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Project Proposal
EventBuzz: Event Matching and Scheduling

Group Members:

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Motivation:

At Georgia Tech, there are numerous events that happen on campus every day and it so happens that most of the people do not know about many of these events in time. For most people, their departmental mailing list is the primary source of information. This is not enough as Tech has a large number of events on a daily basis. Additionally, coping up and scheduling these events becomes difficult, especially due to the amount of workload that we have here at Tech. Take, for example, last week, I missed the Twitter recruiting event on campus because it was on ISYE mailing list and thus, I could not know about it beforehand to plan my schedule. Hence we would like to address this problem by creating a web/android app for the same which would benefit the students at Tech.

Overview:

- **Core idea**

  To create a centralized platform that pulls in data from various sources and displays them to the user on our platform. This alone might not be enough to benefit the end-user, so we incorporate a more personalized experience. Every user has a profile and will add their weekly schedule and interests to the platform. Based on their schedules and interests, we will match them to the events that we will have as part of our database. We will create this data set from a variety of sources that Georgia Tech has and also from events posted on Facebook using the Facebook API. For implementing this, we will use an existing Calendar tool like Google Calendar that integrates data scrapped from various sources. Using such program we aim to solve the problem of actually matching the people with respective events that they would be interested in. The major problem nowadays is that there are too many sources of data and none of them provide any matching to the user based on their interests and it is our endeavour to tackle this problem and provide the students with a one stop solution which will help them schedule and plan their day and be more effective at knowing about events and make full use of the amazing resources Georgia Tech has to offer.

- **Dataset**

  We would like to start with a couple of departments initially (CS and ECE) as a proof of concept and get feedback from the users before extending it to the larger audience. We would scrape the calendar/event web pages of these departments as it will provide a defined format and one-stop-place to get all the information about the events (for e.g. https://www.cc.gatech.edu/calendar). This is save time, which we can use to integrate the data in meaningful manner. Additionally, we plan to use Facebook to gain event data. This will help us estimate the importance, relevance and anticipation of various events.

- **Key features**

  1. Provide efficient data management that allows the user to be matched to the events of their interest. This will reduce the work on the user's part, and provide an efficient matching solution. We plan to build on the existing calendar tools and improve their working and customise them for students.
  2. Use the data integrated from various sources to categorize the events into various categories like academics, entertainment etc. so that students can be matched to events based on their interests.
  3. We also intend to use Google Maps API to pinpoint the location of that particular event on campus so that students can plan which events they want to go to and if they would be able to get there in time if events are back to back.

4. Additionally, we can set a proximity range to these location pinpoints. If the user enters the proximity of the event, they will be notified of ongoing/near-future events.
5. Include social media interaction on the platform. This would let more people know about a particular event and could also help students talk about what to expect at the event and also post event afterthoughts.
6. If time permits, we would also like to provide the students with a route map of their day once they bookmark multiple events on a particular day.
7. If feasible, introduce a point-based reward system: Every event can be assigned some points. The users can collect points and the top few users with maximum points at the end of the month are eligible for some reward (e.g. gift card). This will encourage the users to attend more events and thus, utilize the resources at Tech.

Implementation:

1. **Starting point**

   The software tools that will serve as a base for implementing our web/mobile app are as follows:
   1. **MongoDB**: This will serve as a NoSQL database for the events that we will scrape from multiple websites and also from Facebook using Facebook API.
   2. **Python**: Python scripts to scrape data from websites using the 'requests' package predominantly. The database backend will be written in Python as well.
   3. **User Interface**: We will create a user interface using web technologies like **HTML5, CSS3 with Bootstrap, JavaScript** etc. In case of an Android app we will make use of JAVA and Android Studio.
   4. Incorporate one of the existing **calendar program** (Google Calendar). The engine of this program will be used to provide better connections between users and the events. Additionally, the calendar UI will provide the user, an easy way to get a better idea of their schedule.

