

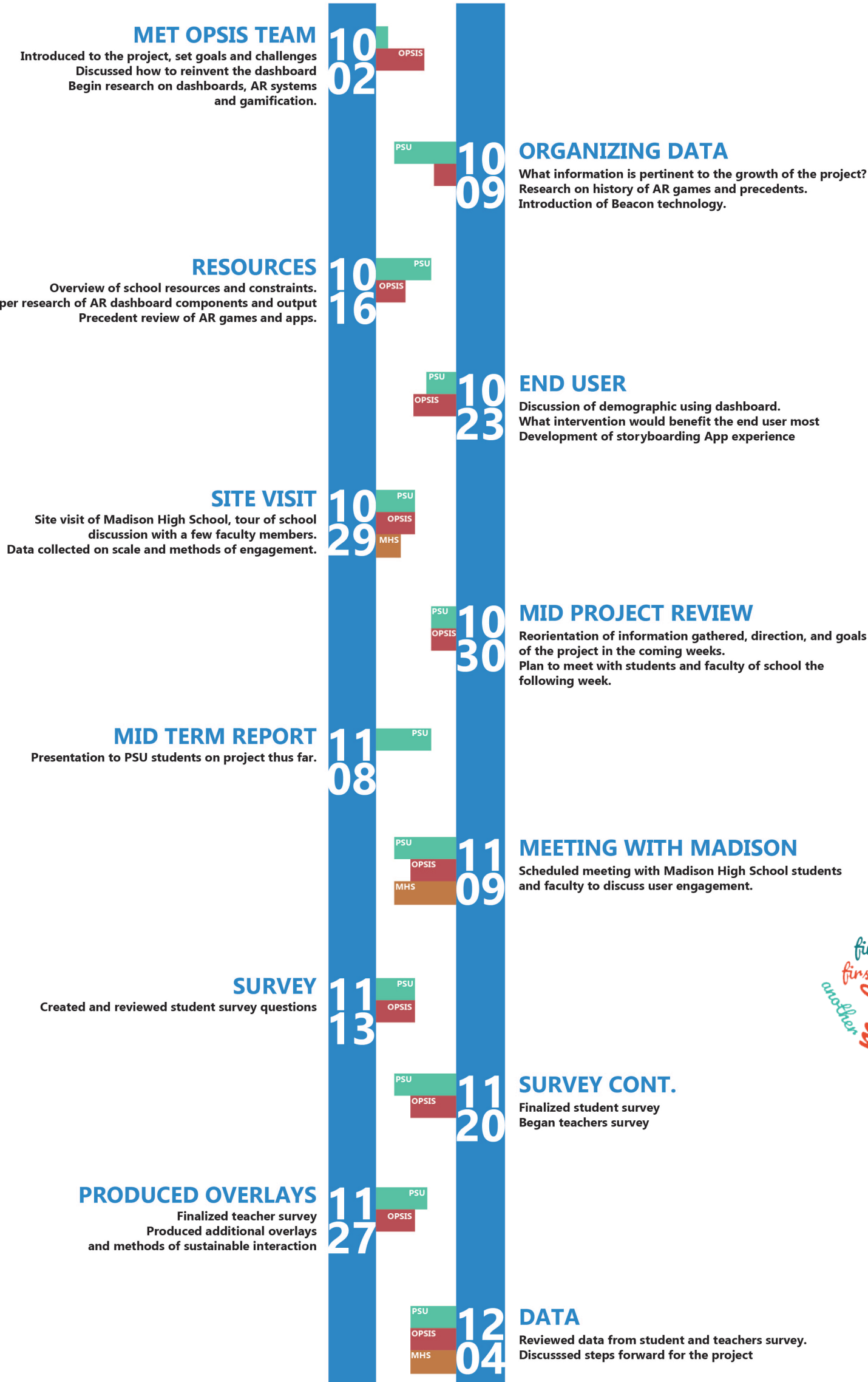
dashboARd

Brainstorming an Augmented Reality (AR) App
in collaboration with Opsis Architecture
Brandon Parker, Luke Hamel, and Stephanie Vance

Reinventing the Building Dashboard

Building Dashboards were introduced in the first decade of this century to help better inform and engage building occupants in managing water and energy resources for their building. Building dashboards are frequently found in K-12 and higher education facilities where the aspiration is to incorporate them into the curriculum. The dashboard is typically located on a wall or in a kiosk somewhere near the entry or lobby of the building. While the graphics and imagery of dashboards have improved over the years, they tend to suffer from being stationary and 2-Dimensional, leading to attrition of use after the novelty wears off.

