

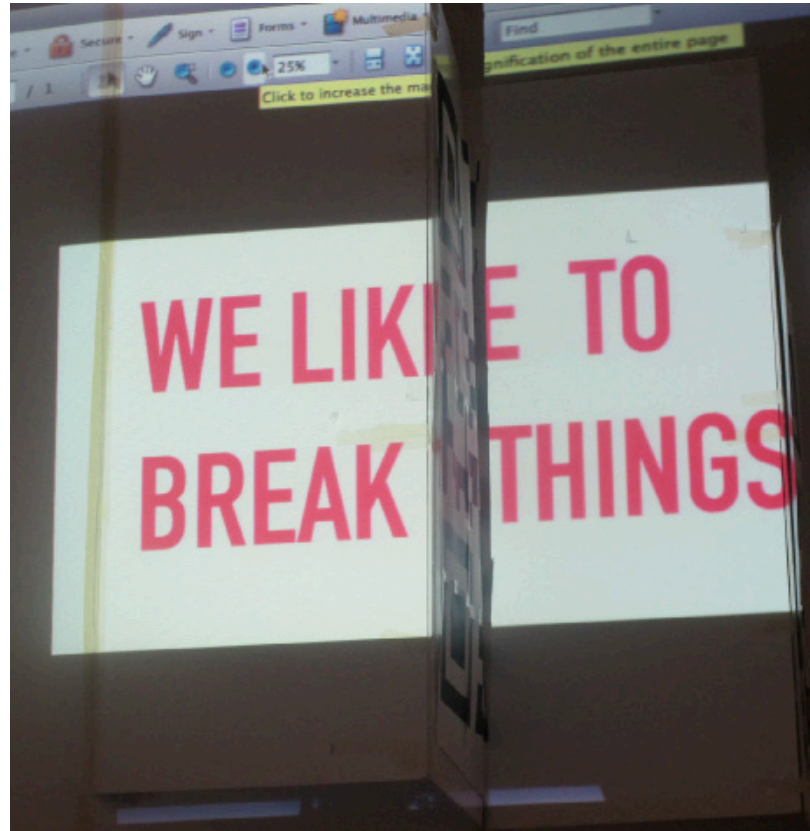
# *QR Wall*

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## *Materials:*

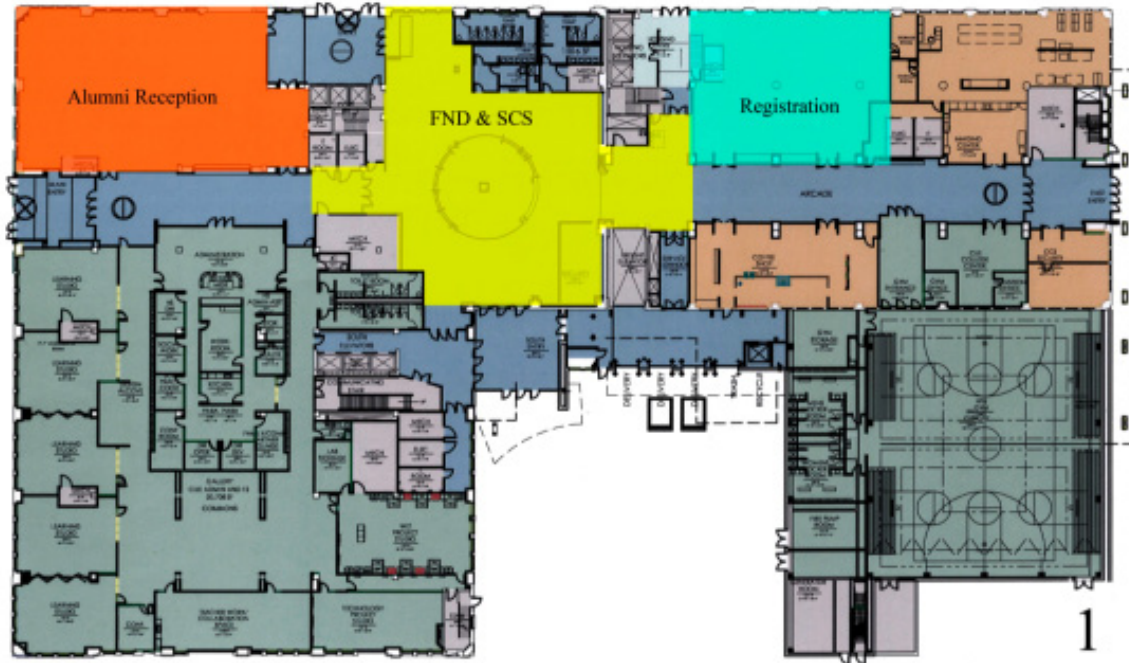
- Foam core
  - Glue
  - Paper
  - Tape
-



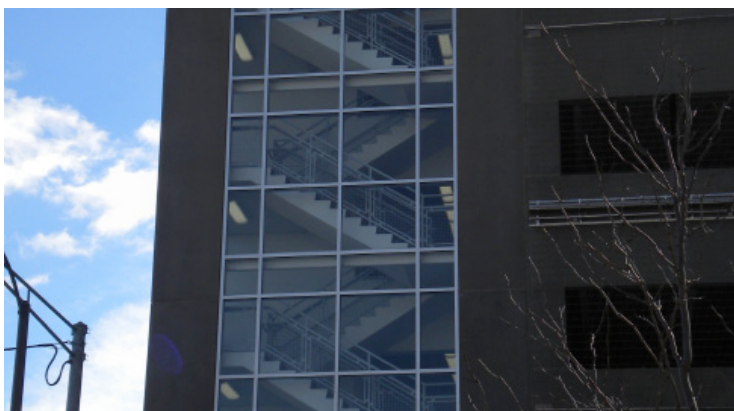
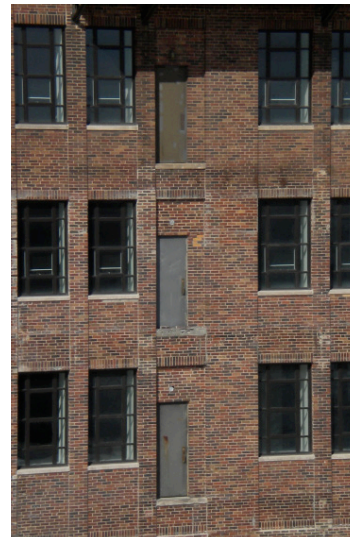
## Statement of Intent

With the constant development of digital innovations it is difficult to generate mass awareness until it is literally mainstreamed and visually saturating every day of our lives. With the latest innovation being QR codes, I set out to make the act of “scanning” the codes part of a new experience. One way to make the process more interesting was by potentially changing the code itself. If it doesn't look like it will scan, then a viewer would be even more surprised with an actual result. By placing the code on a segmented “accordion” wall, the viewer would already have to position themselves at an angle to be able to scan the code correctly. However, when the accordion is placed in a window box, above the viewer, it makes for scanner positioning even more critical. To supplement this ideal, there is segmented text on the opposite side of the wall allowing for a ocular scan, leading to a basic message, complimenting the opposite side which requires a device allowing for more comprehensive reading.

