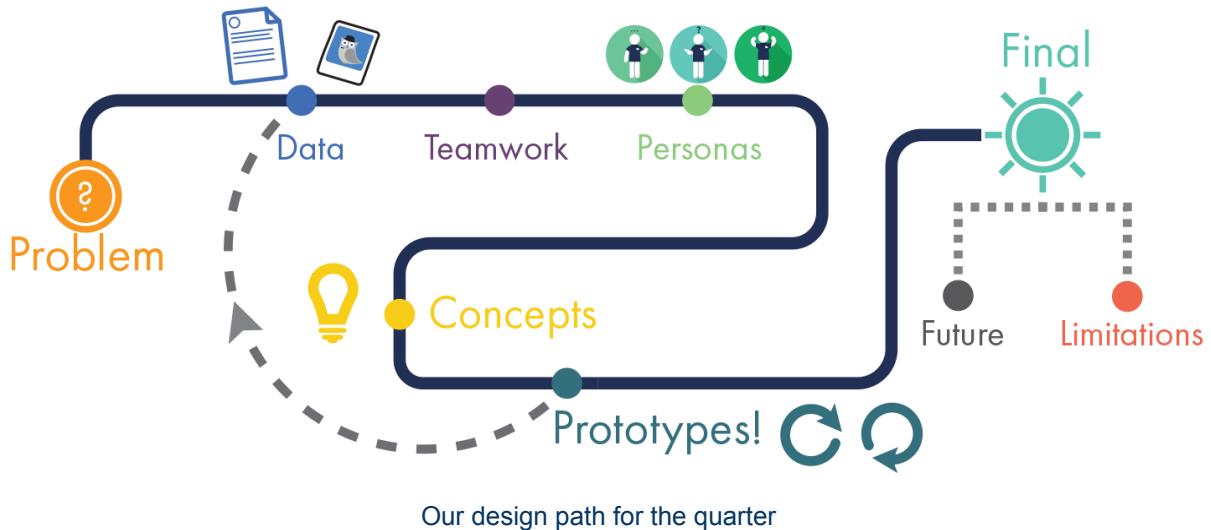


# The Ginyu Force Design Brief



## Our Problem Space

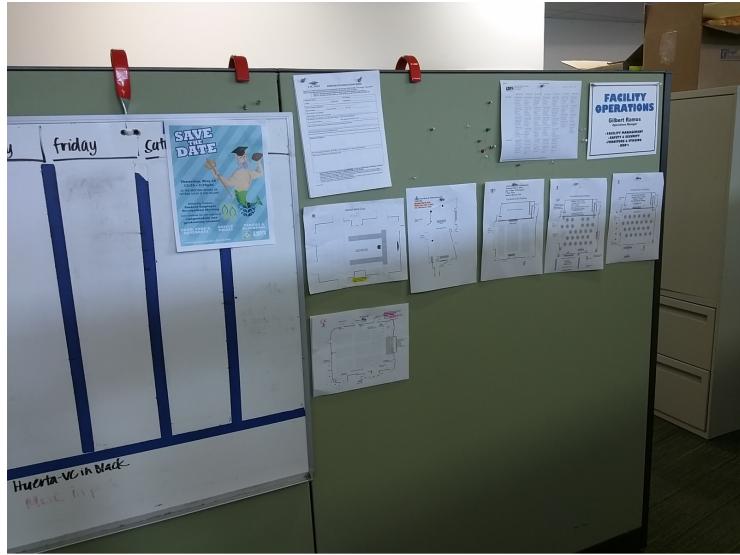
After we collected our initial data we consolidated our findings and concluded that the main problems in the House Manager department consisted of lack of communication and incentive to work. Many of us being House Managers ourselves, we were able to use our own experiences at work as a guide or starting point. To narrow down the problems, we each made a list of potential problems at work. After writing them all down, we all voted on the three problems that seemed the biggest. Going through this process, along with interviews and observation, we decided to solve the problem of lack of communication between workers and the supervisors and communication between the shifts.