Our goal is to reinvent the dashboard by bringing it into the realm of Augmented Reality. AR tools for smart tablets have been developed for building facility managers, allowing building managers to overlay hidden information on the real-world spaces they are operating, such as pipes in the walls or the components of a motor inside equipment. We envision using AR in a similar but more playful way to allow students to visualize the movement and use of resources in a building in real time, illuminating the impact that individual and operational decisions, weather conditions, and other external forces have on the resource consumption of the building. The goal is to develop the roadmap for an AR Building Dashboard for Madison High School that will be integrated into the curriculum as part of the new renovation/addition that to be completed in 2020.



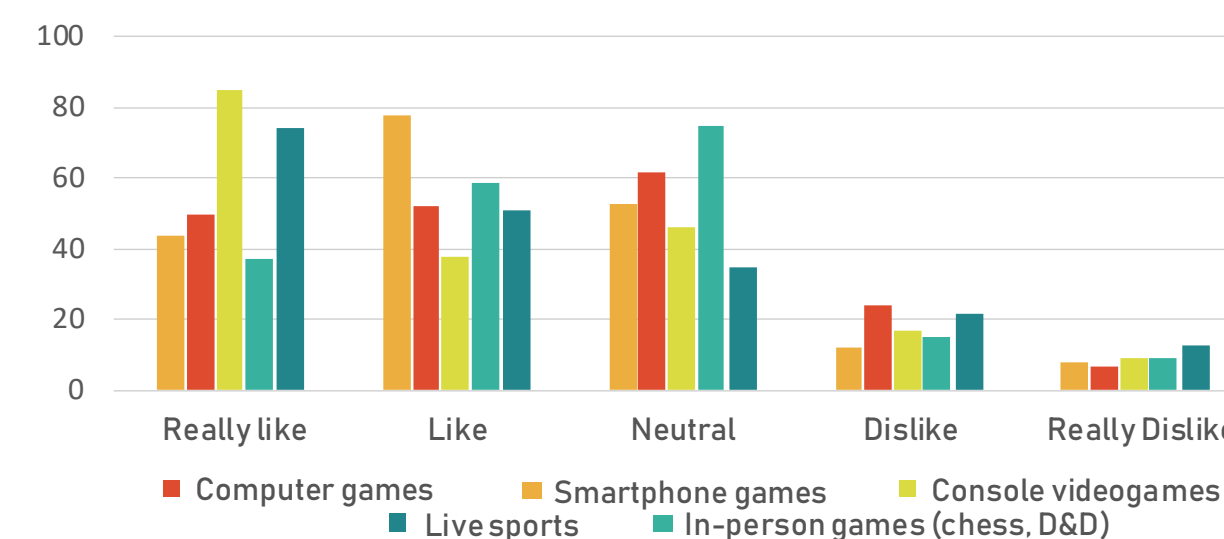
Goals for the fall quarter are:

- What is the current state of AR tools that could be adapted to a dashboard?
 - What are the most effective and playful ways of visualizing information in AR? How could this information become a game?
 - What are the classes that would use the AR dashboard in their curriculum? What would meet their goals? Meet with teachers and students at MHS.
- What do we need to measure? What could/should we measure that we don't already?
- Storyboard the AR Dashboard

