neu email id's.
13	Duration of event (Positive Scenario)	<p>"Single day" is received from UI with start date.</p> <p>Start date must be either today or after today.</p> <p>Example: Assuming today is 03/20/2016 "duration": "Single day", "startDate": "2016-03-23"</p>	<p>Event is processed to database without errors.</p> <p>As the given template was followed correctly the event duration and dates will be inserted to t.duration and t.startDate respectively.</p>
14	Duration of event (Negative Scenario)	<p>"Single day" is received from UI with start date. But start date is before today's date.</p> <p>Example: Assuming today is 03/20/2016 "duration": "Single day", "startDate": "2016-01-01"</p>	<p>Event is not processed to the database and an error message is returned.</p>

			The error is generated as the date inserted is before todays date and no past date events should be present in the database. Thus, the user will be prompted to fill up the date fields with todays date or a date after today.
15	Duration of event (Negative Scenario)	<p>"Single day" is received from UI with start date. But month or day of start date is beyond valid value.</p> <p>Example: Assuming today is 03/20/2016  <code>"duration": "Single day", "startDate": "2016-04-34"</code></p>	<p>Event is not processed to the database and an error message is returned.</p> <p>An error is generated as the</p>

			date is not correct as their can't be more than 31 days in any month. The user will be asked to fill up the date correctly.
16	Duration of event (Negative Scenario)	<p>"Single day" is received from UI with start date. But year of start date is greater than max date.</p> <p>Example: Assuming today is 03/20/2016  "duration":"Single day","startDate":"392278994-01-01"</p>	<p>Event is not processed to the database and an error message is returned.</p> <p>An error is generated as the date is not inserted in the correct format. The user will be prompted to fill up the details in the format specified in the UI.</p>

17	<p>DURATION OF EVENT (Positive Scenario)</p>	<p>"Multi day event" is received from UI with both start date and end date. Start date must be either today or after today. End date must be after start date.</p> <p>Example: Assuming today is 03/20/2016 "duration": "Multi day event", "startDate": "2016-04-01", "endDate": "2016-04-02"</p>	<p>Event is processed to database without errors.</p> <p>As the given template was followed correctly the event duration and dates will be inserted to t.duration, t.startDate and t.endDate respectively.</p>
18	<p>DURATION OF EVENT (Negative Scenario)</p>	<p>No duration is received from UI. "duration": ""</p>	<p>Event is not processed to the database and an error message is returned.</p> <p>An error is generated as the duration field is left</p>

			null.The user will be prompted to fill up the missing details.
19	Duration of event (Negative Scenario)	<p>"Multi day event" is received from UI without end date.</p> <p>Example: Assuming today is 03/20/2016  <code>"duration": "Multi day event", "startDate": "2016-04-01"</code></p>	<p>Event is not processed to the database and an error message is returned.</p> <p>An error is generated as the enddate field is left null.</p> <p>The user will be prompted to fill up the missing details.</p>
20	Duration of event (Negative Scenario)	<p>"Multi day event" is received from UI with both start date and end date but end date precedes start date.</p> <p><code>"duration": "Multi day event", "startDate": "2016-04-01", "endDate": "2016-04-01"</code></p>	Event is not processed to the database and an error message

			<p>is returned.</p> <p>An error is generated as the enddate is prior to the start date.</p>
21	Official event (positive case)	An official indicator is received from UI and user is logged in with staff email id i.e. abc@ <a href="mailto:neu.edu">neu.edu</a> . "isOfficial": "true"	<p>Event is processed to database without errors.</p> <p>The event entry follows the defined template and data field for official event is checked.</p>
22	Official event (negative case)	An official indicator is received from UI but user is logged in with student email id i.e. abc@husky. <a href="mailto:neu.edu">neu.edu</a> . "isOfficial": "true"	<p>Event is not processed to the database and an error message is returned.</p> <p>The event entry does not follow the defined</p>

			template and data field for official event is unchecked.
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## AWARDS

Recognized and awarded as the Best project in terms of Task execution and Team Co-ordination among 20 projects.