Being a House Manager is seen as a laid back job that is not as time consuming as other on campus jobs may be. However, the mishaps that occur on the job can be big but usually occur due to small reasons. Our own boss has stated that employees do a good job for the most part, but lack of communication causes many small problems

that pile up. After many prototypes, we decided to combine our ideas with an already existing system that was not being implemented completely. There is a wall outside of our supervisor's office that had diagrams of the ballrooms. The ballrooms are one of the more important setups that the House Manager department takes care of. However, the wall was often ignored by the employees, and it was not organized in an intuitive way. We realized that many employees do not try to do anything more than the minimum requirement for the job. Because of this, we needed to design a system that would inform the average employee about what is going on. Often times, employees (besides the lead) would be unsure about what the agenda for the day is until told. This can cause inefficiency and confusion in the workplace. Therefore, we tried to keep in mind the new and seasoned employees in our design.

To really narrow down on a problem, we first placed a “suggestion box” (pictured below) in the office table. We already had many problems in mind, since most of us are House Managers, but we wanted to allow the whole department to anonymously write down any problems, complaints, or suggestions. After the suggestion box, we consolidated our findings and made an affinity diagram (pictured below) to visualize and categorize the problems. Along with data received from over 20 interviews and deep hangouts between the five of us, the affinity diagram allowed us to better understand the bigger problems in the workplace. With this, we decided to tackle one big problem instead of many small ones.

We decided to improve the quality of work and efficiency by designing a system that would allow employees to visualize work needed to be done. Another big design opportunity we saw was the implementation of notes, to improve communication between employees. After prototype testing numerous times, we were able to narrow the problem more. Along with this, we were able to find more efficient solutions in our design process.



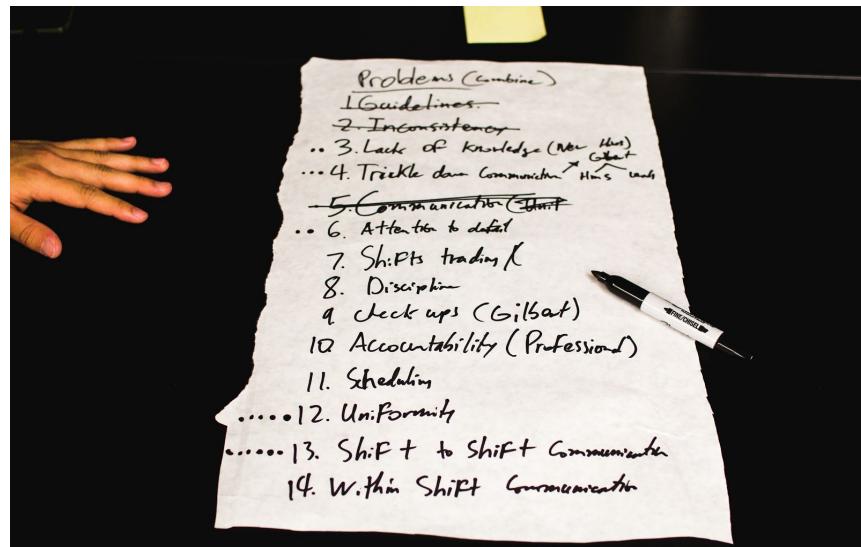
This wall outside of our boss' office (and in a hallway), often ignored, was used as a starting point in our design process.



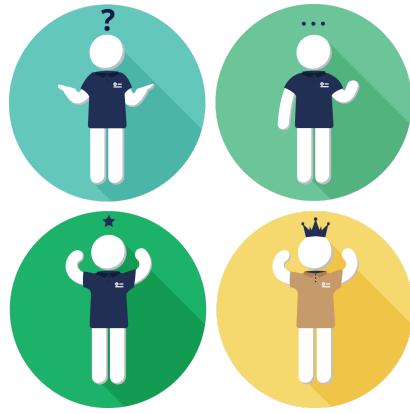
We used an affinity diagram to consolidate our findings and narrow down the design opportunities/problems.