## Getting to know the space



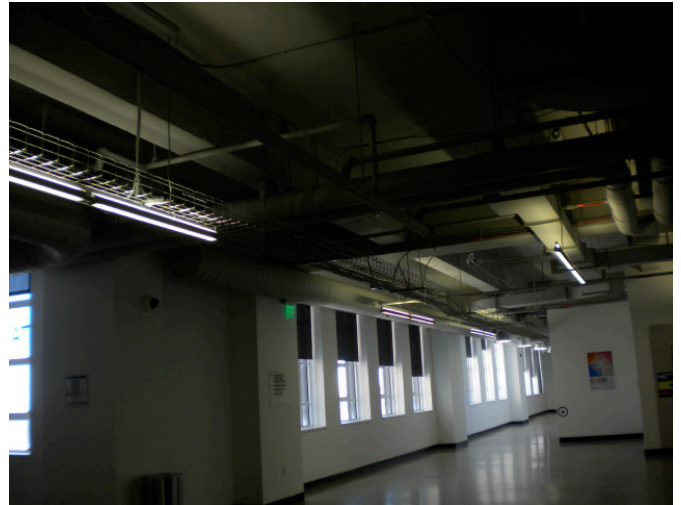
Given the task of exploring the Taubman Center for architectural anomalies, the expedition went through both the interior and exterior.



## Finding Anomalies

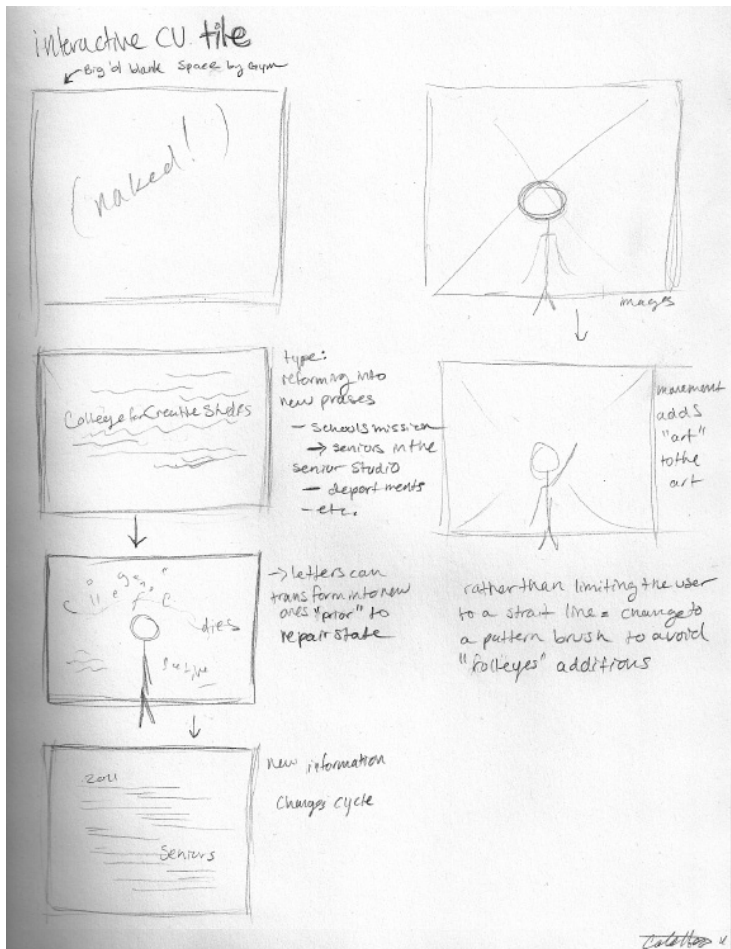
The exterior of the building held a smorgasbord of possibilities from, odd building additions to out of place deficiencies.

*Getting to know the space*



The interior, although not as odd as the exterior, held many inconsistencies, making it difficult to call attention to a series of similarities without excluding everything.

# Interactive Sketches

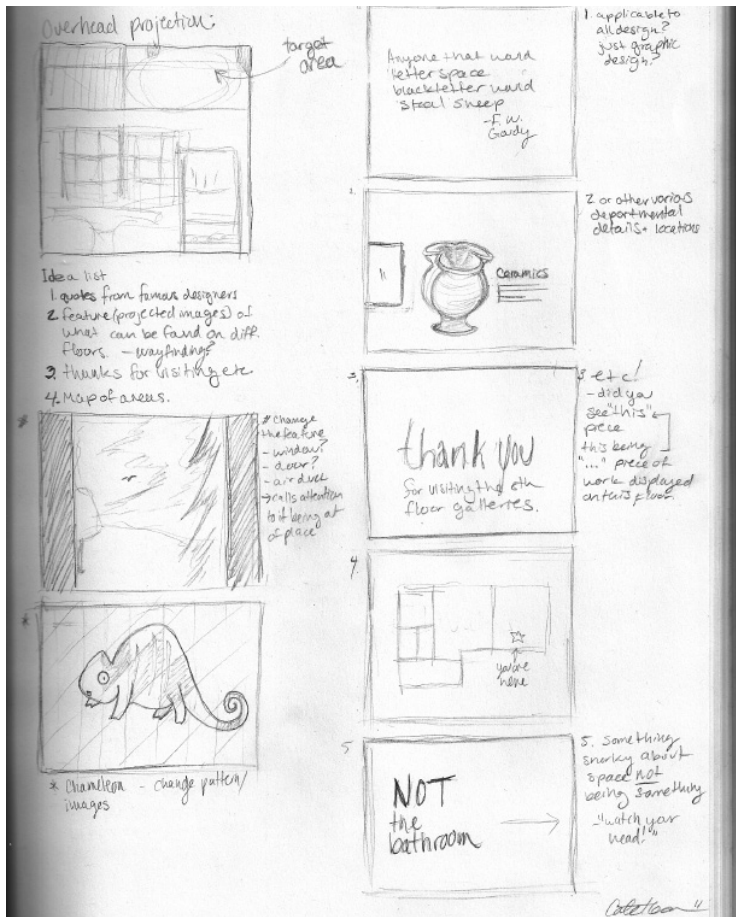


Assuming that the projection for this location will be on the ground floor near the gym, the projection would have to be coming from a location that will not be in the way of the visitors. By hanging the projector from the ceiling, the projection stream can or cannot be disrupted based on angles to enable common-place interactions.

1. Start with a solid color or object that will disperse on interaction to form something else.  
- (This concept leads into the next idea)

2. Have a typographic composition (similar to the type board on the 8th floor) only the text will read the mission of CCS (perhaps) and when a user interacts (passing etc) the text will disperse and reassemble into different information.  
- Perhaps the info on the seniors/ departments/etc

3. Users can individually "paint" with patterns on a "canvas"



The "overhead projection" (located on the ceiling outside the 8th floor elevator lobby), will be projected by a projector from the ceiling near the air ducts at the opposite end of the hallway.

