

# REVAMPP

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## UTD's Digital Transformation

GROUP 5- SYSTEMS ANALYSIS AND PROJECT  
MANAGEMENT

## EXECUTIVE SUMMARY

Prepare to embark on an extraordinary journey of transformation with Revampp, UTD's Digital Renaissance. Our mission is clear: to elevate the student experience at the University of Texas at Dallas. We're not just revamping an app; we're reshaping the future of UTD.

Revampp is a bold initiative, addressing usability issues, improving resource accessibility, and introducing a wave of innovative features to our UTD app. Imagine an app that goes beyond convenience, one that empowers students to thrive in their academic journey.

We're introducing a reviews section, fostering student-to-student communication, and simplifying navigation for newcomers to the vibrant Dallas area. UTD App is on the brink of becoming the ultimate platform, where academic life is simplified, connections are forged, and transitions become seamless.

Join us as we rewrite the digital narrative of UTD, transforming it into a holistic hub that not only simplifies academic life but also fosters meaningful connections. Revampp is not just an upgrade; it's a renaissance that redefines what it means to be a part of the UTD community. Welcome to the future of UTD."

## PROBLEM STATEMENT

The UTD application faces some usability issues that impede students from effectively navigating the platform. In addition, it lacks essential features such as student-to-student communication, reviews, and support for international students, thus limiting its potential to cater to the diverse needs of UTD students and negatively impacting their overall experience. To address these pertinent issues, we must enhance the application interface and introduce features that enable students to access all the necessary information, including academic, financial, and cultural resources. We aim to create a comprehensive platform to facilitate student success and ensure all UTD students have the necessary resources.

## **PROJECT SPONSOR**

- The University of Texas at Dallas
- External businesses that provide discounts to UTD students

## **BUSINESS NEED**

- Enrich the student experience
- Reviews section
- Facilitating student-to-student communication
- Providing seamless navigation for newcomers to the Dallas area
- Essential information offering guidance on cultural adaptation
- Google Map integration (API)
- Third-party partnerships
- Raising tickets and requests
- Discussion forums
- Navigation on local and school bus routes

## OBJECTIVES

- Enhance the usability and navigation of the UTD App
- Improve accessibility to resources for all students
- Introduce new features, including a reviews section and student-to-student communication
- Provide support and information for international students
- Create a comprehensive platform that simplifies academic life and fosters connections

## EXPECTED VALUE

- Cost: \$500,000
- Benefit: Students will have a smoother transition in academic life

## SCOPE

- Usability improvements to the UTD App's user interface
- Accessibility enhancements for students with varying requirements
- Integration of a reviews section for courses, professors, and campus services
- Implementation of a student-to-student communication feature
- Inclusion of information and support for international students
- Testing, quality assurance, and deployment of the updated app

## ASSUMPTIONS

- We assume that sufficient resources (budget, time, and personnel) are allocated to the project
- We assume that students will provide cooperation and feedback for feature development
- We assume that the technological infrastructure can support the app's enhancements

## **DELIVERABLES**

- Updated UTD App with improved usability and accessibility
- Reviews section integrated into the app
- Student-to-student communication feature
- Information and support resources for international students
- Documentation of the app's enhancements and features

## **ACCEPTANCE CRITERIA**

- Usability improvements are validated through user testing with positive feedback
- Accessibility enhancements adhere to relevant standards and guidelines
- The reviews section is functional and populated with user-generated content
- Student-to-student communication is tested and proven effective
- Information and support resources for international students are accurate and well-received
- The updated UTD App is deployed without significant issues or disruption

# STAKEHOLDERS

- University administration
- University compliance
- Local and international students
- Faculty and staff involved in student support
- Student organizations
- Quality assurance and testing teams
- Third-party service providers (if applicable)
- Texas Transportation Department