Our initial needfinding process began with this suggestion box, where employees were able to anonymously write down problems, ideas, complaints, or suggestions.



This list of problems allowed us to visualize the main problems. We then voted on the most important ones, which guided us through our design process.



Our four main users

## Our Intended Users

### 1. The Lead



- "The Lead" is the most experienced of the workers at House Managers (HM). They are often times the actual leads, but not exclusively. Workers with 1+ years of experience may fall into this category because they are occasionally called to step as a lead (when leads are not around) and must know every procedure. The biggest distinguishing factor of a lead to the rest of the crew is their initiative to do work. Unlike the other types of HMs we will see, the lead type actively seeks out to check up on what's going on in PC and find work to be done. They are also the type to best communicate with the next shift. Although the Lead type is great for work, they are not totally infallible to laziness and can still be seen slacking off from time to time.

## 2. The Experienced



- "The Experienced" is typically composed of workers that have been working between 3-11 months. Experienced workers understand the rules and regulations for the job but are not typically put in to lead a group of students so their main functions are to follow orders. The experienced worker may be knowledgeable with most of the duties at work but may be rusty in areas because of the fact they are not forced to deal with all the aspects a lead is expected to do. The experienced worker is, for a lack of a better word, content. They enjoy the fruits of having one of the most chill jobs on campus but when told what to do are pretty fast because they have knowledge of what to do.

## 3. The New Hire



- "The New Hire" is a worker that can range from just-got-hired to 3 months in. There is a lot to learn and memorize at HM so it may take months to get used to the bits and pieces of information you are fed by word of mouth. Learning on the job also depends on the new hire's ambition to learn (not many people have this). The New Hire category is an interesting one because of the fact that we hire so

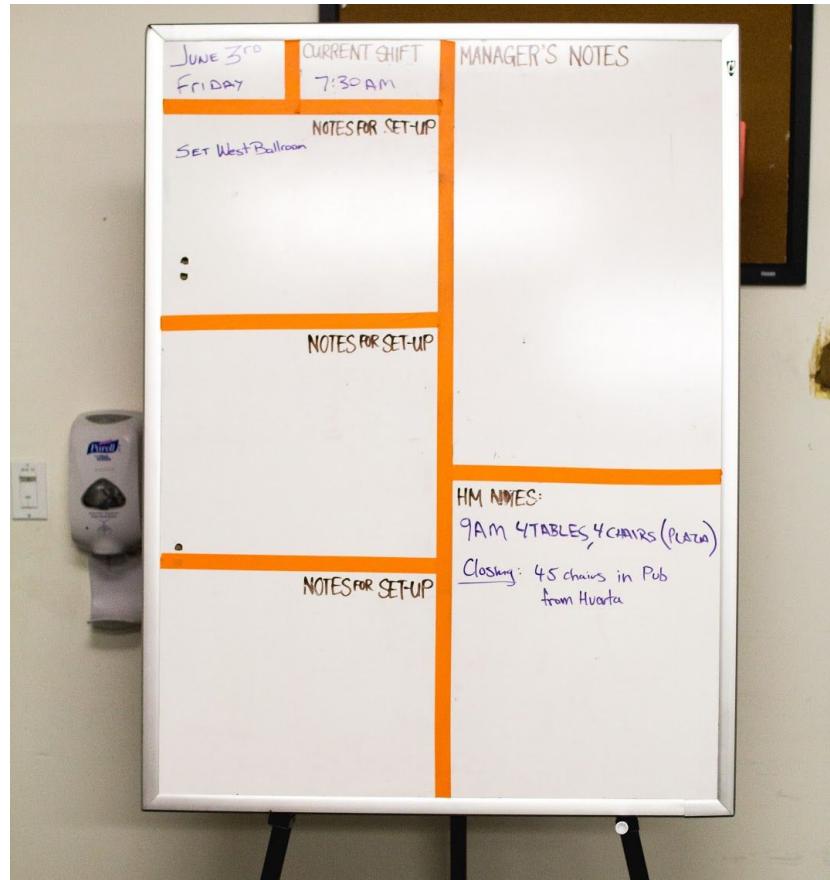
many workers. On average we hire 10-15 people a quarter and depending on our boss we get a slow trickle of random new hires in between. The new hires are significantly slower in the workplace because they need direct guidance of a more experienced worker but are great/willing to tasks given to them.