Ideas for projections:

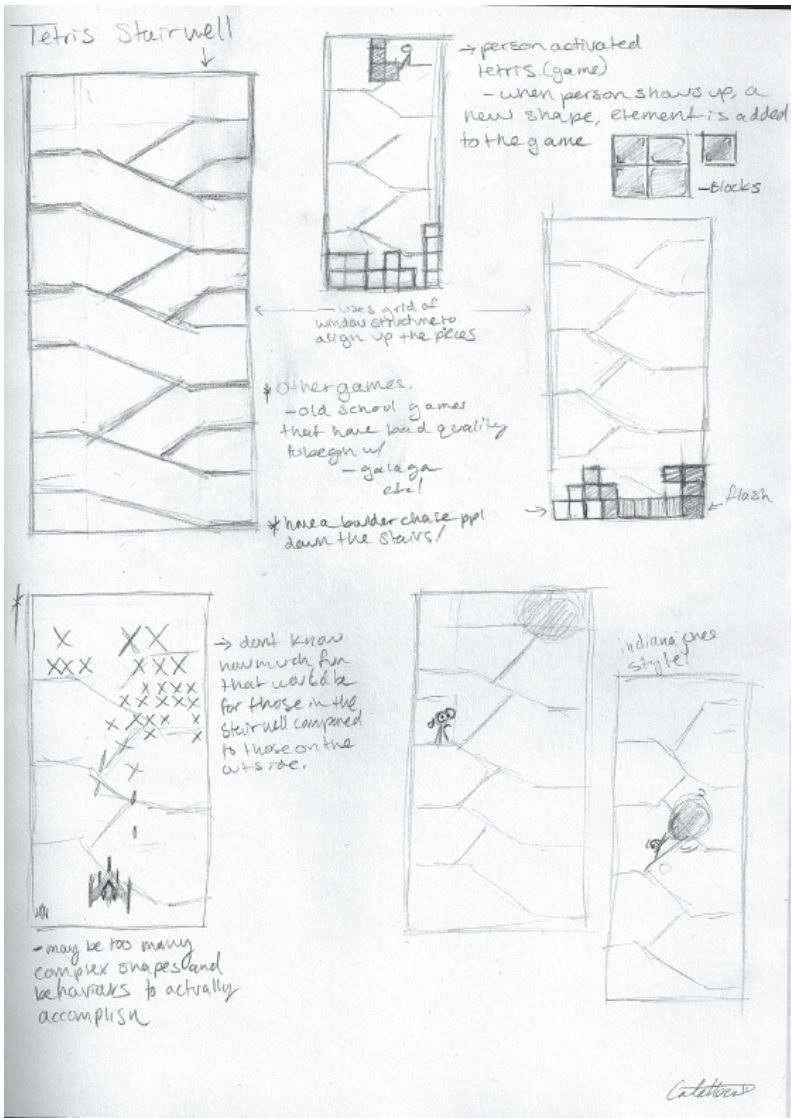
- Project quotes from famous designers  
- Not just applicable to graphic designers
- Feature images of other projects that can be found in the other locations around the campus  
- Also list where they can be found  
- Can be close up shots or details of pieces
- "Thank you for visiting ..."
- Map of the different majors and where their work is located
- Signage that indicates that the space is NOT what it they should be paying attention to  
- This is NOT the bathroom →  
- "Watch your head"
- Use the ceiling space as a window/ air duct  
- Calling attention to the space by making it something it is not



## Interaction Sketching

After a large number of building oddities and interactions were drawn up, I was assigned certain areas and asked to sketch possible interactions or projection outcomes. Many included interactions with messages.

# Interactive Sketches



Assuming that projections can be made from the interior of the Taubman, I would prefer this to be projected from across the way from the stairwell near the entrance to the parking structure.

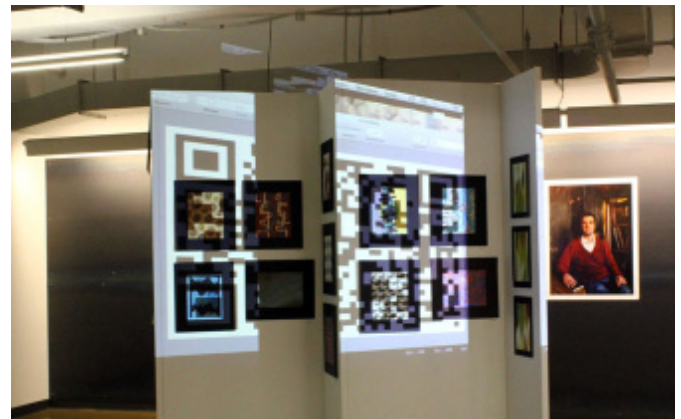
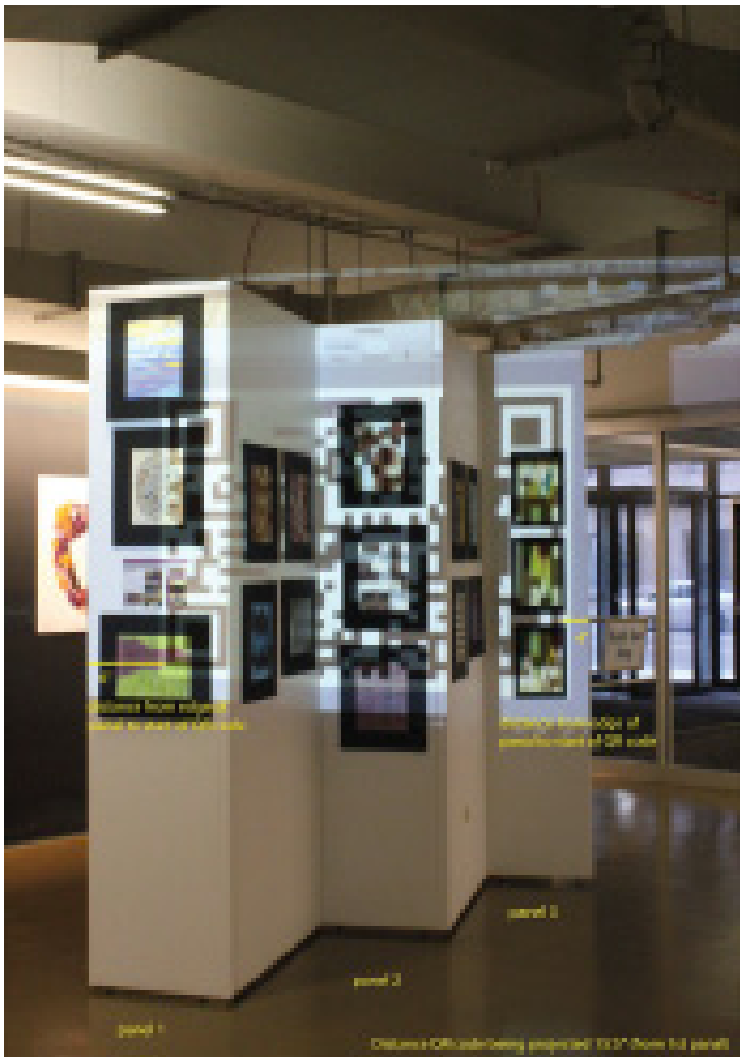
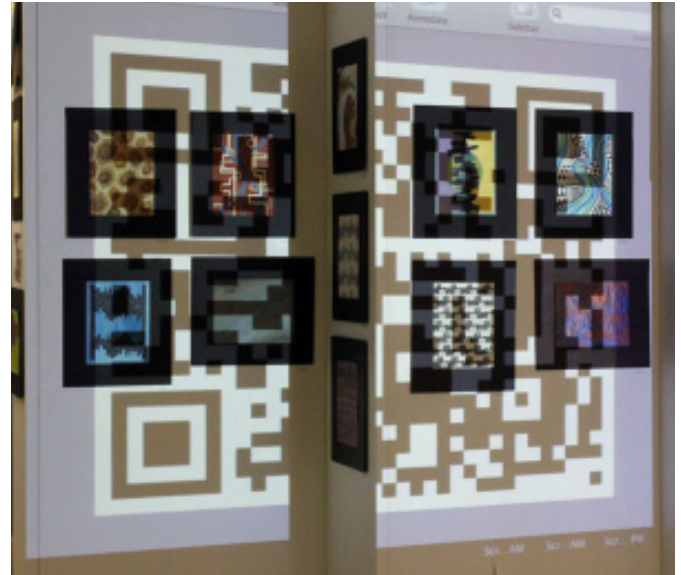
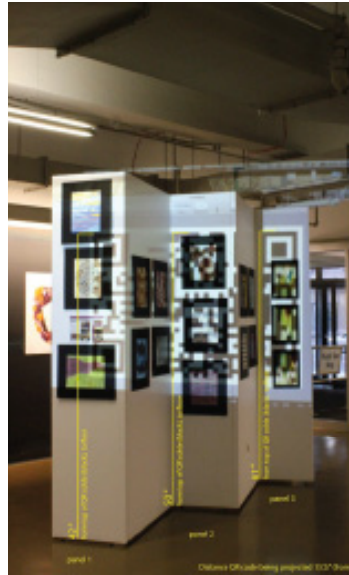
\* It would be interesting if we could get users to interact with a game with their phones or from an iPad mounted in a specific location where the iPad would be directly in view of the game itself  
 -if not in view of the game... it makes the surprise factor of finding a view of the game being played and playing the game that much more of a surprise.