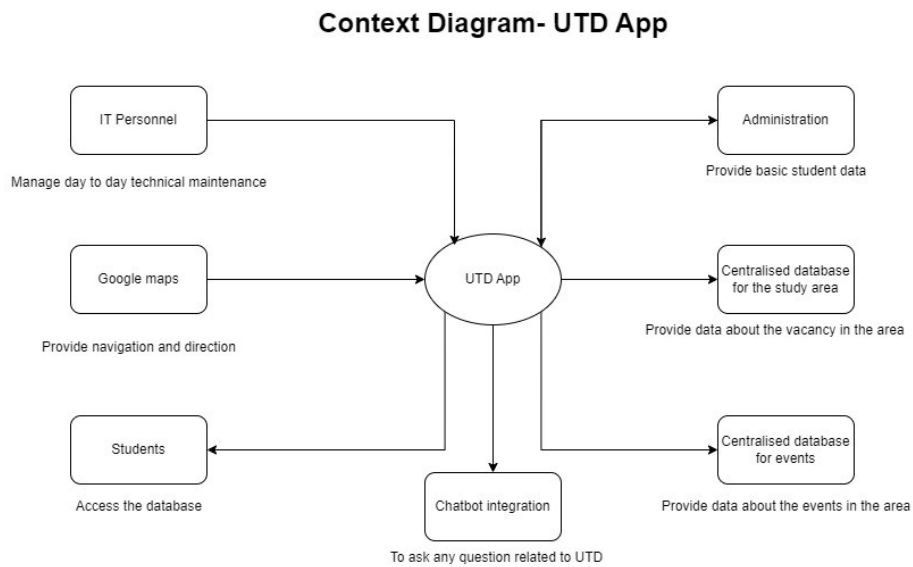
# GROUP MEMBERS

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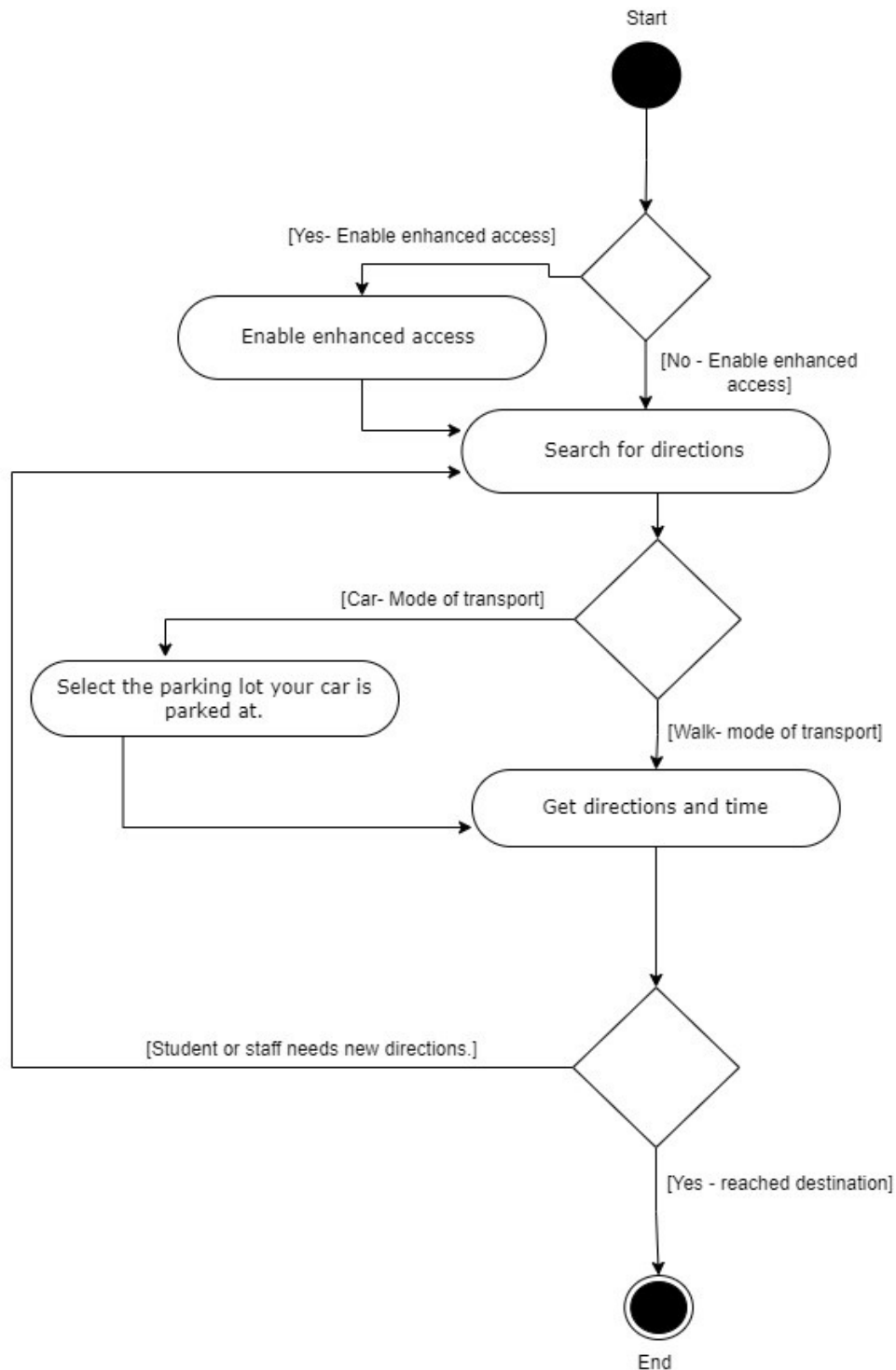
# CONTEXT DIAGRAM

