BeaveRun

Part 1: Problem Analysis

<u>**Purpose:**</u> **Take the application you've picked and identify its purposes, namely what the application is for. Your aim is eventually to have a short list of about 3 to 5 purposes, each stated with as much clarity and succinctness as you can muster. You should then place these purposes in a priority order. This is how you will retain control of your development if it threatens to become more complex than you anticipated.**

BeaveRun is an app that helps MIT students take advantage of MIT's fitness resources in a collaborative setting. It is a social platform for connecting with other MIT students to work-out, motivate one another, and build friendships based on healthy habits. The top 4 purposes of the application, in order of importance are:

1. To enable users to post one-time or ongoing physical activities they would like to participate in and issue an open invitation to the MIT community to join them.

2. To maintain user profiles showing their physical activity calendar (with labels for private activates as well as open invites) so their friends can motivate their progress.

3. To provide the perfect location for their new events on MIT's campus.

4. To encourage and maintain user progress.

Note: The application will only allow a certain number of default physical activities to choose from, based on resources available at MIT. Not all sports will be offered, though users will have an option of posting an "Other" activity of their own description. However, the app will not, in that case, provide users will a location.

<u>**Context:**</u> **Consider the context in which your application will operate, and draw a context diagram showing the application and the external agents it interacts with. Document the extent to which you will rely on any properties of these external agents. A software framework (such as Mongoose) is not an external agent, but a web service that you use would be.**
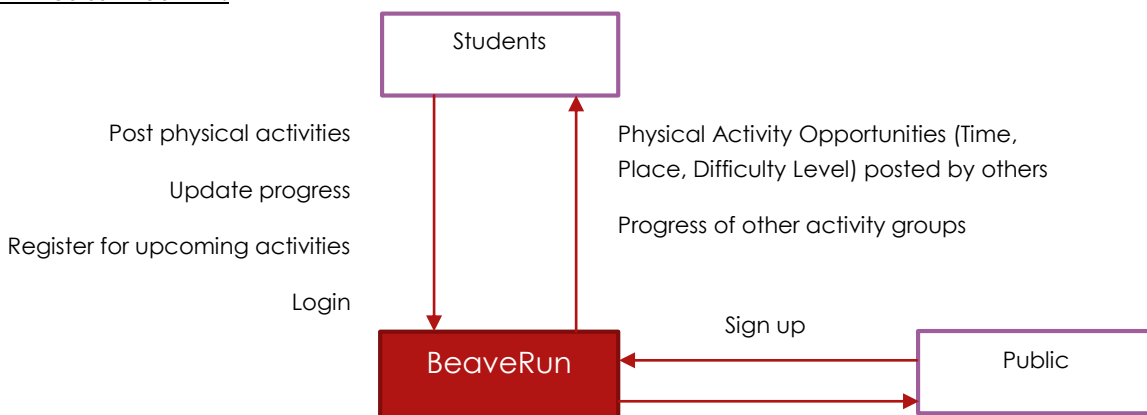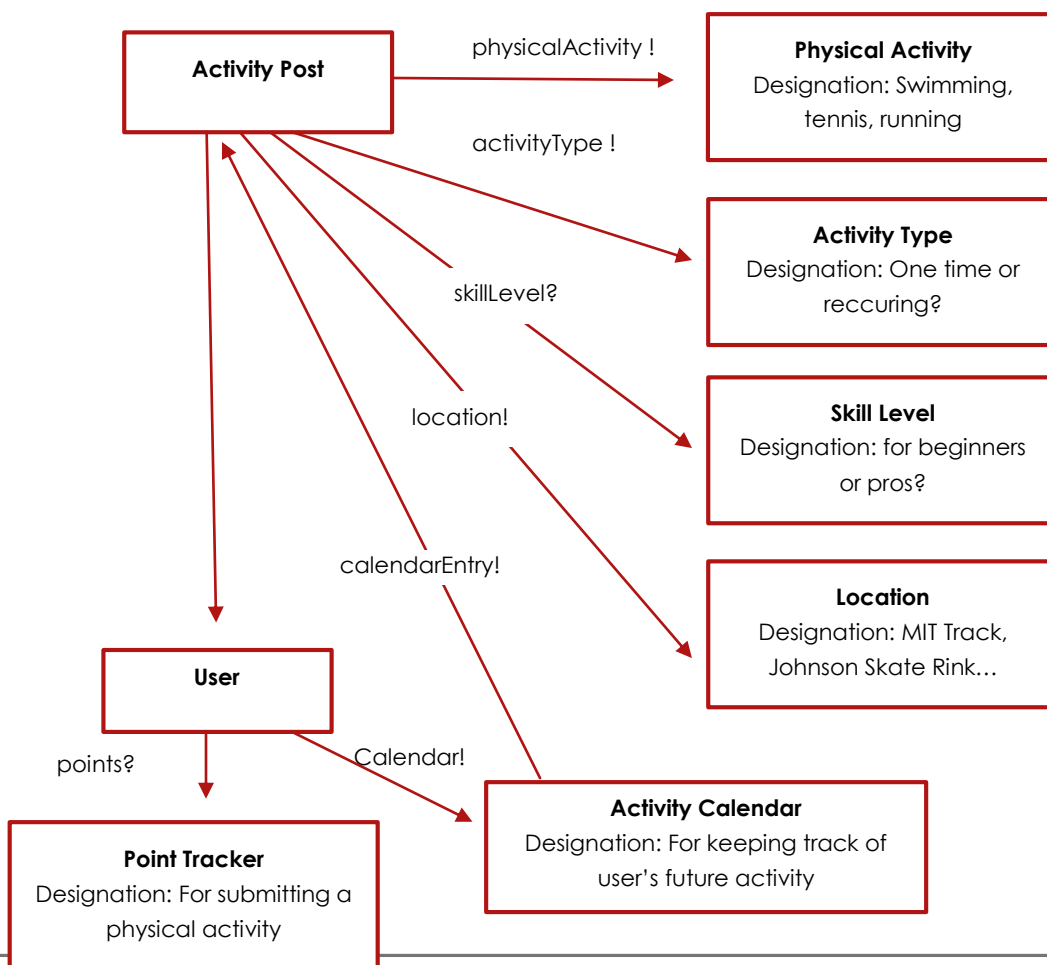
CONCEPTS: DEVELOP A LIST OF KEY CONCEPTS THAT WILL FORM TH
CONCEPT OF WHICH PURPOSE OR PURPOSES MOTIVATE IT, AND EXF