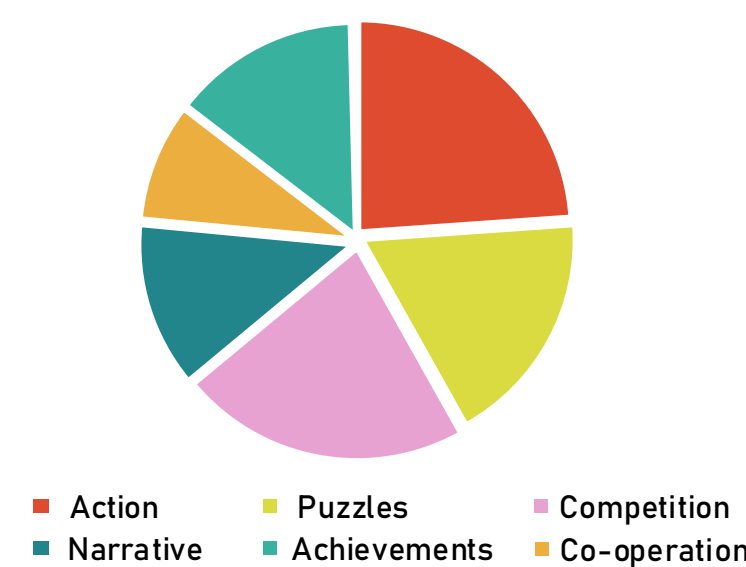
Results from the Student Survey



Which game format do you prefer?



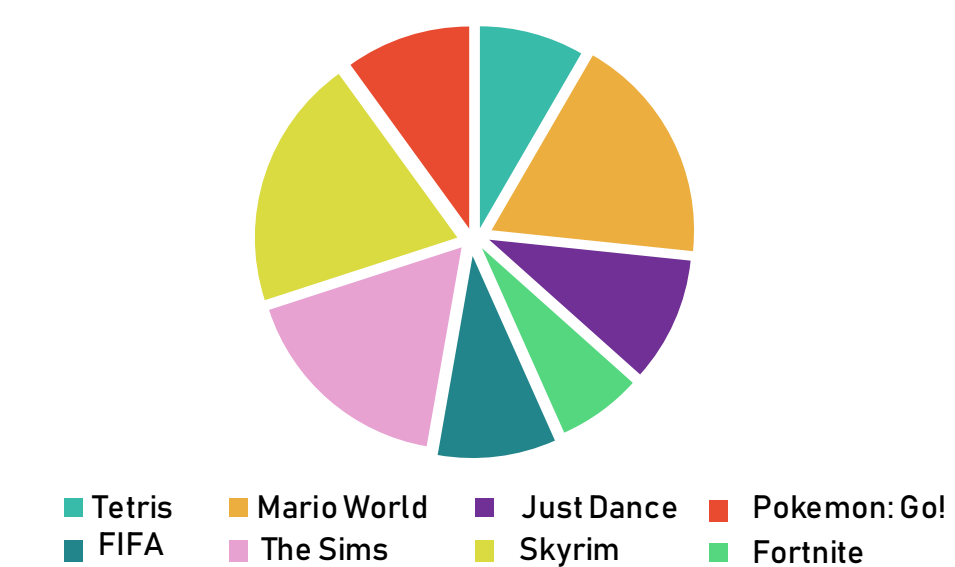
What would you want from an educational game?



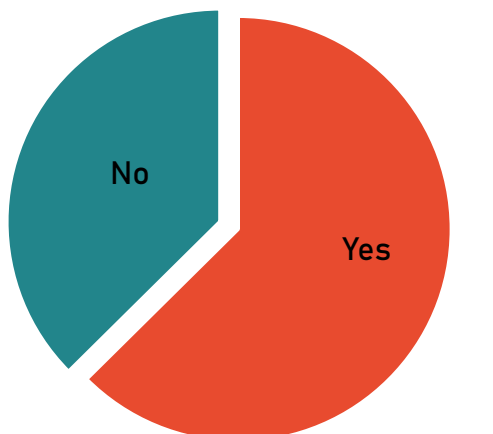
How many hours a day do you play videogames?



