

Here are general comments that apply to many of the ideas that people have suggested in past offerings of this course. These are themes we see over and over. You don't want to do the same things everyone else has already done (or run into the same hurdles), so please read these tips carefully and try to account for them in your own ideas.

- Many project ideas have tens or even hundreds of competitor apps already, and it was not possible to differentiate the proposed app from the crowd. That is not a strong starting point. Just from the app description the reader should feel as though s/he wants to try the app and that it has something special.
- Stating your app is “fun” or “the best” in a description is not convincing. In fact, it reduces credibility. Saying you are the “the first” is especially not helpful, because people won't care about that if there is a better alternative. Don't tell us what you want us to think about your app. Rather, demonstrate what your app does in a way that will lead us to the conclusion you want us to draw.
- Please pick one project category and do it well. Some people selected multiple categories and tried to combine them into one app idea, but it is unlikely you can hit more than one at once and do the idea justice. Remember, good apps do a small number of things exceedingly well. We are not looking for a Swiss Army Knife approach.
- The categories that deal with physical activity generally (e.g., the “Get Moving” category used in the past) should target people who are couch potatoes, not people who are already athletes. Many of the app ideas people have proposed in the past would only attract people who are already runners – but then they aren't going to solve the target problem (sedentary behavior in general population).
- The Exergame category, if that is an option this year, should get someone sweating. It should be intense exercise for an extended period of time. If you have seen people play Dance Dance Revolution and sweat like crazy ... that is what you are going for – intense physical activity that is sustained for long periods of time because the game is so engaging.
- Too many ideas that students propose are too much like standard fitness tracker applications. There are a few good ones and many bad ones, but even the good ones are not that fun to use and most people just use them for short periods of time before they abandon them. You want to design something that does not have that problem. This requires an innovative approach.
- If your idea involves using GPS to show the city map around someone's current location, then you should really think about ways to make the game more interesting by exploiting the real-world city as well. This is not always possible, but in some ideas it is.
- For those targeting categories like “Get Moving,” ask yourself and honestly answer this question: Will your app be so engaging that it will get people out of the chair to start walking/running? Is it THAT good? (It better be really good!) Or is it going to be an add-on for when people are walking/running already? Most ideas proposed tend to be the latter, which historically in the class has not been addressing the problem the “Get Moving” category targeted.
- Avoid language like this in your descriptions: “unique and fun way”. It's great to say this, but I (and your downloaders) won't believe it until they see why. Saying it does not make it true!

PROVE it by clearly describing a creative idea/design that obviously has the potential to be innovative and engaging.

- Remember that most people in the U.S. use cars as their main mode of transport. Also remember that when most people go for walks for exercise, they will be somewhere where they may have limited choices about where to go (e.g., they may be walking in a mall, walking on a path through the woods, etc.). Your app will have a much more limited audience if you assume everyone lives in downtown Boston. Most parts of the U.S. don't look like Boston. Always ask yourself who the app audience is, and if you have artificially limited it or made assumptions that will confuse people if they live where you don't expect them (e.g., a small farm in Iowa).
- Specify the age of your target users. It is difficult to create an app that will be equally appealing for young children, teens, college students, and older adults. Pick one group and design for them and do it well. Don't design a spork. Don't know what a spork is? Look it up.
- If your target users are children, be precise about your target age. Children who are 4, 6, 8, and 10 are all quite different from each other.
- Virtual characters (e.g., tomagochi) are popular to propose but *very* difficult to pull off. The apps are too dependent on cuteness and not dependent enough on gameplay that people actually want to do. Unless you are an artist and really good at making incredibly cute characters, you should be wary of these ideas for a class project app. Also, keep in mind that these virtual creatures might be fun for a few days, but the novelty can wear off fast. It can become a responsibility/burden rather than an app that solves a real problem and reduces burden.
- Don't just tack real-world behaviors on to games where it doesn't actually improve the game! You don't want to "force" someone to do a physical activity if the game is better played by pushing buttons. DDR would not be the same if you were pushing buttons to control a character – the physical movement is an integral part of the game experience. That is what you are going for. Don't just add activity onto a game that can be normally played without it – who's going to want to do that?
- The reason that people don't run/walk is usually not because those activities are "boring," and giving people a game isn't going to lead them to do it. What are the REAL barriers to running/walking? (e.g., hint: lack of free time, "better" and easier things to do).
- It's not uncommon to see ideas that rely on something like this: "Given his age, weight and sex that will be entered before the game actually starts, the app will recommend how many miles he needs to run every day." This accurate recommendation is extremely difficult to do well. Instead, consider keeping the user in control. Students commonly propose app ideas that require the app to infer/guess at things that would be difficult for the app to do well. So don't do it. Let the user do it. Have the app do what it can do well!
- For a game that runs when someone does something in real life, it probably needs to be running all the time and use sensing in some credible way to determine when it must prompt the individual. People are unlikely to remember to proactively use the app if they are already really busy doing something and cognitively or physical distracted.