#### 4. The Boss



- The “Boss” category of users includes our direct higher ups and adults that can give us formal instructions. House managers confusingly have managers to manage them and delegate tasks (basically our bosses). Their main interactions with the HMs (all levels) are to come in once in awhile to notify them of changes, things that need to be done, and to give us feedback. “Bosses” can often be seen working side-by-side with the house managers in a crunch and have their own responsibilities as well.

## Our Solution



Our final product was a combination of our ideas and was inspired by the unorganized wall outside of our boss' office. We believed this wall had the potential to inform employees of the big ballroom set ups. However, it would often be ignored, and our bosses would have to verbally tell workers what to do.

### The Material

The physical design of the prototype is a white board that we received from our boss. We thought that a white board would be good because things can be placed on it, and notes can be written down with a marker, which allows the board to be cleaned easily. The markers also allow the visibility of the notes to be clear, since the text is larger with a marker than a pen. They are also easy to replace, and the color can be changed if necessary. The usage of markers allows changing the notes and shift times

efficient and easy. Using tape to split up the board obviously shows the boundaries of the sections. It is also more permanent, and easy to change and adjust the boundaries. The orange color of the tape is visually sharp, making the board stand out more than it would with a more traditional color (like clear, black, or blue). Problems in this design can occur if it is not maintained regularly. White boards can get dirty with extended use. Although erasing markers is easy, that can also be a problem. Some things can be erased easily, and some can get unintentionally erased.

## **The Space**

The board is placed next to the entrance of the office, between the door and the time cards (used to clock in and out). It is placed there not only for ease of access, but also to pop out and get the attention of employees. The placement of the board can get the attention of the employees, which may influence them to use it. The easel was used to lift the board to an appropriate height for usage and to make it stand out. It also serves as a storage unit for the markers and eraser. After moving the board around the office numerous times, we found that placing it next to the entrance of the office allows every person coming in to see the board, and possibly interact with it. The downside of having the board on an easel is that it may take up more space than necessary. There is a plan in motion to mount the board on the wall, in the same area. This may eliminate the large occupation issue, but it may cause the board to stand out less. If the wall outside of our supervisor's office was easily ignored, mounting the board on the wall may cause the same problem.

## **The Queue System**

We decided to create a system to show the three upcoming ballroom setups that HMs should be aware of. We decided to sort the diagrams by due date; the most recent was at the top and the diagrams coming up last being at the bottom. Even on the busiest of shifts an HM will rarely ever see more than three big setups that they need to set up so we thought this was a fitting number for us (also our board could only fit that

many). The strength of this design is that it immediately shows workers what needs to be done and when without much extra hassle. Since the next diagram due will always be at the top, HMs can now walk into the office and glance at the due dates to see exactly what they need to be doing for that shift. One of the big limitations of this feature is that it requires user participation. Someone would have to maintain the board to make sure that the queue is in line and that the tasks actually get done. Our early form of the queue system displayed the diagrams according to location instead of time but we realized that this was too confusing for most workers and an extra hassle to find out what's going on.

## **Managers Notes**

The right side of the board served as a separate notes section, where supervisors can write notes about things that may not refer directly to the ballroom diagrams, but about other work that needs to be done. We decided to make the supervisor note section large, since the supervisors usually have more directions to give. The notes section on the bottom right side is for employee use. In that section, employees can communicate with each other, usually the next shift. This way, employees can communicate with each other about missing items, changes to the agenda, or anything else that needs to be reported to the next shift. The value of the notes section was apparent during our prototype testing, which influenced us to make it larger. The labels for each section is important, since we found that people were more comfortable doing things they are told to do. This way, the labels can serve as a guide that helps workers figure out what to write (having a separate section for notes that refer to different things). Problems may arise if there are too many notes on the manager (boss) section. If the space is filled up, it can be easily overlooked if people do not read it thoroughly. However, this issue can be fixed if notes are erased once they are addressed. The manager notes section will only work if the managers/supervisors actually make use of it. Some supervisors may prefer verbal communication instead, and may not even write notes on the board.