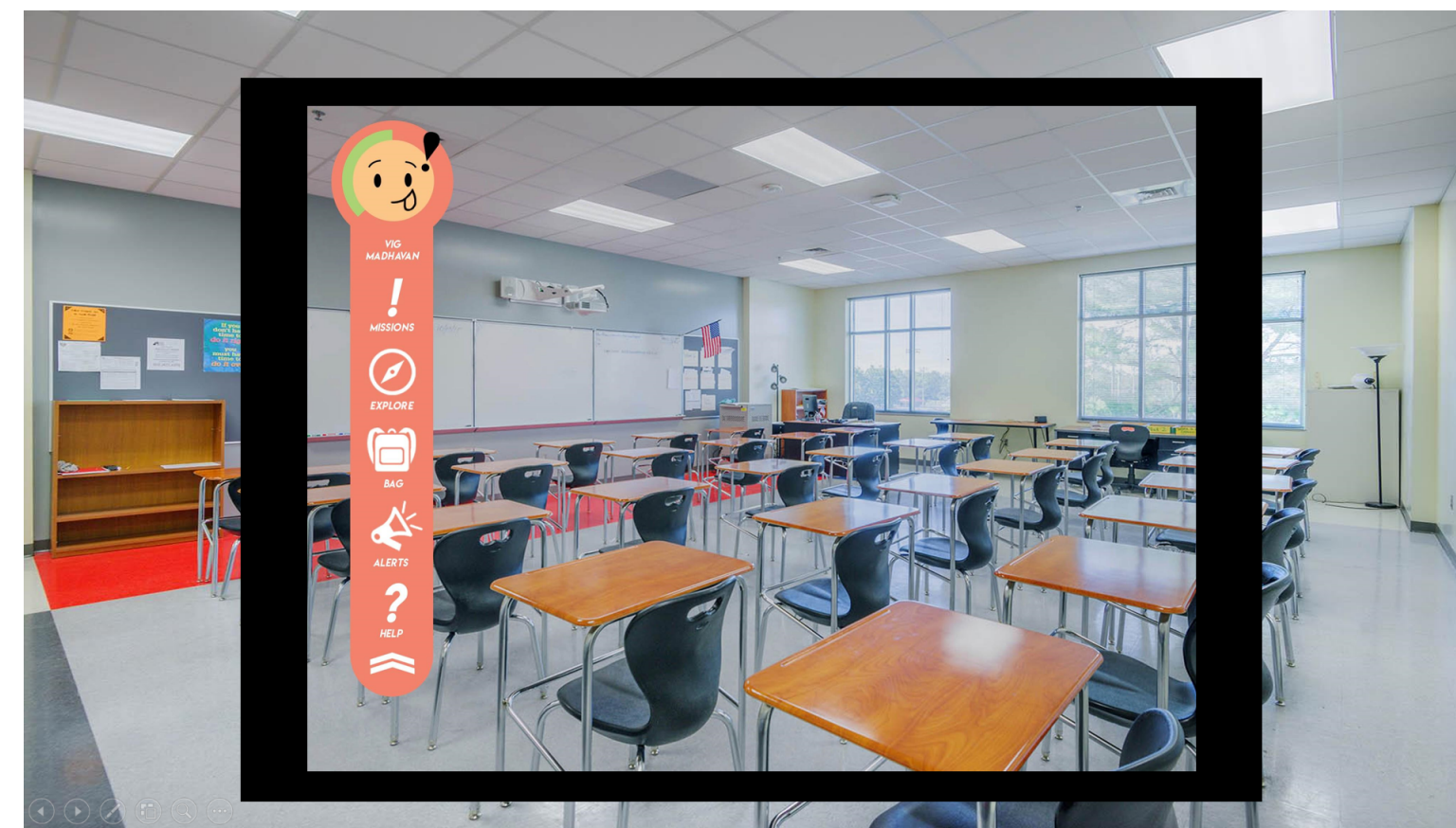
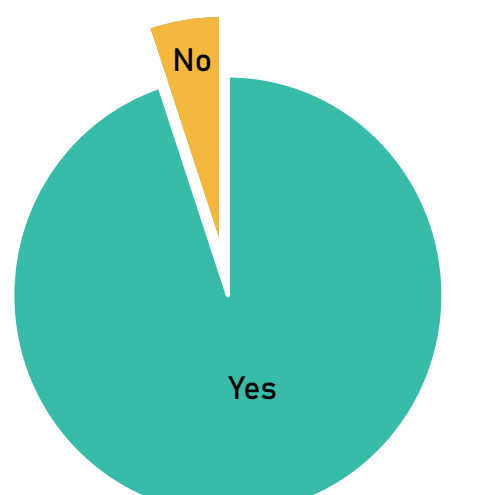
What should the game look and feel like?



