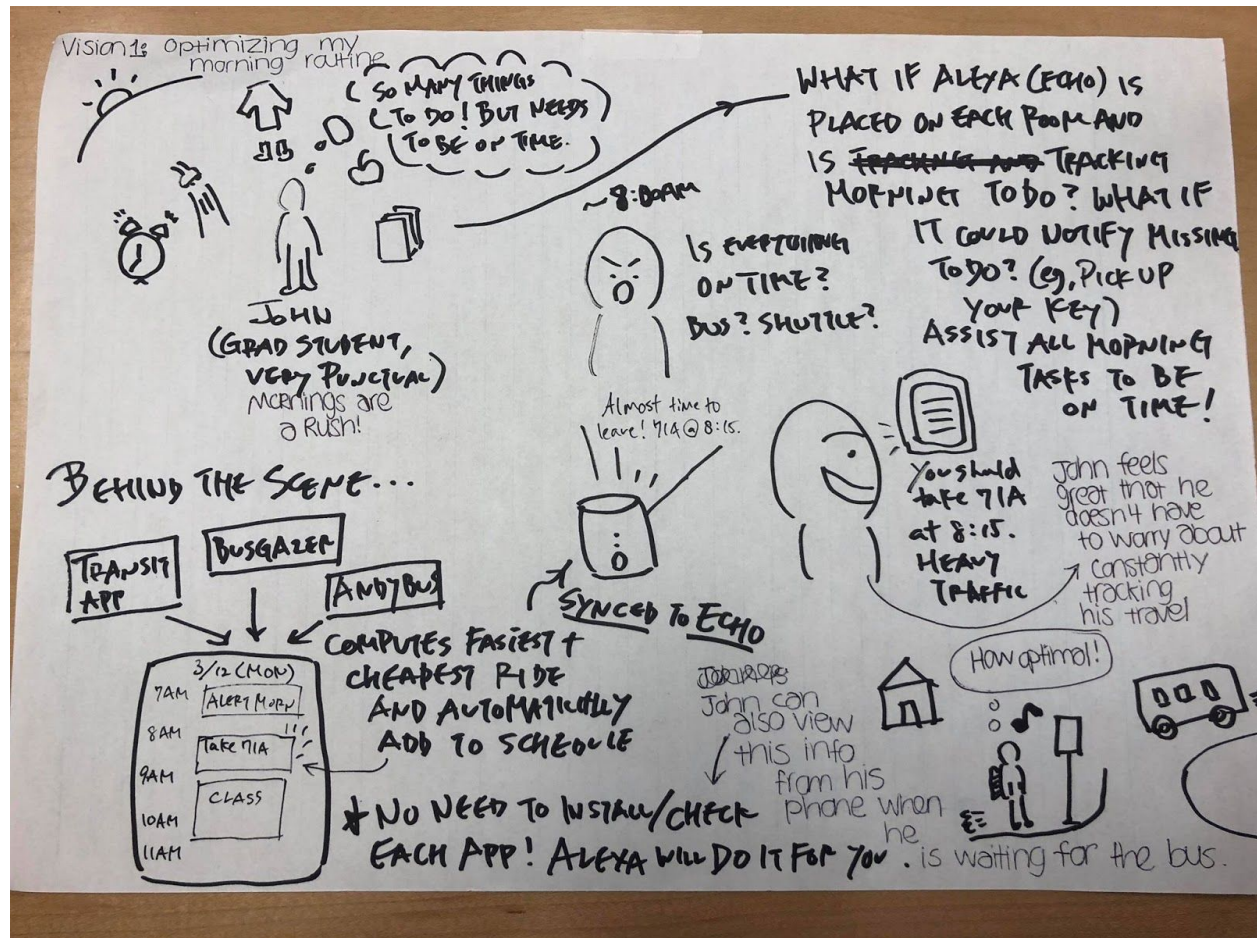
