Key purpose and social impact

Our project, Blue Pin, serves as a software that aims to enhance the BlueBikes experience for its users to promote sustainable behaviors.

BlueBikes is a great sustainable alternative as a sharing mobility tool. It provides opportunities for more people to take advantage of the public transportation system instead of driving private cars. It provides a solution for the last mile problem in public transportation and encourages effective resource utilization as a sharing platform. However, there is room for improvement. Though BlueBikes brands itself as a sharing tool, it still remains a shy service provider. BlueBikes has provided data visualization of their contribution on their website. But since the data is collected in and represented in a general, rather than personal way, it could be distancing for individual users.

Our project aims to make BlueBikes' impact more tangible, engaging, and personal so more people will opt for this sustainable alternative. Studies have shown that by increasing the actual impact of sustainable behavior of the individuals, it is more likely to encourage sustainable behavior and turn it into a habit. Also, a sense of community would be beneficial to motivate people. Hence, for our Blue Pin project, we will use two primary strategies: gamification and community building.

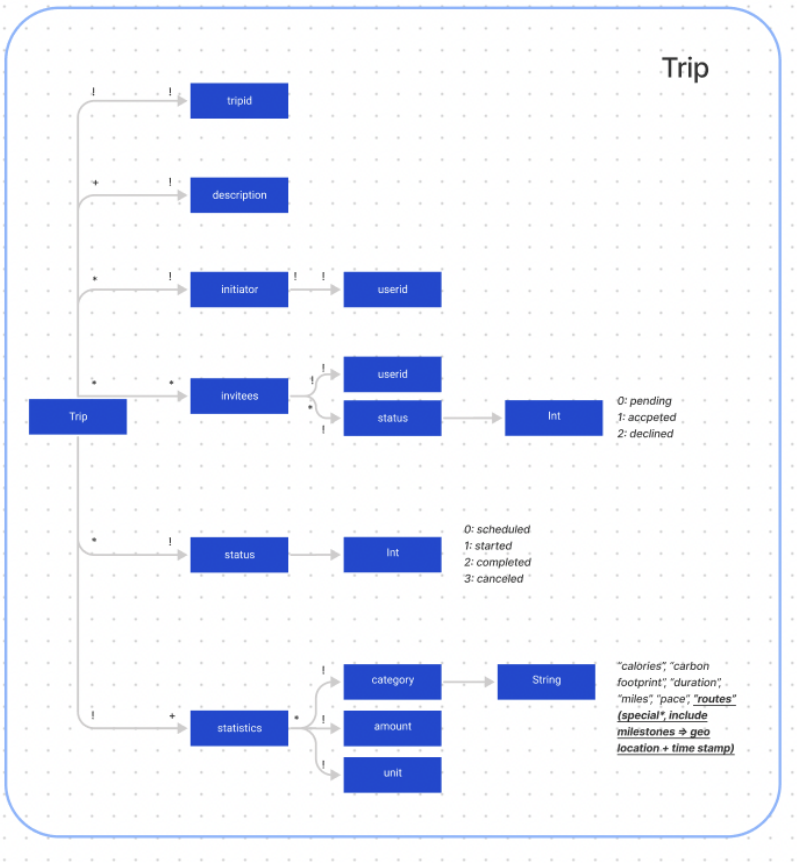
Outline of Key Concepts

An outline of key features of the proposed app. How will this app work?
(the relation name are omitted since most are the same as class name)

1. Trips

Purpose: Turn BlueBike trips taken by a user into event recordings to allow gamification and community building by other features of the app.

State:

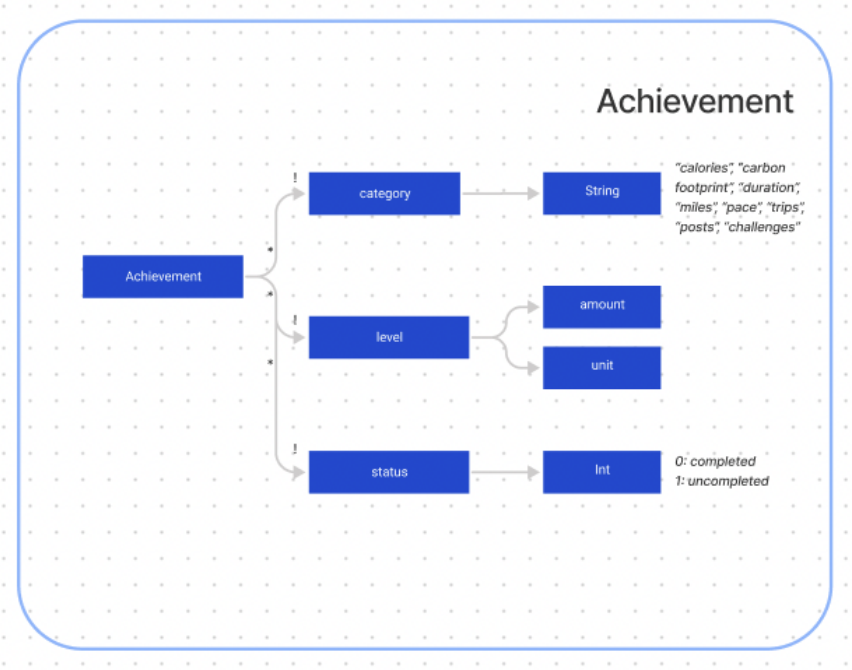


Actions:
start a new trip → initiate(u: User, t: TripId)
add a description of the trip → addDescription(t: TripID, s: String)
invite friends → invite(l: List of UserIds)
Show status → set(i: int)
Record → add(key: int)