1. Tetris.
  - a. Tetris pieces could be triggered to fall at the presence of someone entering or exiting the stairwell
  - where from this point a user by phone or iPad could control the pieces
  - b. The game could be played from the iPad and would just be projected onto this structure
2. Objects that fall
  - a. when a participant enters/exits the stairs, a projected image of a boulder could be used to follow them as to get them out of the stairwell quicker
  - Kinda like Indiana Jones
  - Could also be falling objects (leaves) and they form a halo around those who are in the stairwell
3. Galaga? (Shot in the dark)
  - If Tetris could be projected, why not older games?
  - This would probably require more work to create, let alone rely on a single location of interaction.

On a side note, the stairwell is equally as lit up as the rest of the interior of the parking structure. I'm not sure the projection would be as visible. If it is possible to project atop the gym, then the project in might be even stronger.



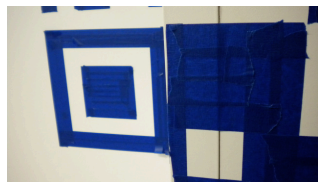
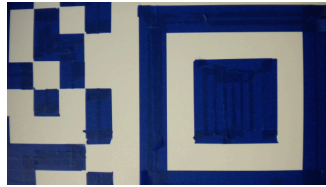
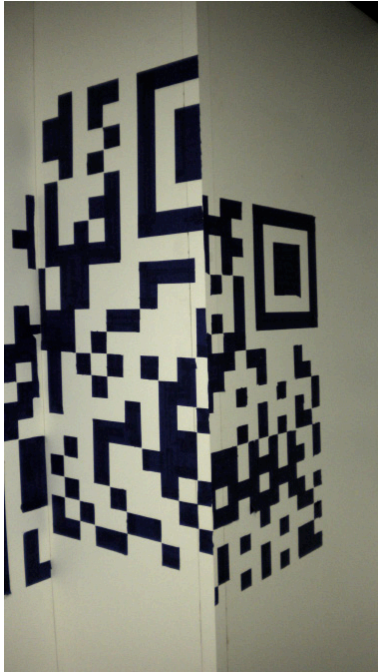
# Segmented QR



## Projecting & Mapping

Once possibilities were narrowed down, I chose to test out the possibility of segmenting a large scale QR code. Working with a large-scale accordion wall, it required diligent and accurate projecting and measuring in order to achieve a fruitful outcome.

## Mapping the QR



## Mapping and Plotting

Once the projections were made and the wall was moved, tape was laid and refined measurements were taken as the entirety of both QR codes was taped to the wall. The experience was time consuming and took the better part of four hours, however the code was completely scannable from 20 ft away and looked very clean from a distance as well.

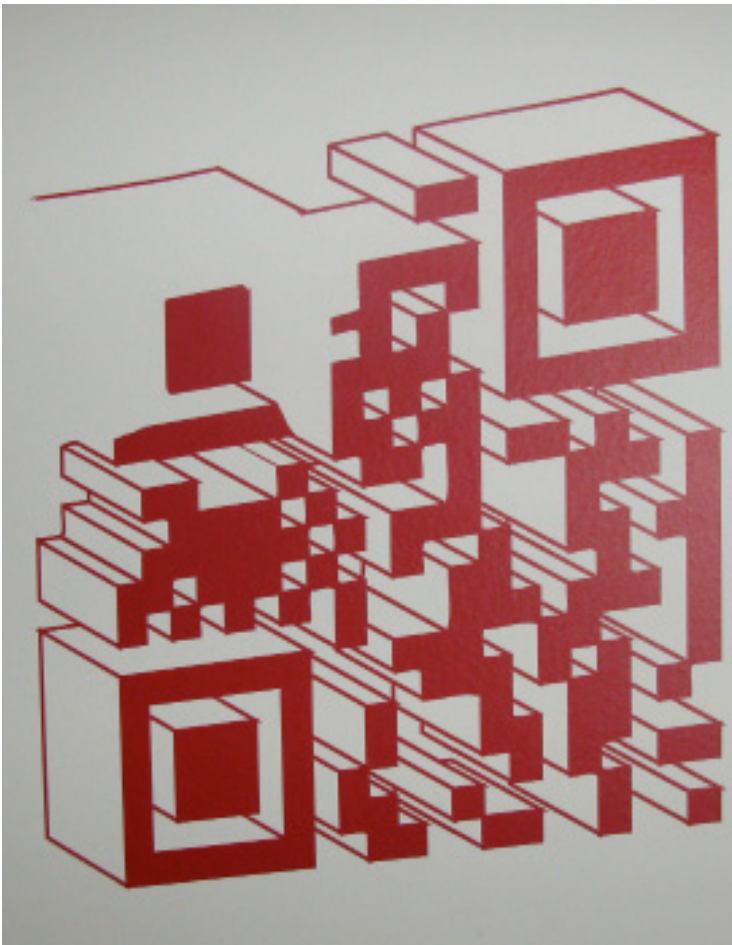
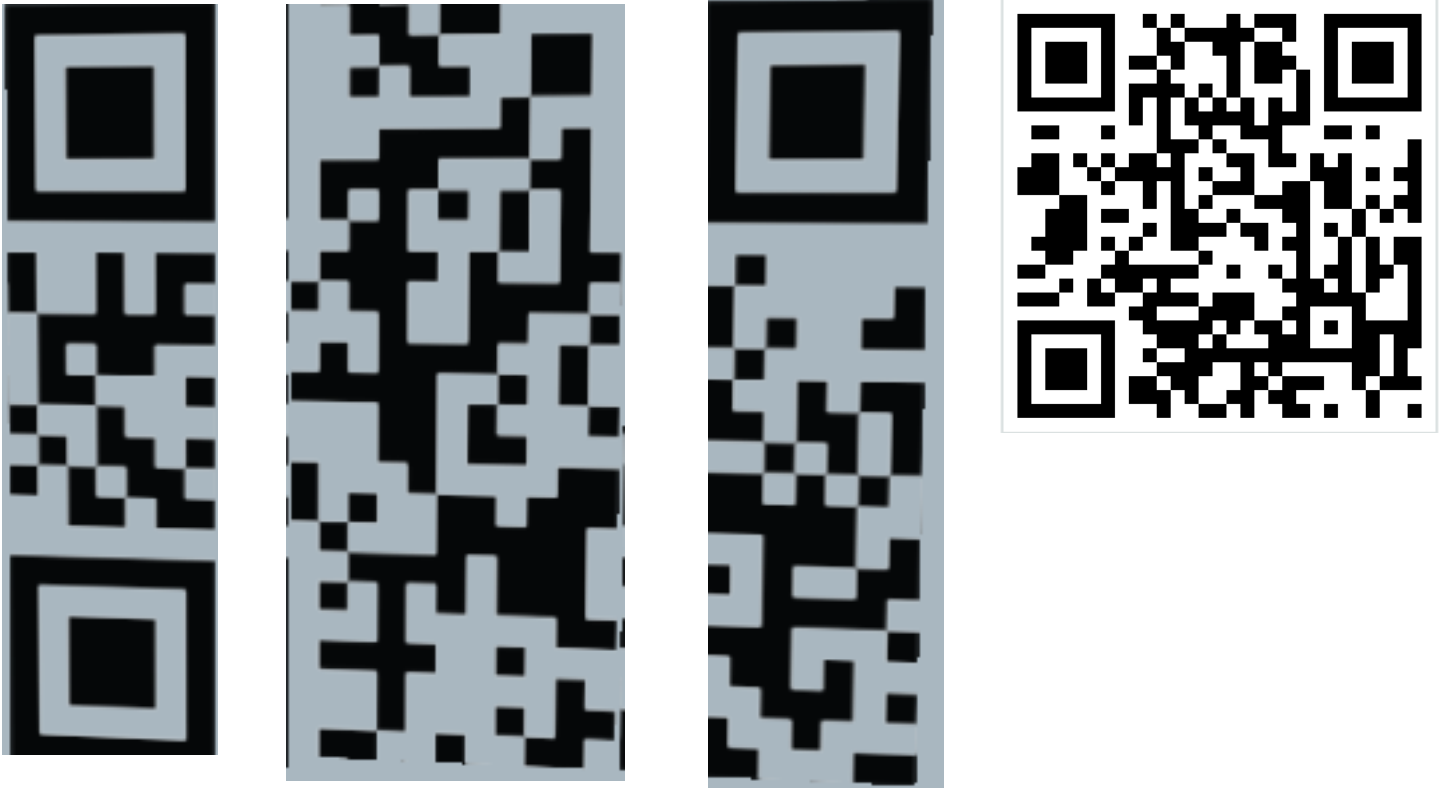