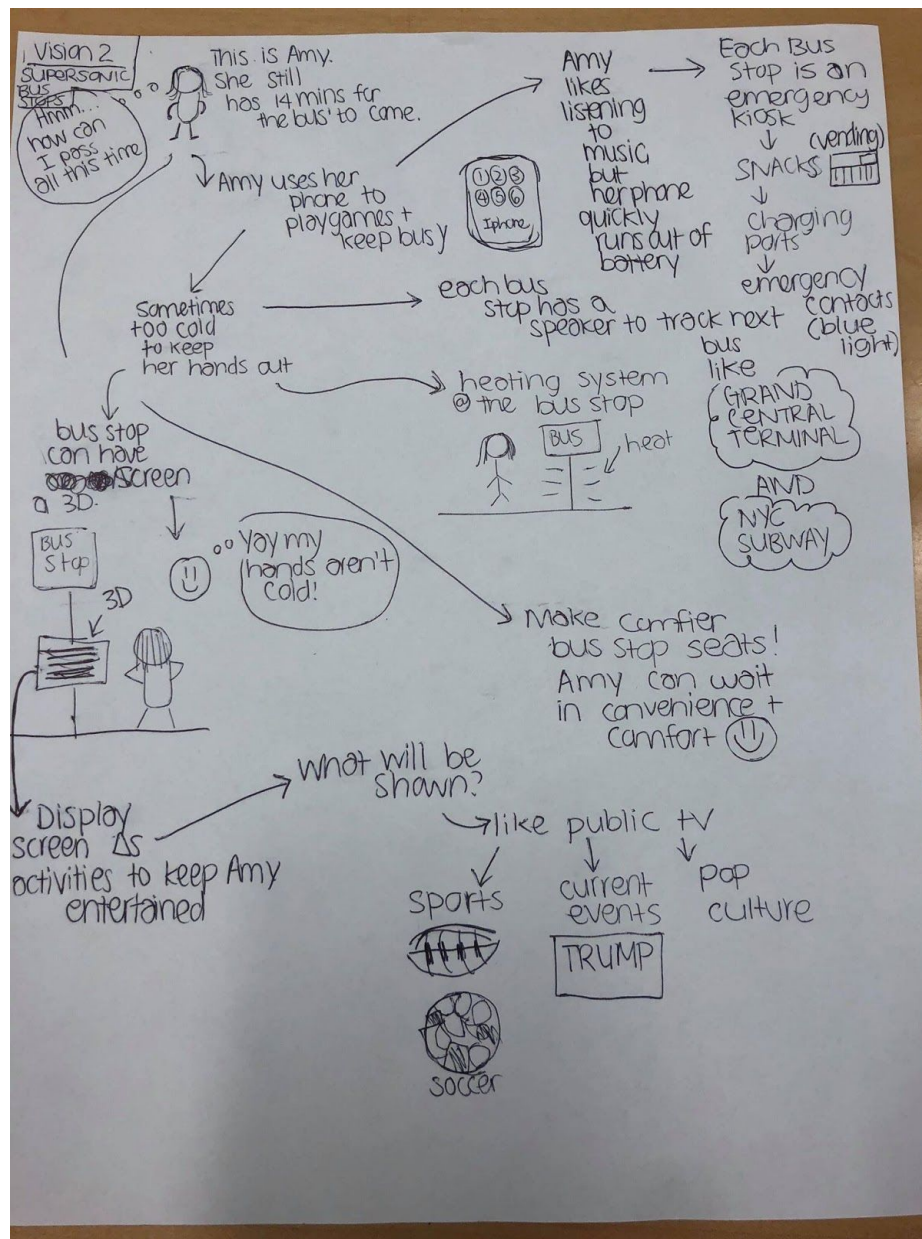