## **Diagram Notes**

We split the board in half, with the left side containing the ballroom diagrams taped on the board. We left space on the right side of the diagram to be used as a notes section. This way, the supervisors can write notes in reference to each diagram, that would be read by the workers. This also serves as another use of communication, along with verbal directions and walkie-talkie usage. Although this notes section might be a bit redundant, we saw that biggest strength of this feature was that it was great for the custom parts of a diagram that often need extra explanation. The con of this feature is that some custom parts still require extra verbal explanation anyways (for the more complex setups) so it was not super effective at all times.



## Research for Design

Like Professor Renner and half of our class mentioned in their final presentations, we really emphasized on “iterate, iterate, iterate”. After conceptualizing some of our initial ideas, we went through about six different prototypes before finalizing on one (not including the many minor changes we made to our last one). From observations and feedback from prototype testing, we were able to make impactful changes to our design.

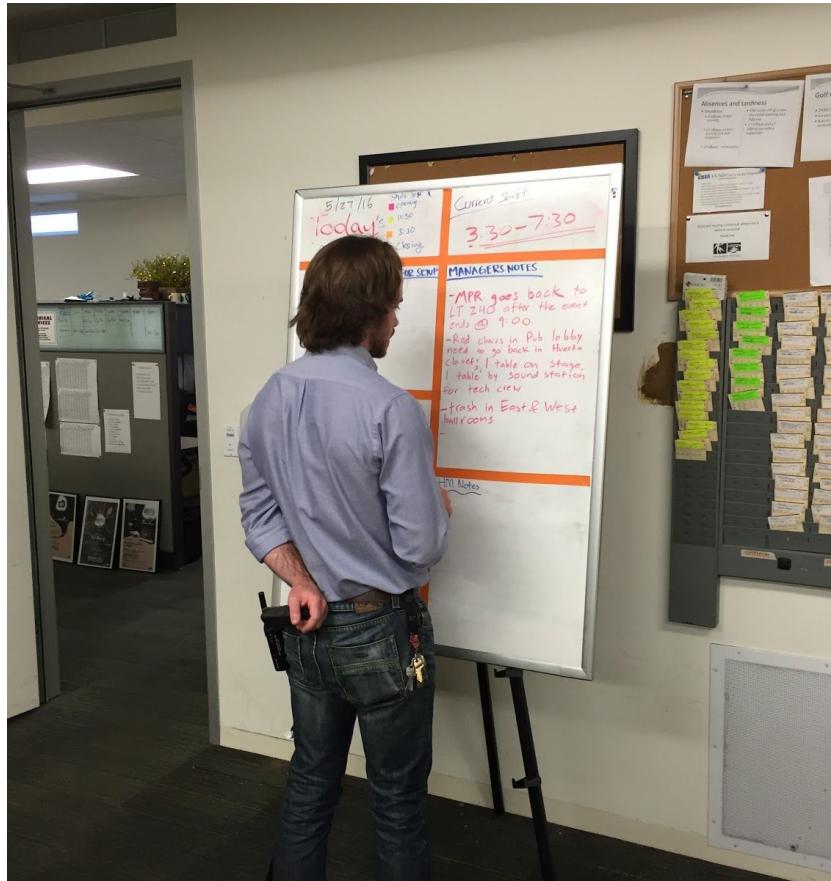
**Disclaimer\*** Since most of us are House Managers, our design was susceptible to bias. The way we countered this was to test our design many times and use the feedback and data we received to change our design. The fact that we have experience in the job did give us a good starting point, as well as a large supply of materials (from work) to use. Being familiar with our coworkers also helped us in gathering data, since most of them were willing to test the prototype and give feedback.