## Design Inspiration

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Once the plotting of the QR code became successful it came down to adding some panache to the accordion in order to make it an “art” piece for those who didn’t have a scanner to appreciate. Based off of perspective typography, I found that if we could segment a code to the point of needing perspective to read, why not do the same to typography?

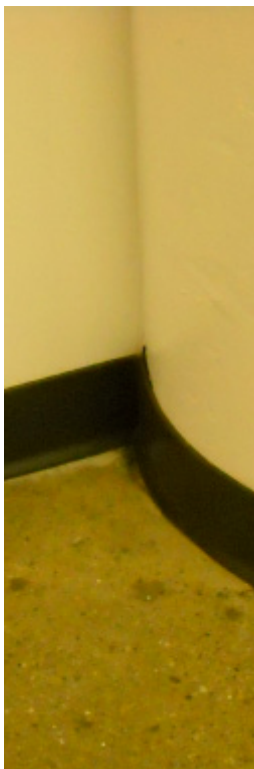
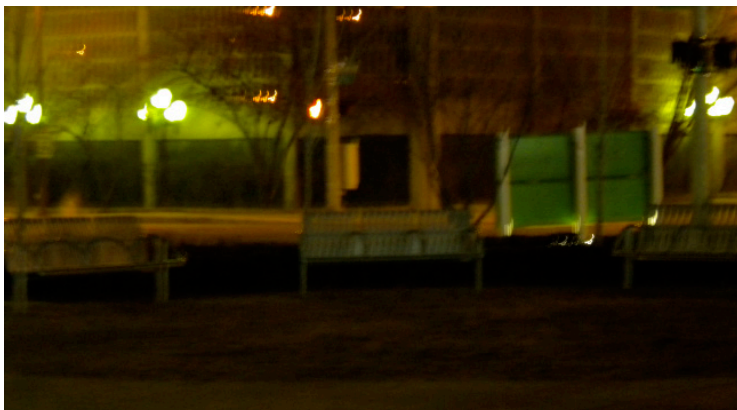




## Preparing the Code

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Once the measurements were taken and the code was successfully segmented, the code could be changed at any time and be replaced with virtually anything. Other groups had begun to invest in vinyl prints that would be applied in a crisp and seamless fashion. Although testing the vinyl on the wall and foam lead to the hang-ups of the material being very unforgiving, it left doors open to future possibilities.



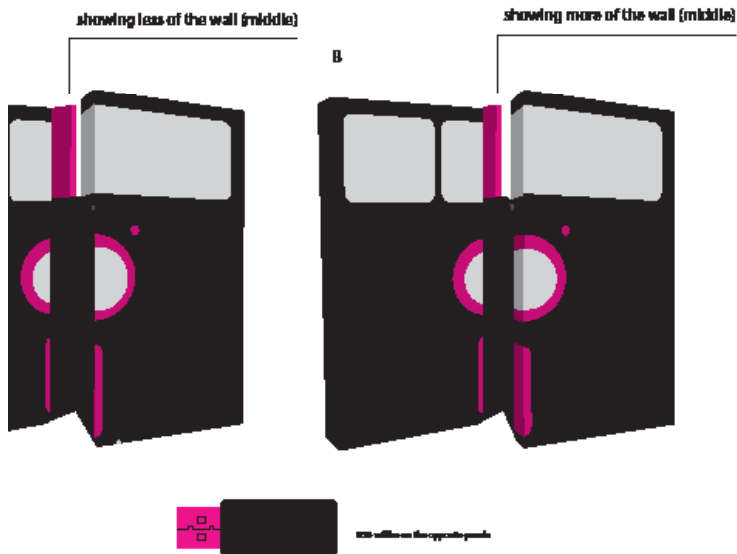
## Location Finding

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Alongside the current struggle of deciding on a strong concept, the massive size of the accordion wall gave plenty of trouble as far as final placement would be. An outdoor location would inspire plenty of conceptual uses, providing the weather would hold. With the addition of the massive scan area the wall required, the focus turned to smaller scale and an indoor local.