Vision 1: Optimizing My Morning Routine



Themes	Getting to morning commitments on time is difficult, using the morning transport can be really crowded and not necessarily efficient, there is current technology that can be synced up to our schedules and live data.
+	<ul style="list-style-type: none"> - Cost effective - Consolidation: users don't have to worry as much about scheduling, looking at different applications, and inaccurate information - Optimized: Users will be provided with the information so that they can make the best decision (bus vs. shuttle vs. walking) - Use of current technology
-	<ul style="list-style-type: none"> - Not helpful for users that just have one option. Users who only use the bus already have an app that they can use. - Might suggest an option that's inconvenient (ex: a new/unfamiliar route) - Might be hard to merge different technologies - Users might only have access to the bus, so consolidation of information might not be that helpful
?	<ol style="list-style-type: none"> 1. Is there a way to favorite routes that users are more comfortable with? 2. How does the optimal route differ between users? (some might want to save time, others might want to be in a less crowded bus)

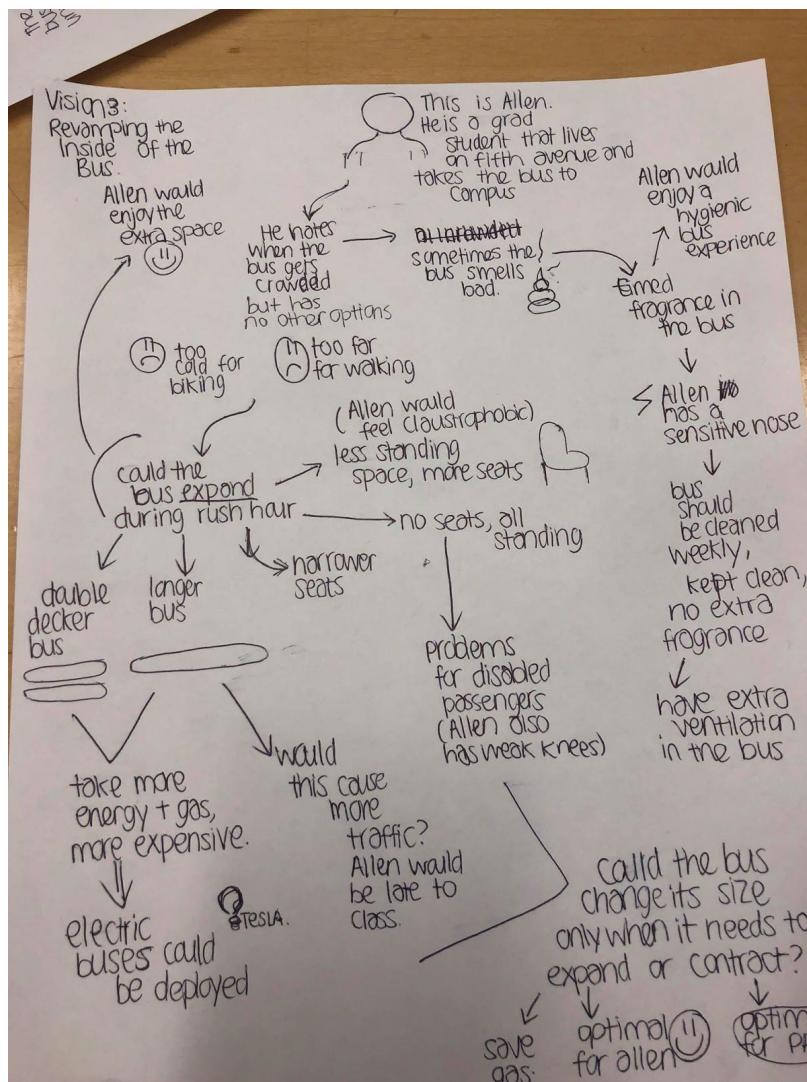
Vision 2: Bus Kiosks



Themes	Waiting for the bus can be hassle, especially when it is really cold outside. It can also be very boring just waiting for the bus. Turning the bus stop into a functional kiosk can mitigate the stress of waiting and using Port Authority buses. The kiosk would have features that are vital to feeling safe and comfortable (heater, entertainment, charging station) to minimize the annoyance of waiting.
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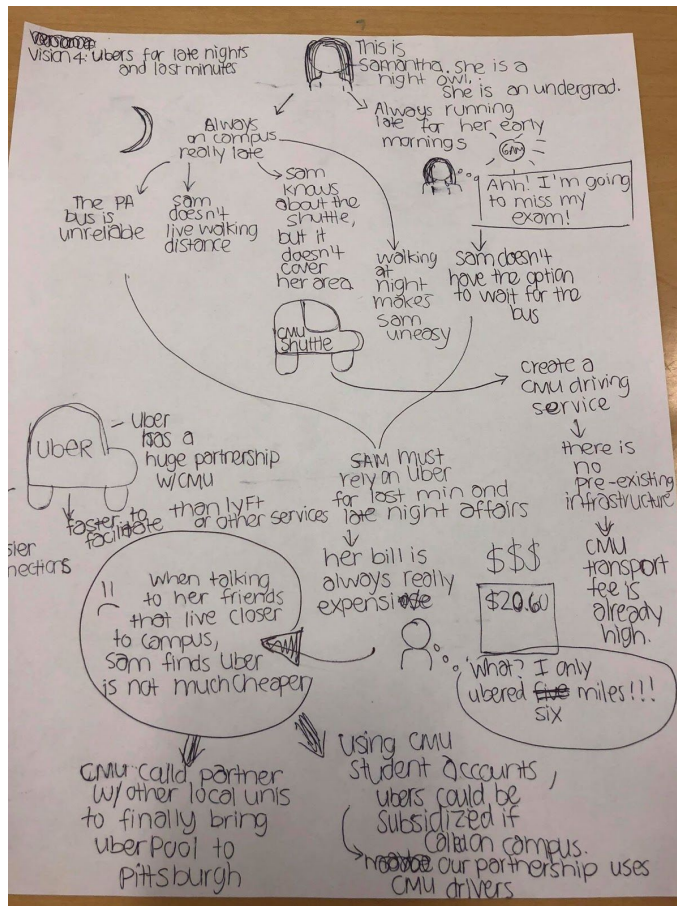
+	<ul style="list-style-type: none"> - Can keep users warm when they wait in the cold - Can keep users informed about when the next bus is coming - Can keep users entertained - Users won't mind waiting for the bus as much (might come earlier to the bus, missing the bus won't be as bad) - Helps the users feel safe during late nights
-	<ul style="list-style-type: none"> - Expensive to add all the kiosks and heating system - Some bus stops might be too small to have these features - Difficult to cater to a large number of users at the same time - People who are not waiting for the bus might loiter at the stops
?	<ol style="list-style-type: none"> 1. Would CMU pay for building these kiosks or would it be a city of Pittsburgh project? 2. How are we ensuring that our technology is staying up to date with our users (new interactions and necessities)?