Information about MIT physical activity resources and student life.

A tracker of logged work-out hours by MIT community as promotional material

PURPOSE	CONCEPT
OPEN INVITE TO PHYSICAL ACTIVITY	**ACTIVITY POSTS** AN INTERACTIVE WALL WILL SHOW AVAILABLE ACTIVITIES, TIMES, LEVELS OF DIFFICULTY, AND LOCATION
MAINTAIN USER'S PLANNED ACTIVITY	**USER ACTIVITY CALENDAR** A CALENDAR ON USER'S PROFILE SHOWING EVENTS THAT THE USER IS PARTICIPATING IN WITHIN THE NEXT WEEK
ALLOCATE PERFECT LOCATION	**LOCATION SELECT** WHEN A USER CHOOSES TO MAKE AN ACTIVITY POST, THE APP SHOULD AUTOMATICALLY CHOOSE THE BEST MIT LOCATION FOR THAT ACTIVITY (PRE-PROGRAMMED BASED ON ACTIVITY).
ENCOURAGE USER PROGRESS	**USER ACTIVITY SLIDER** WHEN A USER PERFORMS AN ACTIVITY ON THE CALENDAR AND CHECKS OFF THE ACTIVITY, HIS ACTIVITY SCORE OR SLIDER WILL INCREASE BASED ON PRE-ALLOCATED POINTS FOR THAT ACTIVITY.