The diagram below shows the context diagram for the application.

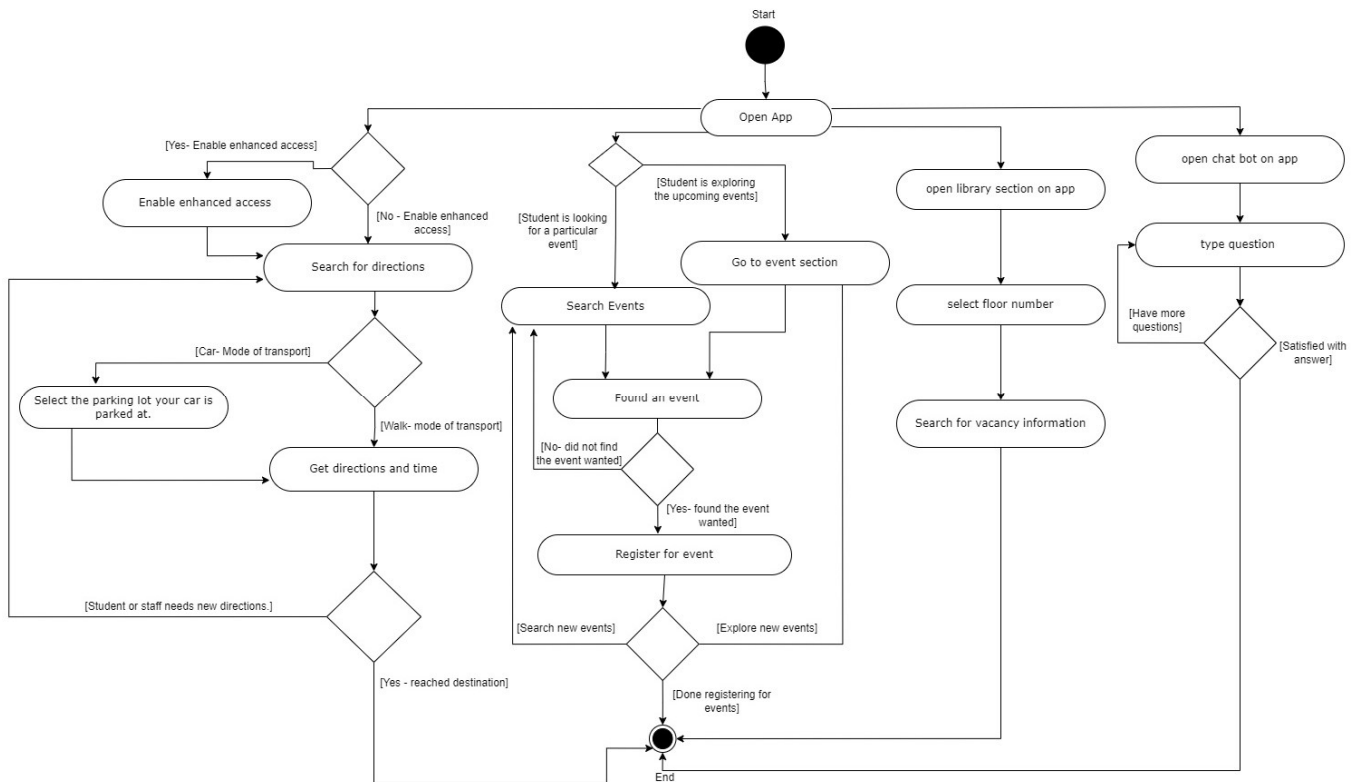


## PROCESS MODEL (ACTIVITY DIAGRAM)

The diagram below shows the activity diagram for integrating Google Maps with the UTD application.



The diagram below is the Activity diagram for all the use cases.