Vision 3: Revamping the Inside of Buses



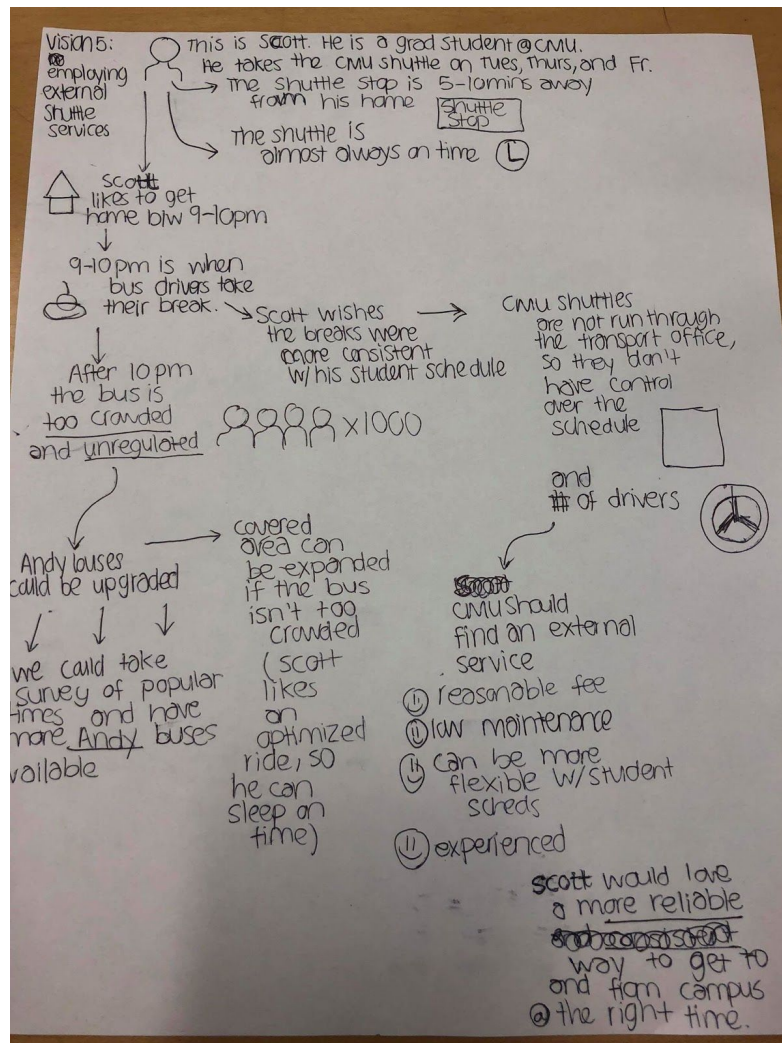
Themes	The bus can be really crowded and dirty. We are unsure how often the buses are cleaned.
+	<ul style="list-style-type: none"> Users would be more comfortable and enjoy the space Overall more pleasant experience
-	<ul style="list-style-type: none"> Larger busses would take up more space and could cause more traffic Larger busses are more expensive (require more gas)
?	<ul style="list-style-type: none"> Would the city of Pittsburgh allow for double deckers? How would we track the expansion and contraction of the bus? Do we need to employ technology for this?