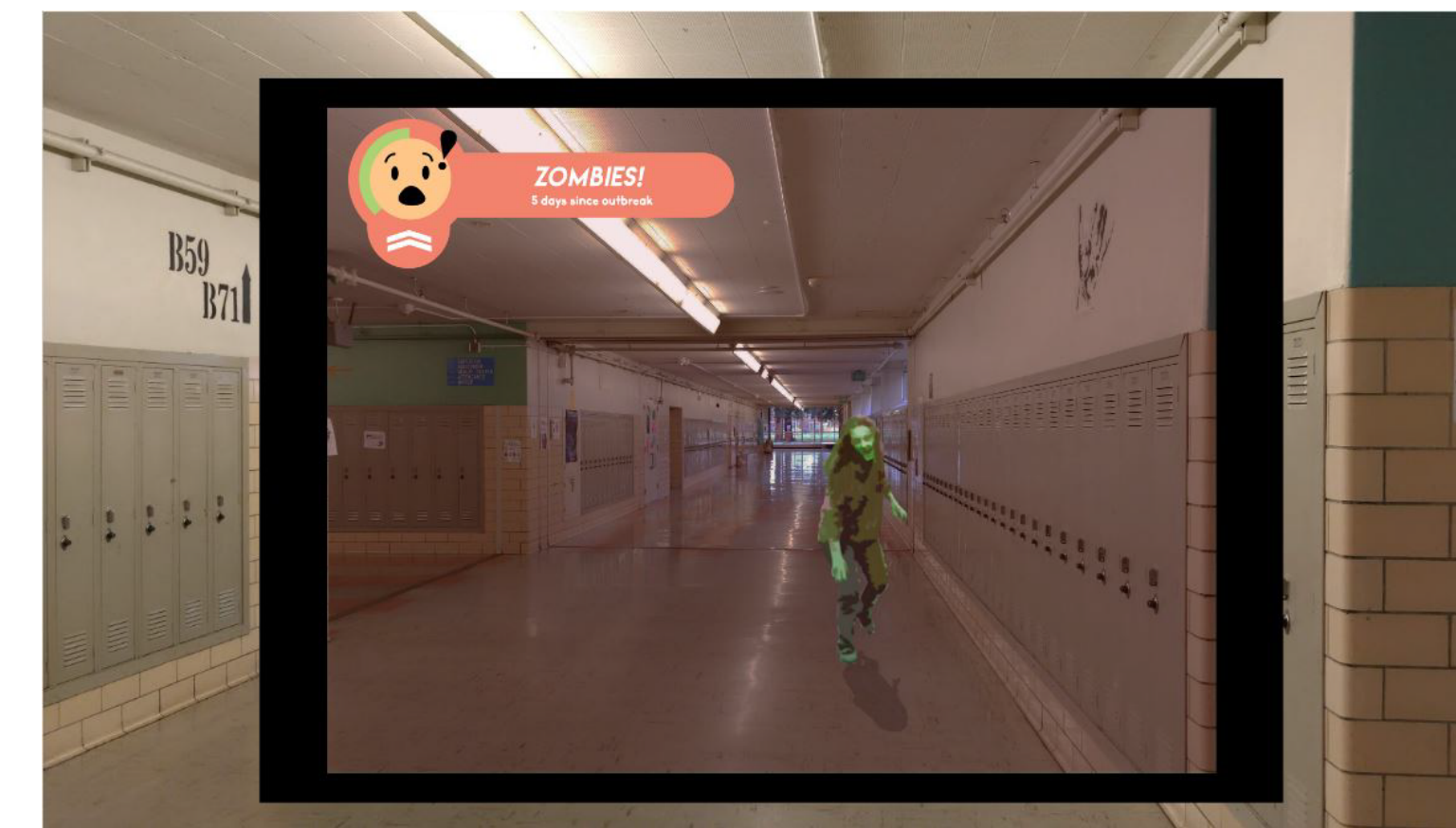
Are you familiar with Pokemon: GO?