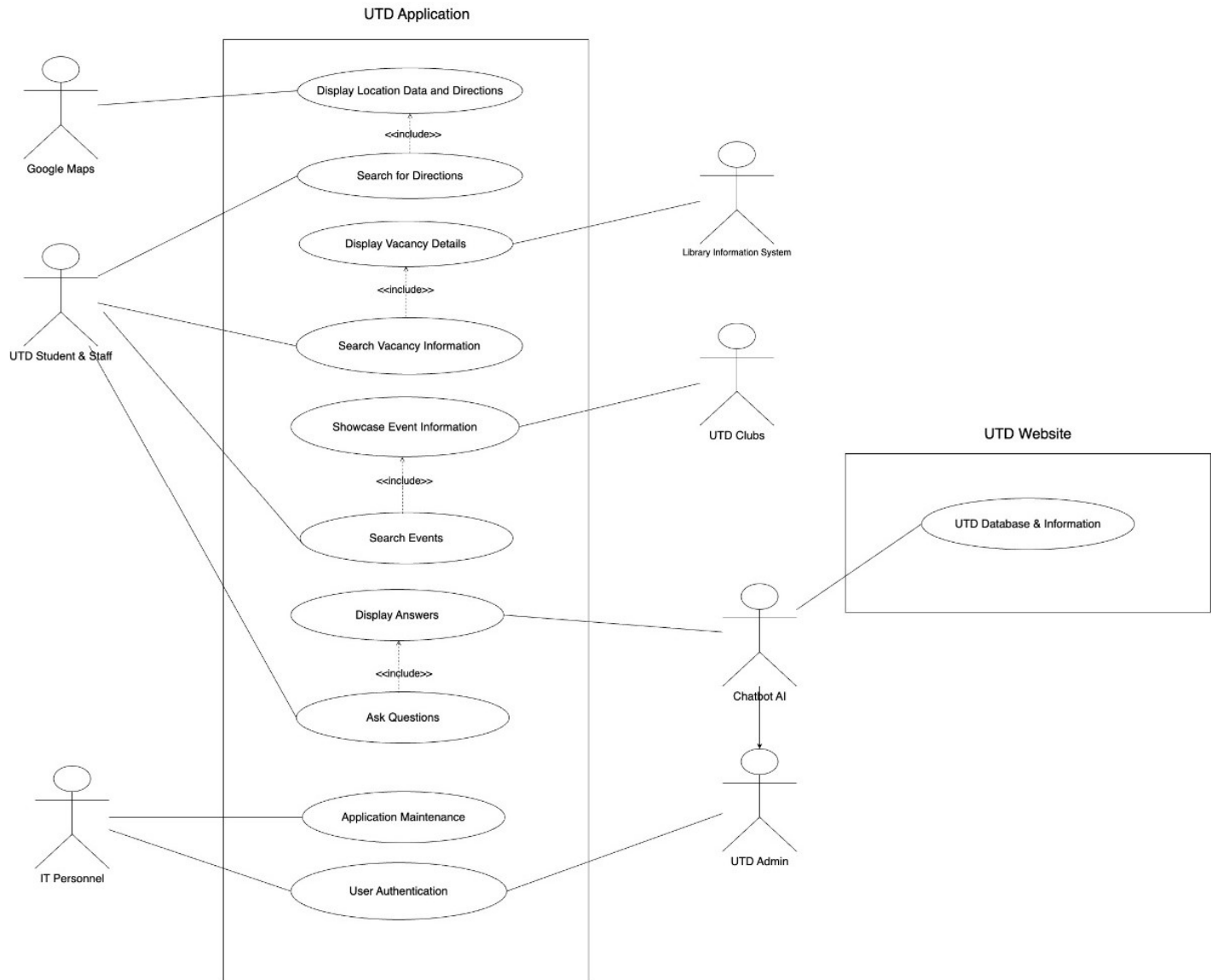


# USE CASE DIAGRAM

The diagram represents the use case for the proposed system. The actors of the system are UTD APP, Students, IT personnel, Administration, Centralized Database for the Study Area, Centralized Database for the Events, Chatbot and Google Maps.

The use cases involved are:

- Display Location Data and Directions
- Search for Directions
- Display Vacancy Details
- Search Vacancy Information
- Showcase Event Information
- Search Events
- Display Answers
- Ask Questions
- Application Maintenance
- User Authentication
- UTD Database & Information
- UTD Application Use case Diagram



# USE CASE DESCRIPTION

The Use Case Descriptions shown in the above diagram are given below:

## Use Case Description 1:

<b>Use case name:</b>	Search for Directions	
<b>Scenario:</b>	Search for Directions to a Destination	
<b>Triggering Event:</b>	UTD Student & Staff needs directions for a specific destination	
<b>Brief Description:</b>	Displays user location and directions for destination	
<b>Actors:</b>	UTD Student & Staff, Google Maps	
<b>Related use cases:</b>	Display Location Data and Directions	
<b>Stakeholders:</b>	UTD Student & Staff	
<b>Preconditions:</b>	Google API must be online	
<b>Postconditions:</b>	The system displays the directions to the specified destination on the screen.	
<b>Flow of activities:</b>	<b>Actor</b>	<b>System</b>