Operational Principle:
initiate(u, t); invite(l); set(i); add(k)

2. Achievements

Purpose: Keep track of 'milestones' achieved by the user.
State:



Actions:
Set status of the goal → set(i: int)
Operational Principle:
set(i); → such as when 100 miles of records are reached, set status to completed.

3. Challenges

Purpose: Provide a representation of the progress a user has made for reaching certain milestones or goals that users challenged each other to.
State:

Actions:

Start a challenge → initiate(u: UserId)
Set participants → invite(l: List of UserIds)
setPrompt(s: string)
setGoal(s: string, i: int)
setDate(d: startDate, e: endDate)
setStatus(i: int)
Track ranking → compare(i: int, d: dictionary)

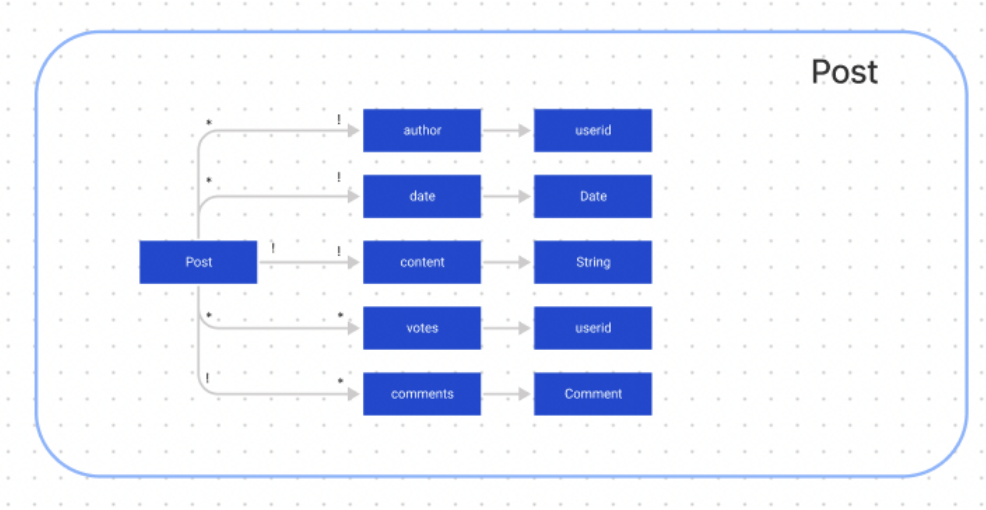
Operational Principle:

initiate(userId); invite(list of friends); setPrompt('Bike with me'); setGoal('Miles', 100); setDate(10-11-2022, 11-11-2022); setStatus(0); compare(100, dictionary of invitees records);

4. Posts

Purpose: Allow sharing of progress and anecdotes to followers on a feed to increase engagement and community building

State:



Actions:

count(i:int)

upvote(i: item, u: userId)

edit(i: item)

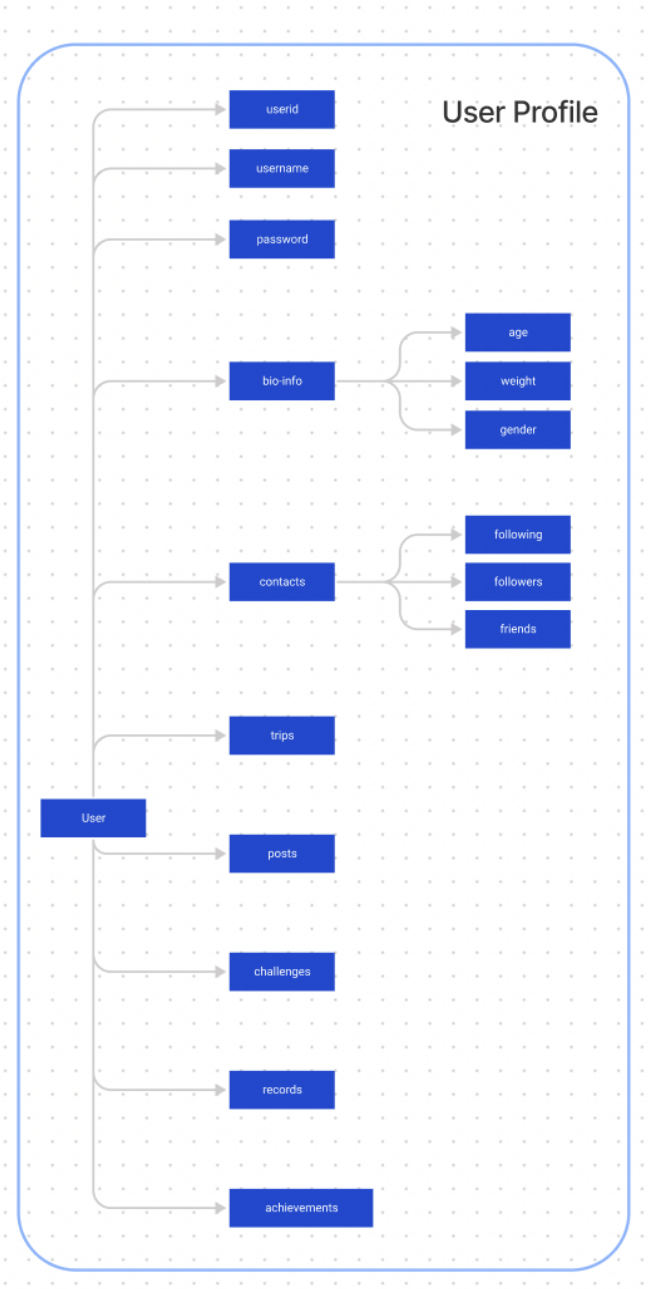
Operational Principle:

edit(postId); upvote(postId, userId); count(i) → when upvoted, count for the item goes up

5. Sign Up

Purpose: Allow the user to create a profile and store important bio-information to be used in other concepts calculations.

State:



Actions:

setUsername(s: String)

setPassword(s: String)

setInfo(s: String, i: int)

Following and followers → arrays

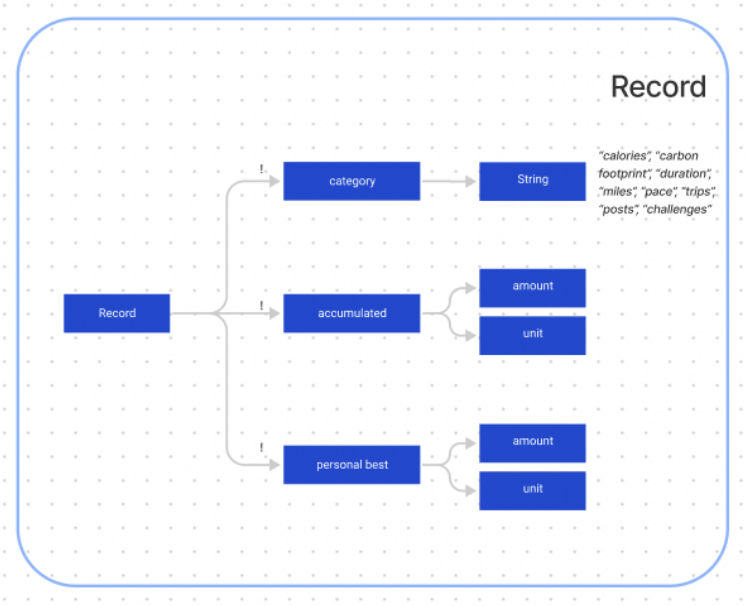
Operational Principle:

setUsername(‘a’); setPassword(‘b’); setInfo(‘Weight’, 125)

6. Records

Purpose: Have a class to keep track of the performance of users including their cumulative statistics and their personal bests.

State:



Actions:

findBest(s: String)

cumulativeSum(s: String)

Operational Principle:

findBest('Calories'); → compares values under matching string category to find highest

cumulativeSum('Distance'); → sums values under matching string category for cumulative total

why the project will involve interesting and substantive conceptual design work

1) in what ways is the app more than just CRUD

First, our project plans to incorporate visualization of BlueBikes users' cumulative progress. This can increase the data tangibility of the software and convey more than simple functionality or data records to the users. Second, Our project aims to achieve event hosting and community building. That is, we hope to encourage engagement within the BlueBikes user community.

2) how does it involve at least one concept that is not already widely used

Our project aims to bring an innovative idea of bridging social media platforms and bike-sharing platforms. By doing so, we hope to encourage sustainable habit build-up among local communities. The ideas of progress tracking and resource sharing platform have been widely used for several years. However, binding them into a social media platform so that progress can be shared and sustainable behaviors can be promoted within the users' own community still remains relatively new. We hope to incorporate this kind of tangibility and engagement in the form of gamification. At the same time, we could also come up with something unique and specific to the BlueBikes users, since it has geographical locations for users which may enable us to build a more grounded community experience.

3) particular design challenges and why

First, we have some concerns about engagement and the learning curve for new app users. There will be a number of gamification concepts in our design and users may need some time to get familiar with all of them. Over time, the user stickiness of this kind of software is also questionable. It would be challenging to make it simple enough in the user journey map while being engaging enough so that users will stay.

Second, data visualization based on user-generated data could be a challenge. It is currently unclear how much data is needed and how we can acquire it for the software to function as we desire. We also need to consider the possible ways and forms to visualize the data. We would also want to maintain consistency in the app while giving a sense of personalization. That is, we hope the users would think of our app as a mystery box that comes with a certain degree of expectancy and also surprises. Last but not least, we also want to ensure data security and privacy for the users of the software.