Vision 4: Subsidized Ubers for Late Nights and Last Minutes



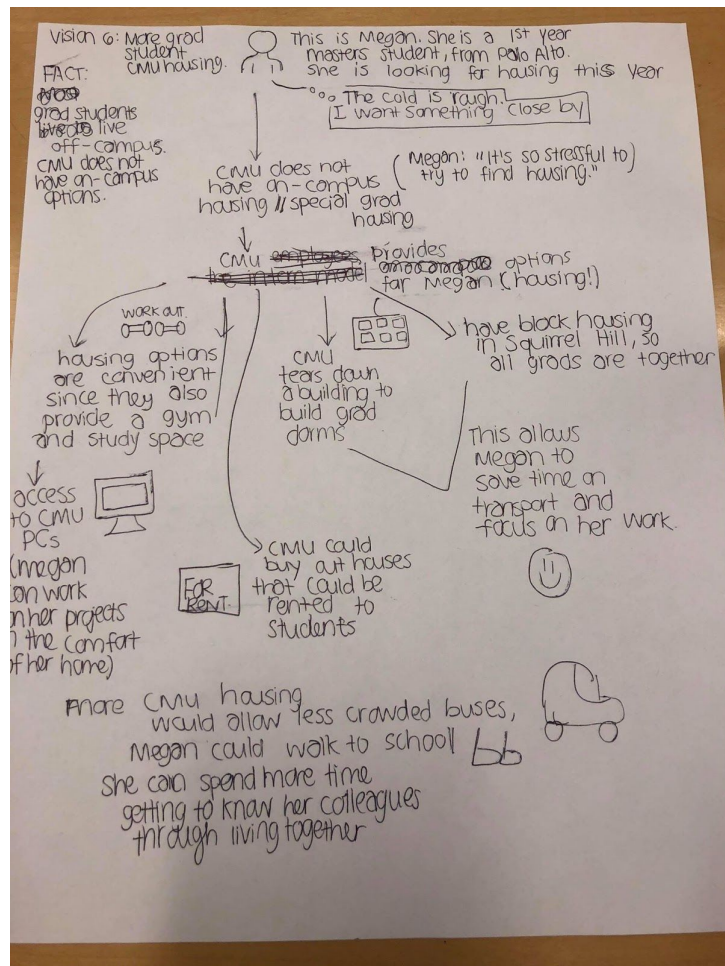
Themes	Uber currently does not support pooling service, but apparently it has a lot of demands around CMU (and most likely other universities as well). This idea is to subsidize the pooling service in collaboration with Uber using CMU student accounts.
+	<ul style="list-style-type: none"> - Use our current partnership with Uber and strengthen it - Technology already adopted - Could be a very convenient option for students (fast, comfortable, exact pick up and drop off) - Not susceptible to cuts, delays, etc.
-	<ul style="list-style-type: none"> - Expensive (depending on how much is subsidized) for CMU - Still might be expensive for some students - Might not be enough Uber drivers to accommodate the demand - Traffic
?	<ul style="list-style-type: none"> - How can it be collaborated with other universities in Pittsburgh to make it happen? - How will the subsidy be a paid for (students pay a discount per ride vs. part of our tuition)?

Vision 5: Employing External Shuttle Services



Themes	The current shuttle is manned by the police department at CMU and they have less control over maintenance and the current schedule, although the service is fairly reliable.
+	<ul style="list-style-type: none"> - The area of coverage would be expanded - More students would have access to the shuttle - Maintenance could also be covered by an external service - Cost effective - Don't need to acquire more drivers
-	<ul style="list-style-type: none"> - Might take long to employ external help - Current drivers would need to be reassigned to new jobs - Student schedules would need to be merged with external service schedule
?	<ul style="list-style-type: none"> - How would we brand external services to fit with CMU Transportation? - Would we need to create new apps to track these external buses/buy new software?

Vision 6: More Grad Student CMU-owned Housing



Themes

CMU graduate students have hard time finding housing close to campus, and some of them end

	<p>up living far from the campus which is outside of the shuttle zones. The CMU-owned housing provides the combined housing and transportation service so that the students can take full advantage of the CMU transportation service.</p>
+	<ul style="list-style-type: none"> - Reduce the stress of having to find housing as a graduate student - Students would not have to worry about transportation - Students spend less time on transportation - Allows all grad students to be able to collaborate and get to know their colleagues better - Easy access to facilities like a gym, study spaces - Reduce crowding on buses
-	<ul style="list-style-type: none"> - May be more expensive than current grad options - Expensive for CMU (buying housing / building new ones) - Some students might not want to live near campus - There may be no need to revamp transportation if students live close to walking distance
?	<ol style="list-style-type: none"> 1. How much of the city limits can be owned by CMU? 2. How expensive would the housing be?