	UTD Student & Staff will open the app and select whether they need enhanced access. UTD Student & Staff will then select a destination. UTD Student & staff will then select their mode of transportation. UTD Student & Staff receive directions and estimated time to destination.	1.1 System connects to Google API. 1.2 System prompts UTD Student & Staff for enhanced access.  2.1 System prompts for destination details. 3.1 System prompts for mode of transportation.  4.1 System returns directions and estimated time to destination.
<b>Exception Conditions:</b>	1.1 Google API is offline. 1.2 The address isn't valid.	

**Use Case Description 2:**

Use case name:	Search Vacancy Information.	
Scenario:	Vacancy information for the staff and students in the library.	
Triggering Event:	The UTD Student or Staff member initiates a search for available spaces within the library.	
Brief Description:	Displays vacancy information at the library.	
Actors:	UTD Student and Staff and Library Information System.	
Related use cases:	Display Vacancy Details.	
Stakeholders:	UTD Student and Staff.	
Preconditions:	The library Information system must be online and be connected to the database.	
Postconditions:	Vacancy details must be updated.	
Flow of activities:	Actor	System
	UTD Student & Staff will select the floor number. UTD Stu& Staff will search for vacancy information.	1.1 System will prompt for floor number. 2.1 System returns vacancy details as required.
Exception Conditions:	1.1 Library Information System is offline.	

