1. Who is the customer?
   1. Clemson Makerspace as an organization
   2. Interns stationed in the space
   3. Interns collecting data from the system
   4. Students using the space
2. What are their needs/problem/opportunity?
   1. Need easy access to student usage data for financial pitches
      1. Location data
      2. Machine use data
      3. Time spent in the space
      4. Student major
   2. Need to view signed in students credentials easily, IE certified to use a machine
   3. Need an easy to use, manage, and update system
3. What is the most important customer benefit?
   1. Safety of the space
   2. Access to data relevant to finance
   3. Efficiency system able to handle high student turnover rates
   4. They need the new system to be scalable, as they are planning on adding more locations, machines (and their certifications), users etc. (robust)
4. How do you know what customers need or what?
5. What does the customer experience look like? **What will customer experience look like\* make it visual, like whiteboard sketches of dashboard**
   1. Most important customer benefit is one of these things in the solution
   2. Sketches should follow our knowledge of project, so right now not super detailed

[Heading]AWS Capstone Makerspace System

[Sub-heading] *An all-in-one system to ensure safety, scalability, and valuable machine information for the Clemson Makerspace*

[1] We are working with the Clemson Makerspace - an organization which aims to provide technology which is otherwise too expensive for an individual to afford, and makes it free to use for Clemson students. This ranges from handheld tools to 3D printers and laser cutters. They have a board of six executives and ten interns who work to maintain the safety, efficiency, and funding of the makerspace in a maintainable state. However, the current system that the Makerspace uses causes issues when it comes to easily-accessible information.

[2] The process for Makerspace funding involves giving a funding proposal pitch to the I.T. Student Association Board at Clemson, and to provide enough information for a successful pitch, they need to access the data which they collect. This is made difficult for them because the current system has no easy way to access the information that they are requesting. Users have to manually input SQL queries into a terminal window which is confusing to anyone who does not have regular SQL experience. They also have data spread out across four different systems including their SQL database, an online 3rd party reservation system SuperSaaS, plugin data from their 3D printers with OctoPrint, and Canvas general student data. Each of these systems tracks different statistics that are all crucial to either getting important funding statistics or safety information. The Makerspace needs a more centralized system that is easy to use, update, and access information through. In turn, the space will become more efficient, and their funding proposals will have better data that will make a stronger case for their budget requests.

[3] The Makerspace wants to have the ability to expand, which includes the ability to purchase new machines and acquire new locations on campus. Without the proper funding, they are unable to achieve either of these, nor will they be able to maintain the current spaces, since they need to purchase the materials needed to keep the machines running. The idea of our solution is to incorporate all of the systems they currently use into one, which will make it easier for them to check user credentials and important data so that they can get their funding, as well as including the ability to support new additions to the space by adding new machines or locations.

[4] After initial meetings with the Makerspace Executive Board members and various Makerspace interns, we learned of many different pain points these individuals feel with their current system. While these pain points covered a wide array of issues, we were able to find common themes between all of them. These pain points ultimately boil down to the need of a better system that is easier to use, more organized, and scalable. This system also needs to maintain the safety of the space, and allow for easy access to various data that can be used for funding requests. We believe that if we are able to accomplish this, then almost all of the customer’s main pain points will be resolved.

[5]