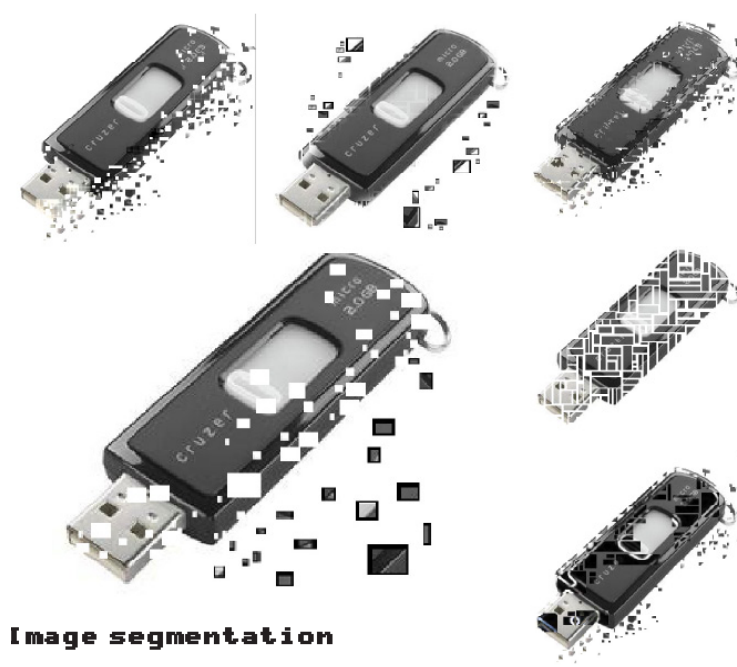


# Device Sketching



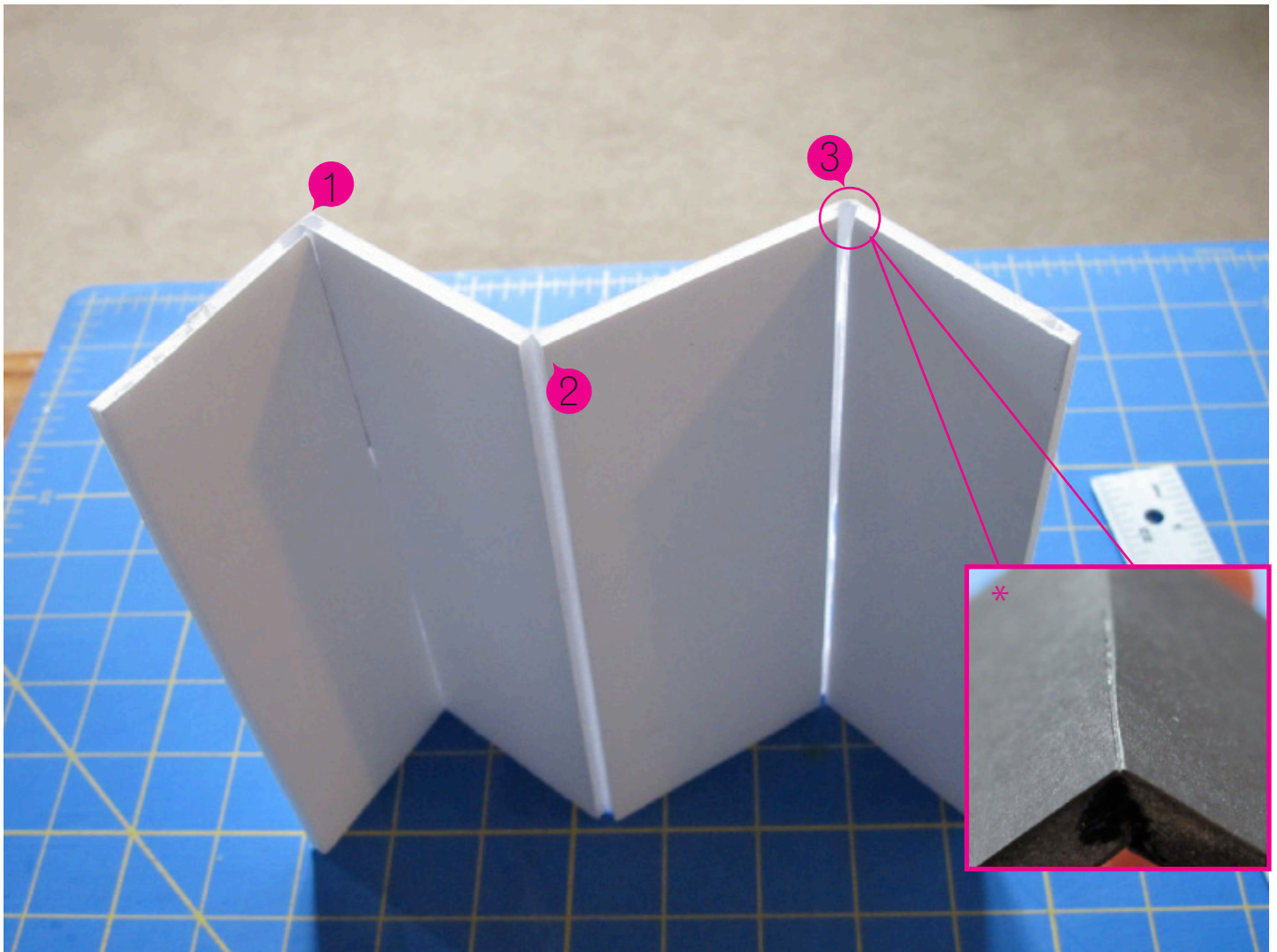
# Sketching for Devices

As the stages of various concepts came and went, various device sketches held different possibilities. With the “old vs. new” concept the ability to see an old item segmented with a “new” item in the same manner and physical view of the QR wall. Segmenting images and or things also came up; the various tests came and went for these as well.



# BOARD FOLDS

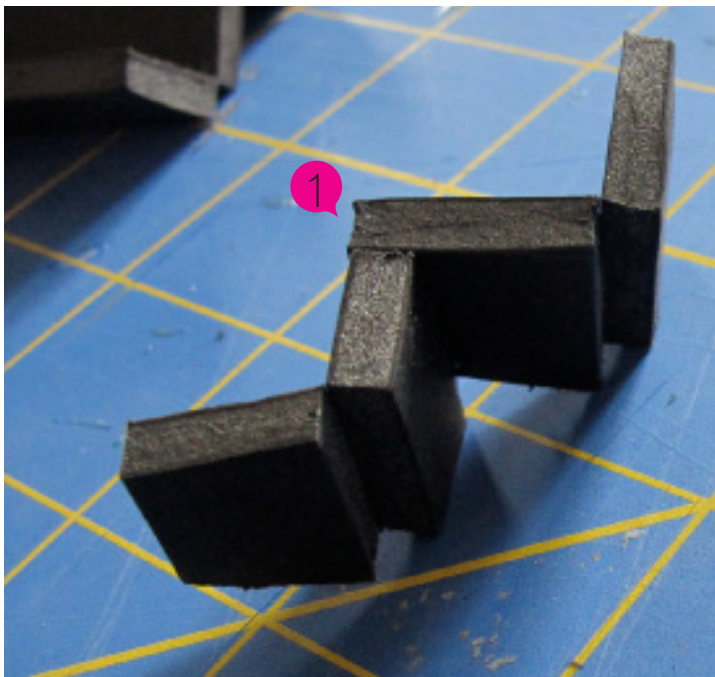
1. Rabbet
2. Scored
3. Mitered  
- Miter w/ score



\*As you can see, the glue burnt through the foam.