**Use Case Description 3:**

Use case name:	Search Events.	
Scenario:	Search for upcoming Event information.	
Triggering Event:	The UTD Student & Staff member initiates a search for upcoming events.	
Brief Description:	Displays upcoming Event Information.	
Actors:	UTD Student and Staff and Library Information System.	
Related use cases:	Showcase Event Information.	
Stakeholders:	UTD Student and Staff, UTD Clubs.	
Preconditions:	All the UTD Clubs should update their events.	
Postconditions:	Event details must be updated.	
Flow of activities:	Actor	System
	UTD Student & Staff searches for Events as per their choice. UTD Student & Staff register for the event.	1.1 System will prompt for event name. 2.1 System returns event details and registration information.
Exception Conditions:	UTD Clubs fail to update Event information.	



## Use Case Description 4:

Use case name:	Ask Questions.	
Scenario:	Search for any questions related to the University.	
Triggering Event:	The UTD Student & Staff member initiates a search for his questions related to the University.	
Brief Description:	To provide students with information tailored to their questions.	
Actors:	UTD Student & Staff, Chatbot AI.	
Related use cases:	Display Answers, UTD Database & Information.	
Stakeholders:	UTD Student & Staff.	
Preconditions:	The chatbot AI must be online.	
Postconditions:	The chatbot provides required information.	
Flow of activities:	Actor	System
	UTD Student & Staff will ask a question. UTD Student & Staff can ask follow-up questions for more information.	1.1 System will prompt for a question.  2.1 System will check the database and provide an answer.
Exception Conditions:	UTD Clubs fail to update Event information.	

# WORK BREAKDOWN STRUCTURE

## I. Project Planning (3 days)

- Develop WBS and build schedule (1 day)
- Plan the work (2 days)

## II. Analysis Tasks (8 days)

- Meet with UTD Clubs (2 days)
- Meet with UTD Library Department (1 day)
- Meet with UTD Office of Information Technology (1 day)
- Define required information and request access to UTD database (2 days)
- Request Google API (2 days)

## III. Design Tasks (10 days)

- Design Activity Diagram for the new UTD App (2 days)
- Design Use Case Diagram for the new UTD App (3 days)
- Integrate Google API with UTD App (5 days)

## IV. Development Tasks (40 days)

- Develop front-end of UTD App (20 days)
- Develop back-end of UTD App (20 days)

## V. Deployment Tasks (5 days)

- Deploy UTD App to production environment (3 days)
- Train UTD staff on how to use the new UTD App (2 days)

## VI. Support and Maintenance Tasks (Ongoing)

- Provide support to UTD staff and students using the new UTD App
- Fix any bugs that are found in the new UTD App
- Release new features and updates to the new UTD App

# DATA DICTIONARY

## Use case 1: Search for Directions

User location = [Address | Neighbourhood | City | State | Zip]

Destination = [Address | Neighbourhood | City | State | Zip]

Mode of transport = [Car | Bike | Walk]

Directions = 1{User location + Destination location} + API Directions

Estimated time to destination = 1{User device time + time to destination}

Enhanced access = [Yes | No]

Google API status = {Connected | Disconnected}

Systems prompt = 1{User navigation guidance + User location}

## Use case 2:

Vacancy = vacancy status + room\_number

Room\_number = available Room number

Vacancy\_type = Study Room + Group Study Room + room\_number

Vacancy\_status = [Available | Occupied | Reserved + room\_number]

Start\_time = {Start Time + Room\_number}

End\_time = {End time + Room\_number}

**Use case 3:**

event\_id = id

event\_name = [name + id]

event\_description = {description} + event id

event\_start\_date = {date + event id}

event\_end\_date = {date+ event id}

event\_location = location + event id

event\_organizer = organizer name + event id

event\_registration\_link = link + event id

**Use Case 4:**

Question = {User input}

Answer = {System generated answer}

Confidence\_score = 1{Confidence score}100

Source = {Information repository}

# CLASS DIAGRAM