Data model: Build a data model that incorporates your concepts, and shows what the essential data elements and relationships are. For any elements that are obscure, provide a very brief "designation" that explains what they mean.

Activity Post

physicalActivity !
activityType !
skillLevel?
location!
calendarEntry!

Physical Activity
Designation: Swimming, tennis, running

Activity Type
Designation: One time or reccuring?

Skill Level
Designation: for beginners or pros?

Location
Designation: MIT Track, Johnson Skate Rink…

User

points?

Calendar!

Point Tracker
Designation: For submitting a physical activity

Activity Calendar
Designation: For keeping track of user's future activity

DELIVERABLES THE CHECKLIST ITEMS REQUIRED ARE: ALL OF THE OVERVIEW, DESIGN MODEL AND CHALLENGES SUBDIVISIONS OF THE DESIGN AREA. THE CHALLENGES OBVIOUSLY NEED ADDRESS ONLY DESIGN CHALLENGES THAT ARISE IN THIS PHASE. GRADING DIRECTIONS ARE NOT REQUIRED.

OVERVIEW

MOTIVATION

BRIEF DESCRIPTION OF SYSTEM TO BE BUILT

BeaveRun is an app that helps MIT students take advantage of MIT's fitness resources in a collaborative setting. It is a social platform for posting your want-to-do activities with information about the activity, location, difficulty level and having other MIT students reach out for participation. It is a way to enforce your work-out habits by means of involving other students, as well as a great way to make friends.

KEY PURPOSES (WHAT PROBLEMS DOES IT SOLVE? WHY SHOULD IT EXIST?)

The actual purposes of the application are listed on page 1. More generally, the vision behind this application is to enforce healthy habits and social interaction – two things MIT students often miss out on.

EACH PURPOSE SUMMARIZED IN A SHORT SENTENCE AND THEN EXPLAINED

See page 1.

DEFICIENCIES OF EXISTING SOLUTIONS (IF RELEVANT)

Currently, MIT offers its facilities to students and offers team sports and physical education classes. However, these are offered on week-days and do not encourage students to work on fitness together outside of class or teams. Many students do not participate in organized team sports, but want a work-out buddy for weekend activities. This app is meant to fill this gap.

CONTEXT DIAGRAM

See page 1.

DESIGN MODEL

CONCEPTS

See page 2.

DATA MODEL DATA MODEL OF APPLICATION STATE

See page 2.

CHALLENGES

Problem	Options	Choice
Selecting the primary purpose of application	1. Encouraging individual fitness and creating a program that caters to the main user	Choice 2: solutions to the first choice already exists. A user for choice 3 would be difficult to find. Choice 2 provides a useful

	2. Social platform for bringing students together for work outs 3. A platform for MIT to organize physical events	application for the student demographic and fulfills the need to have the ability to connect with students for healthy activities.
What is the main interaction that will happen in this app?	1. User updates his/her profile and uses his/her profile to make announcements and had postings delivered to private box 2. User interacts with the public wall and his/her profile gets updated as a result	Choice 2 provides a more interactive feel to the app, making it a more social platform. If the primary method of interaction is user's profile, then the element of the community will be gone. Therefore, the profile will be used as a tracker for the user, but will not be the primary mode of interaction. Most of the interaction should happen on the public page, and by public I mean the page that is visible by all students (not unregistered public)
Should there be a section for unregistered users?	1. Login/signup screen only 2. Informational Screen and login/signup 3. Full interactive site	The website is meant to be a resource for the MIT community. It would a liability for us to connect MIT students with strangers outside of the community. Therefore, option 3 was disregarded. Option 1 is too unwelcoming for students who have not yet registered and prospective students. Therefore, option 2 is used in this document.