# GLUE SECTIONS

- 1. PVA
- 2. Zap-a-gap



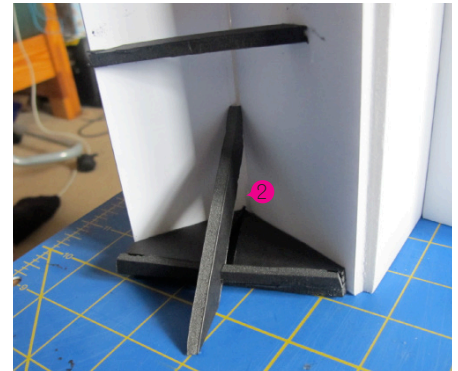
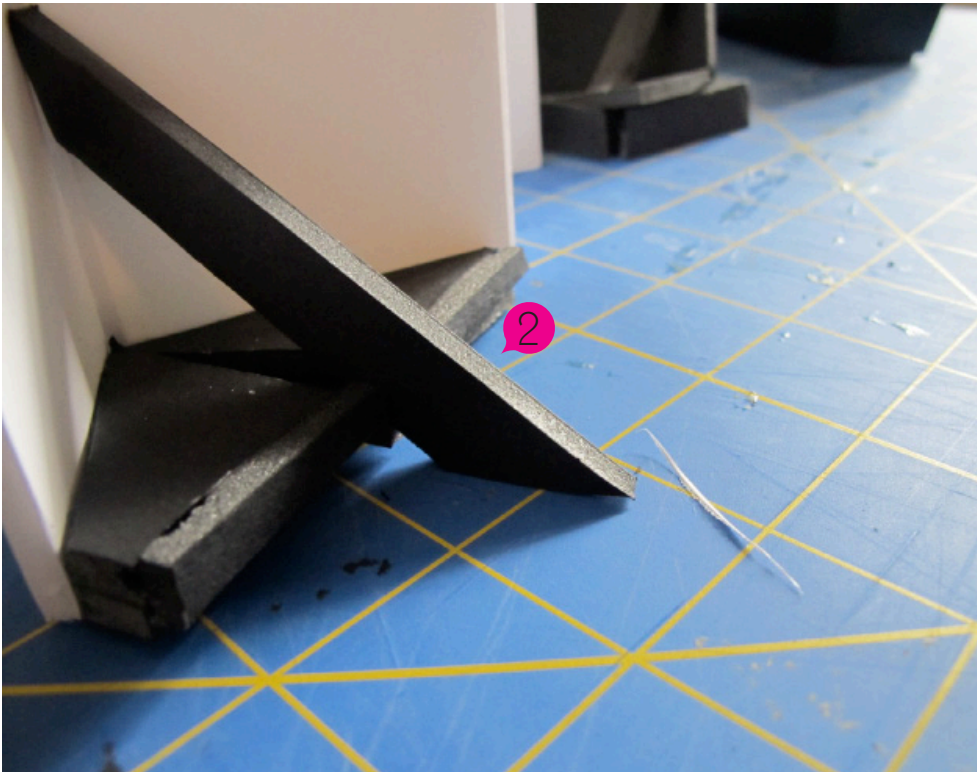
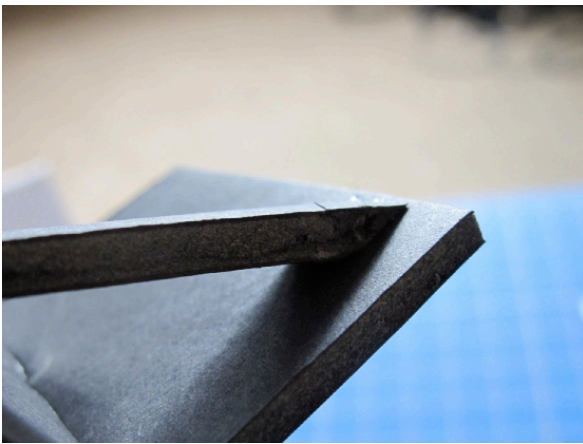
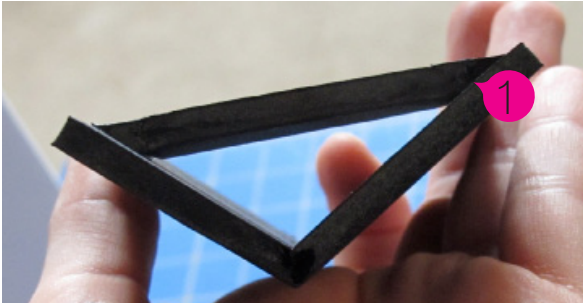
# PANEL CONNECTING

- 1. Overlapped
- 2. Rabbeted

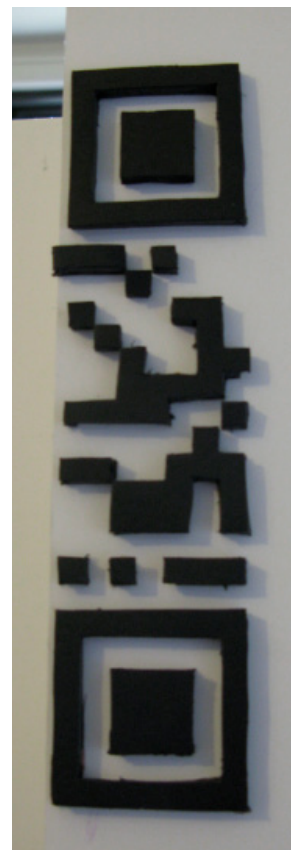
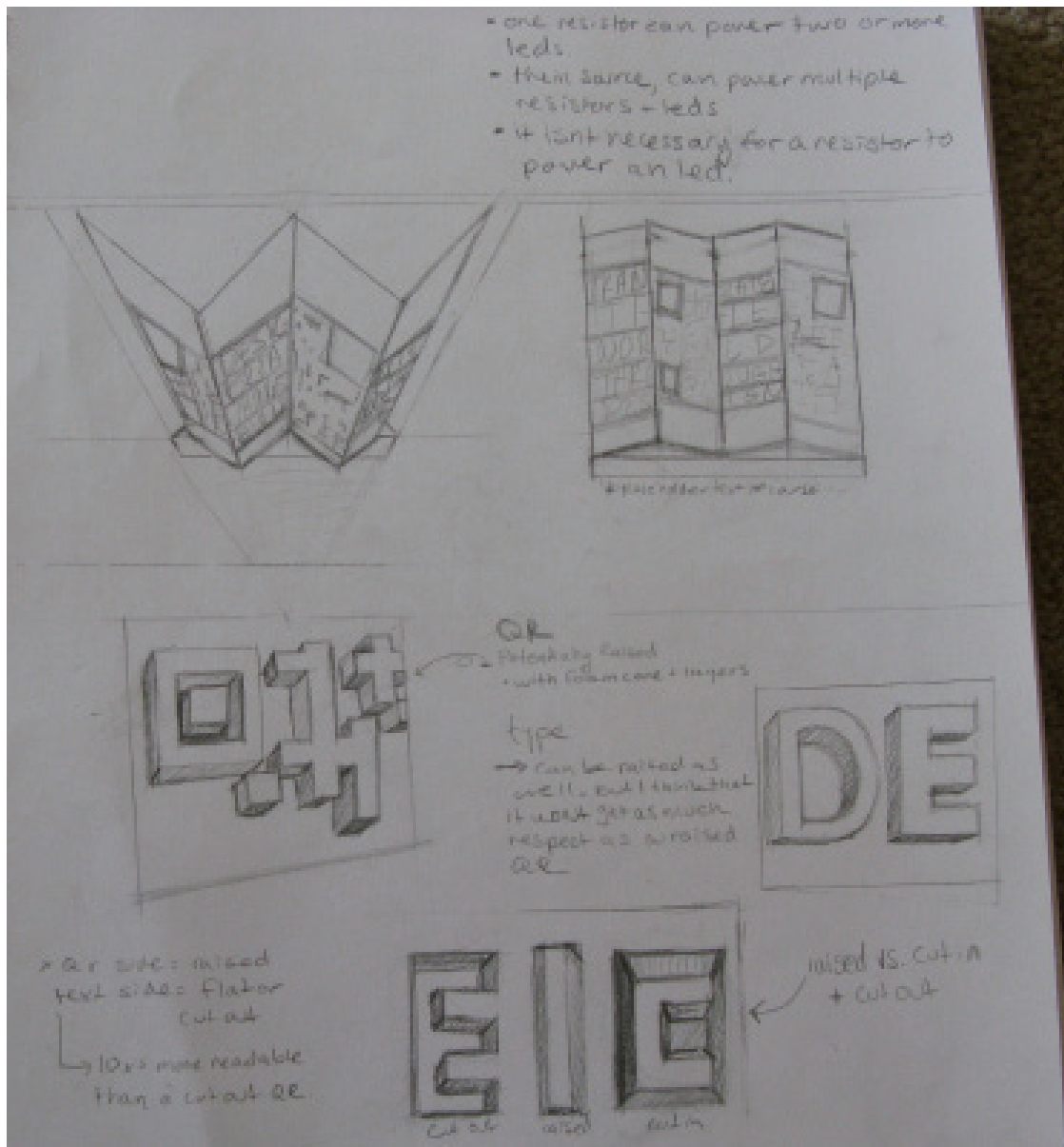
Testing the Support