- Just mixing two games doesn't necessarily make them better. (E.g., it could make game play harder, therefore making the game less fun) You need to articulate exactly why one game captures properties the other does not, and why combining them creates a better experience.
- Location-based apps that use real-time positioning and must run for long periods of time are difficult to test. Keep that in mind if you pick them, because if you can't test them well, then when we test them, we are more likely to encounter bugs. Robustness is critical for the final project.
- Don't underestimate the difficulty of dealing with noisy sensing. (E.g. in physical movement, if you are using GPS, you would need reasonable distances before you will be sure someone has moved in a particular direction.) Location games MUST deal with noise in the sensing. Ideas are often proposed that require knowing location very accurately, but that will not be possible with Android.
- Remember that even though people say they want to be healthy, many people will take very little action to make sure that this is true, even something you might say would be extremely easy. People need incentivizing.
- This point is above, but it's so important it's good to have twice in this list. Avoid saying this: "Super easy to use," or something similar. Describe why it is easy rather than telling us it is easy. Let us infer that it is easy from the design.
- Using a new sensor might seem innovative to YOU, but unless it provides an obvious benefit to the user, the user might not see it that way versus some other app. Just because you use sensing doesn't mean your app is better than a competitor.
- Using "???" or "!!" does not increase your credibility. Typos also reduce it. Well written English is your friend in describing your app idea.
- An app that tells people something they already know (e.g., it's loud, cold, etc.) isn't going to be of much real help. Your app must help people do something that they can't do without the app!
- Does this sound like something that someone would do for fun or as punishment: "*encourages* sedentary adults to walk by *making* them play a word game" I've added the emphasis. Yikes! Entice, don't prod.
- Forgetting is a big deal, even for people who are highly motivated. How can you help people not forget without being burdensome? On the other hand, students frequently propose ideas such as apps that will "remind someone when they should go to the gym." That's not realistic. It's quite unlikely that someone isn't at the gym simply because they forgot to go!
- Apps have no way to determine precise indoor movement and location from sensing. Only being outdoors for longer distances can you get that from phone sensors, and even then it will be noisy data. Apps might be able to get a gist of where someone is when inside (e.g., room in their house) using the phone's radios as sensors, but this will be quite noisy. Imagine the phone only knows where someone is with 70% accuracy and design around that limitation.
- When you write a project description, would it be in a suitable format for posting on the Play Store to advertise the app? Clearly, succinctly describing your app with proper English is important to get people to try it, and a good description of the concept might also make a good app store description of the concept.

- People are more busy than “lazy.” Don’t assume people are lazy, as many students often write to justify their ideas.
- Do a small number of things very well and in an innovative way in your app. Students tend to propose ideas that throw in too many features but yet do not focus enough on what is innovative and excellent that will distinguish the app.
- The fundamental problem/disincentive with much physical activity (e.g., running) isn’t that it is boring, but rather that it is hard and time consuming! Make sure you consider the real reasons people aren’t doing what you’d like them to do when thinking about innovative app solutions. Make realistic assumptions about people and their motivations.
- In any proposal for a game-like app, tuning the app so you get the right balance between challenge and reward, as all great games do. You need a plan for how that balance is automated as someone acquires skill.
- Someone once wrote, “The app does not make assumptions about the person playing. He may be a student, employee or older adult.” Targeting to a particular audience is usually a good thing in user interface design.
- If you find that in your app description you have written “requiring,” step back and think again. People can always circumvent this ... by cheating or, more likely, just using another app that doesn’t have that requirement. Your app should pull people into doing what you want them to do, not require it as an add-on to something that people really want to do. A game that “requires” jumping, for instance, but that can be circumvented by just moving the phone like jumping, will not require anything.
- Be realistic about user behavior. Young children are not going to be out walking for 1-2 miles by themselves. They are going to stay in the home or in the yard. Older children might go out on their own, but they will have other constraints.