Are you familiar with Snapchat?



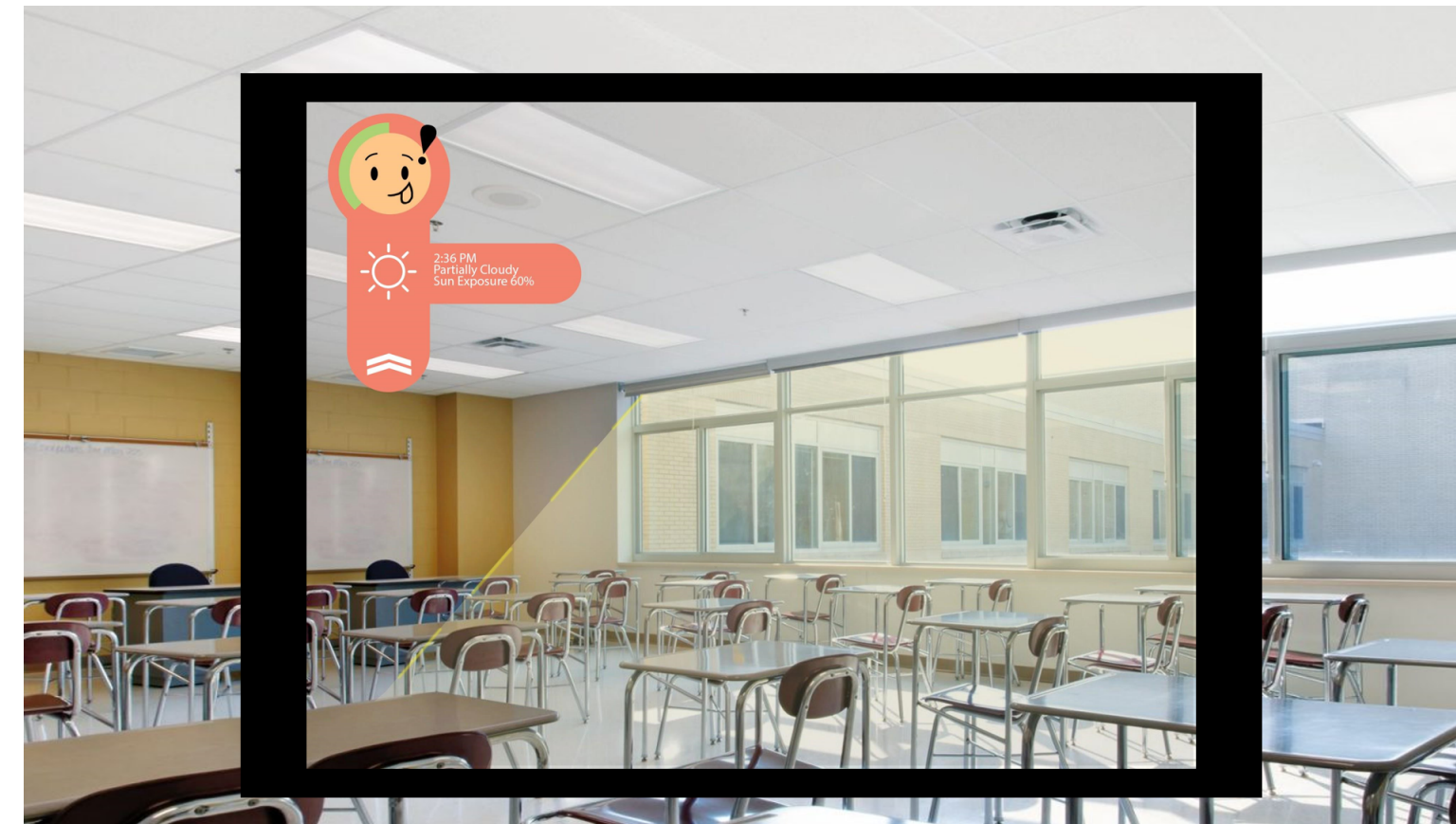
Heads-Up Display (HUD)