# BACK SUPPORT

- 1. Bar
- 2. Buttress
- 3. Bottom cap



# Taking A Dimensional Route



## Digital, RL and 3D

When the final construction was decided upon, the opportunity to enhance the viewing quality of the wall didn't leave room for possibilities. Whether the QR code would be raised or cut out, the second side of the wall (which was decided upon as a typographic message) could be more contrasting than just being read by the eyes.

## Testing and Projecting

Due to the impossible height of 17' at which the final accordion would reach, testing it at a more local location made it easier to test and mock up. Minute miscalculations often resulted in a misaligned code, or even the unbalancing of the whole structure. Which in turn, made the codes unrecognizable to scanning software.



## Size Changes Everything

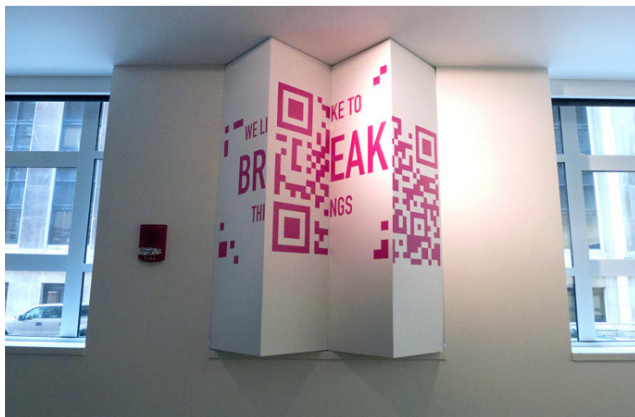
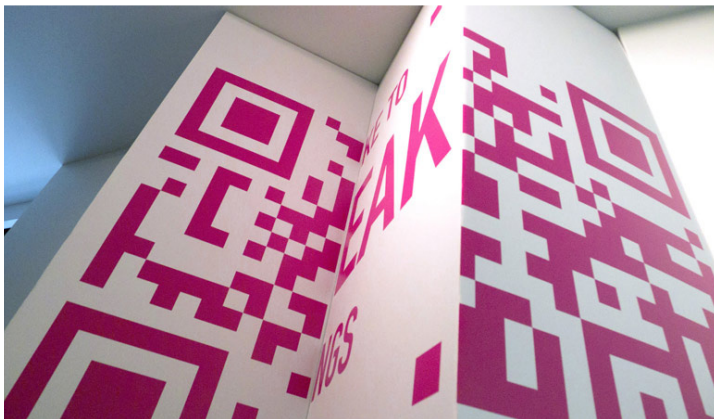


## Progress and Progression

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Since the final piece has been dramatically dwarfed since its original counterpart, the evolution of the piece has not been without its downfalls. Though the scale change made for a more manageable monetary adventure, the construction of the wall itself had made up for the ease of size. The challenge was now where to place this new wall? This QR Accordion Wall is not force to be messed with.





## Installation

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Standing at 5 feet in height and four in width, the final presentation space for the QR Wall was decided upon. The concept in a sense, was in fact grounded, as other elements of this project needed a means of explaining the process, project and intent. What better place to display this information than on the ground floor, in a window space, that every patron of the school is subject to looking at?

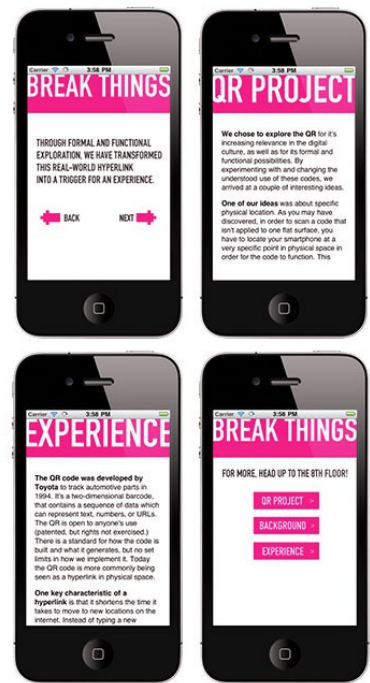
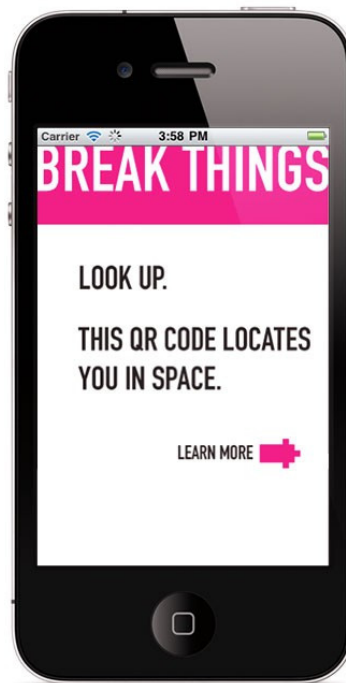
The size requirements to fit the wall within a window ledge were perfect. A final, vinyl pink code and text was applied to the wall and then installed. It was a major breakthrough to see everything fitting into place.



## Coding Perspective

With the final wall installed and ready for an audience, the wall held two perspectives, one that could be read by the human eye, and one that could be read by a smart devices camera (eye).

With the QR code being functional and live, a basic mobile site was developed to help re-navigate the viewer through a cycling change of results. Varying from an explanation of the project, description of the class, and even a teaser that directed them in one direction or another. Even one as simple as telling them to look up, and notifying them, they were in fact, HERE!





*This project was entered into the Adobe Design Achievement Awards in 2011 by Instructor Nick Sternberg to which it won as the finalist in installation design.*

## Conclusion

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In early stages of this project it was discovered that a QR code would still work if it was deconstructed onto multiple planes, surfaces and textures. This led to the eventual discovery that this augmented code could only be scanned from an exact position. In order to utilize this concept of understanding, the QR Wall was constructed using a code broken over two planes, which could only be scanned from a single location.

Once all of the concepting and location for the piece was agreed upon, the wall would be used as an educational tool for the essence of the entire project. This in turn, was harnessed by the mobile component which was used to give a summation on the overall background of the project.