2. **Ending point**

   The end goal of the project is to implement a platform that provides an efficient solution to the event searching, matching and scheduling problem. The platform must provide easy access to various events happening at Tech and minimize the efforts on the user's side. The platform will include all the key features mentioned in the overview.

3. **Design, implementation, and evaluation plans**

   The data scraped form the individual departmental events website at Georgia Tech as well as Facebook Events API will be used to populate the database. The events will be organised according to their categories which will enable easy matching and filtering. Use of intermediate mechanism to determine the user preference and match the user to the events of their interest. Using existing calendar tools, we will build and display the user schedule. Additionally, the UI will provide the user easy options to add, view and modify the schedule as well as get notified about interested events.

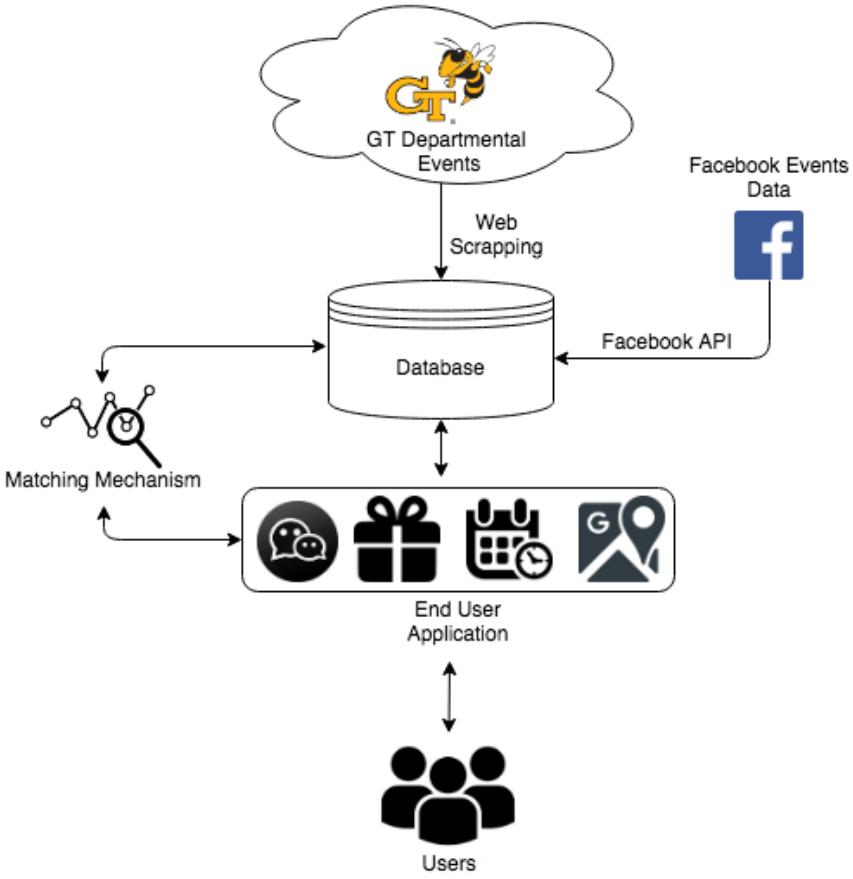

Figure 1 System Architecture

Project Schedule:

Week Number	Task	Remark
1. 09/23 - 09/29	Finalize tools and data sources. Start scraping	
2. 09/30 - 10/06	Scrape event data from websites and from Facebook	Milestone 1: Initial database with data from 2 out of 4 sources.
3. 10/07 - 10/13	Finish data scraping and start matching algorithm (machine learning or otherwise)	
4. 10/14 - 10/20	Work on matching algorithm and connect backend with Dummy UI	Milestone 2: Finalized database and progress on algorithm
5. 10/21 - 10/27	Finalize matching algorithm	
6. 10/28 - 11/03	Start with UI	Milestone 3: Matching algorithm and progress on UI
7. 11/04 - 11/10	Work on User Interface	
8. 11/11 - 11/17	Finalize UI and connect to actual database	Milestone 4: UI and backend connectivity
9. 11/18 - 11/24	Testing and Improvement	