Surf the High C's - Conceptual Sketch

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The conceptual sketch is an outline of the conceptual design of your app. It should be short (one to three pages in length), and should cover:

- What problem the project addresses and why it matters
    - One problem that is prevalent at MIT but not discussed too often is food insecurity. In a recent survey that MIT conducted, around 13 percent of undergraduates experience food insecurity. The institution recently rolled out a new dining plan and program to help address this issue. The new dining plans allow students to have the standard set number of meals a week (of which there are two options: 14 or 19), but also purchase a large, running set of meals that can distributed however they would like over an entire semester (of which there are three options: 125, 190, or 260). For the weekly meal plan, students can only use guest swipes to swipe friends in for meals. For the semester meal plans, students have no restrictions on guest swiping, their standard swipes can be used for anything. This is a huge difference because before this year, students only had 6 guest swipes.
    - In the wake of this study conducted at MIT, the institute rolled out a program called "Swipe Share" which allows students who experience food insecurity to anonymously gain 3 extra meals a semester from students who are looking to give away some of their guest passes, all through an online form. The issue we found is, most students who experience food insecurity need a lot more than an additional 3 meals a semester, and given that students often do not use their allocated number of swipes, students with semester-distributed meal plans will likely have a large surplus of meals to hand out week to week! We believe our web app does a better job of addressing food insecurity at MIT, and is within the bounds of how meal plans and guest swiping is designed to work.
- How the app will work, expressed in terms of some key concepts and their structure and behavior
    - The app will allow a user to sign up either as a meal donor or a meal receiver, with the flexibility to switch. Meal donors can select their meal plan (either weekly plan, or block semester plan). If a donor has a block semester plan, they will have a planner feature that, according to personal selections, will estimate how many 'donatable' swipes a user has. Meal receivers have an option to remain anonymous. Once registered, donors and receivers will be matched and the meal donation will occur in two possible ways:

        - 1. If the meal receiver did not input anonymity as their option, the two students will be shown each other names and they will be able to coordinate to meet at a specific time in a specific location. The swipe donor will simply 'swipe the receiver in,' and the two will enter the dining hall and enjoy their meal.
        - 2. If the meal receiver did input anonymity as their option, the two students will be paired up anonymously and will simply receive notification regarding whether they donated or received a meal. Once this happens, depending on an eventual agreement with MIT Dining and Suzy Nelson, we will charge the donator's account with a meal swipe, and allow the receiver to simply swipe themself into any dining hall directly from their account. If discussions with MIT are not fruitful, we can simulate this in sql databases.
        - Alternatively, we might adopt a time-slot scheduling feature instead of connecting the students and having them coordinate, which might increase the effort and reduce the incentive of donors to donate.
    - Additional Features:
        - priority for people who are in most need I'm gonna download now
        - level of social interactions wanted (just want to be swiped in and eat alone, or want to chat with donor/recipient to smooth the experience)
    - Note:
        - We are considering the option of anonymity as we foresee there being an issue with students in need potentially wanting to remain anonymous, however it would be not possible to maintain complete anonymity in the case that we are not allowed to integrate with MIT infrastructure, as swiping in someone as a guest requires the presence of both the donor and receiver at the cash register of the dining hall.
- Why the problem isn't trivial to solve (e.g. what your app will do beyond CRUD)
    - There will be much more than just CRUD operations, with actions and features ranging from matching users up according to their anonymity options, authenticating MIT students, creating a planner for block semester students, making a selecting algorithm for students who are most in need based on their account information and on previous meal-receiving history, etc.