Reenactment test

One of the methods we used to test our prototype was to reenact a typical day. One of our members acted as our boss, came into the office, placed a diagram on the board, and told everyone, "This is what needs to be done today." We then observed how people interacted with the board as a group. We did not give them any direct directions on how we intended the board to be used, but let them use it as they pleased. This allowed us to see how the employees wanted to use the board, which guided us to our final prototype (after iterating and iterating). Testing this way allowed us to observe how employees interacted with the board as a group. We were able to observe how they communicated about the board, and heard many suggestions about the board that they would say aloud. We did ask the test group to "think out loud," so we can better understand what they think about the design. The sample size consisted of three to five people on shift at the time. We saw that employees interacted with the board more if someone else was using it as well. If they saw someone interacting with the board, they

were more likely to do so themselves. The downside of this method is that we could not observe how the board would be used normally. A group of people cannot write on the board together; it takes one person. Cooperating as a group can also cause the group to conform to how everyone around them is interacting with the board. However, the good thing about this method is that we can get a lot of data at once. Using this method aided us in making our design more intuitive, since we wanted it to appeal to everyone.



Prototyping in the wild

Another method we used to test our prototype was to leave the board in the office and observe how employees interacted with it. We were able to do observations during shifts, since most of us work in the House Manager department. We allowed the employees to utilize the board without us asking, so we were able to observe their

natural thoughts on the board and how to use it. This method allowed us to see how people wanted to interact with the board, without us telling them that we were testing the prototype. Some people even wondered about the board and how it came to be. We were able to get feedback from direct observation. What we found is that the notes section needed to be larger, since we underestimated how much it would be used. One of our supervisors really liked the idea of the board, and gave us direct feedback and his thoughts on the design. This method allowed us to see people's natural responses to the board, and allowed them to get used to the board being in the office. This method, although very helpful in our design process, has some downsides. Since we let people interact with the board naturally, data collection was not as quick as other methods we used. Also, data collection was dependent on us going to work. The more shifts we had, the more we were able to observe. However, the opposite is also true. If we did not work a lot during the week, we could not really observe how people interacted with the board by checking out what new ways they decided to use the board. Even with these limitations, this method helped us go forward with our design of the board. It helped us realize that a simple, intuitive board that everyone is comfortable with is better to have than a complex, instruction-oriented design (i.e. instructions are needed to use the board correctly). It also proved to us that people were actually down use this and shifts slowly became dependent on it for work (we had some trouble taking it out for modifications sometimes because a shift would be using it).



Testing with our classmates

Another method of gathering data we used was the gallery walk. We were able to test our prototype on our classmates, which gave us completely new data than before. This method allowed us to gather data from people that did not work in the House Manager department. It gave us fresh data, and allowed us to see things in a different perspective. However, because the people testing our prototype were not in the House Manager department, they were not able to give specific feedback. Even without bias, their feedback may not have been specific to House Managers, since they do not know the job completely. Although this method was helpful and gave us new ideas, it was one of the weaker methods of gathering data. The feedback was helpful since we did want , but since our design is catered towards House Managers, they had limited insight of the job.



Pitch Day!

This method of gathering data resulted from pitching the idea of our design to our boss. We presented our design solution and intentions of the board to our boss (and got paid for it). We did this to not only get feedback from our boss, but to see if our design could be implemented. It was important to receive feedback from our boss because this design can be impactful with his help. In contrast, he can also decide to not approve the design. He is part of the needer group, so we needed to appeal to the student employees and the career staff. With his approval of the design, we were able to get direct feedback from someone with authority. This method allowed us to get data that would truly impact our design. Feedback given directly from our boss allowed us to better understand the bridge that connects our boss to the student employees. It helped us understand his needs rather than just the student needs. Our boss also helped us by

allowing us to use items in the workplace (he basically funded us). This method of data collection came with many positives, but also with some negatives. One downside of this method can be that the feedback given may only affect the higher ups instead of the student workers. Our boss may not feel the same way about the design as the student employees. However, since he is part of the group that will use the board, it is important to find a middle point that will please everyone.

# GINYU FORCE