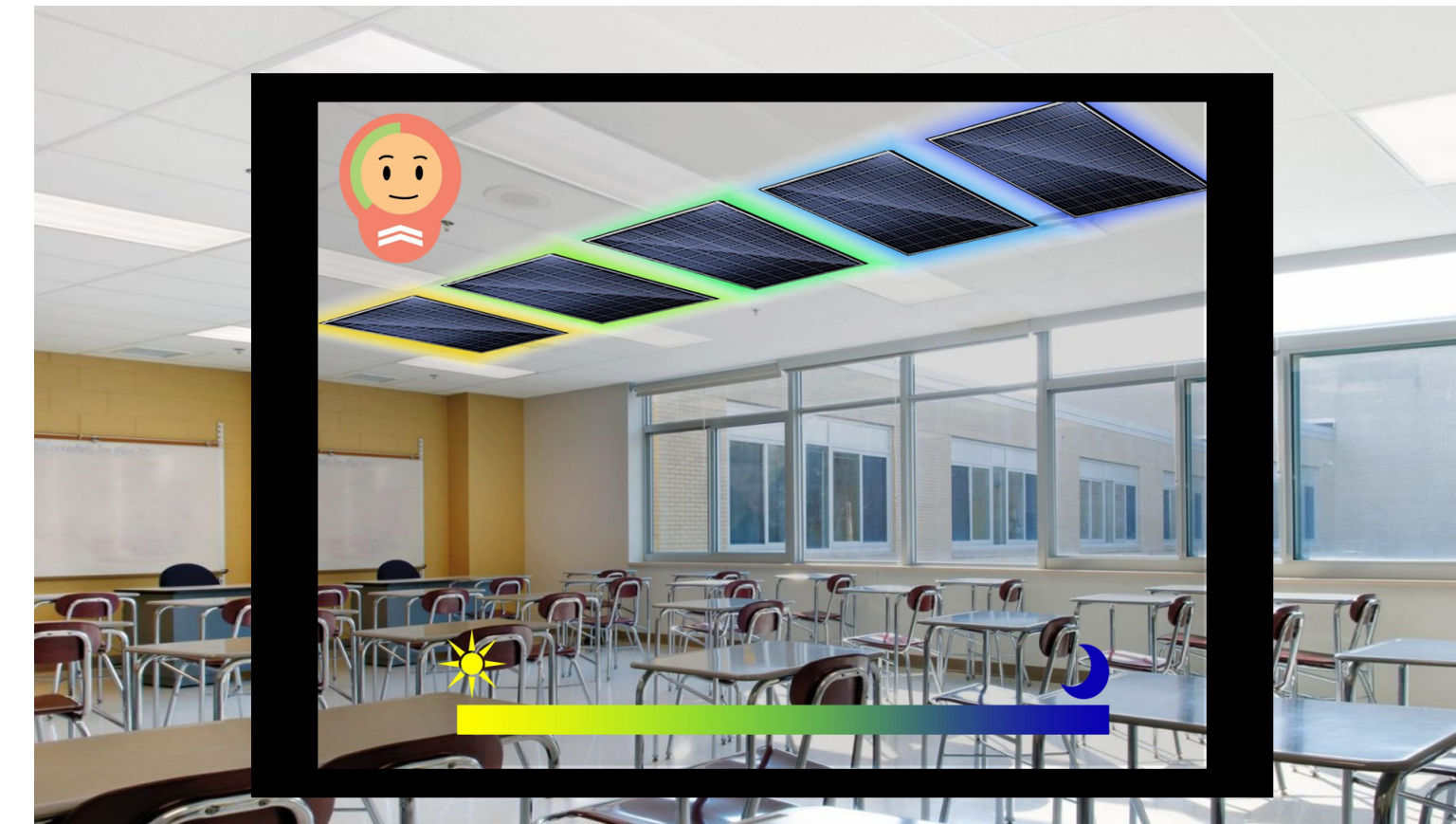
Event Game Mode



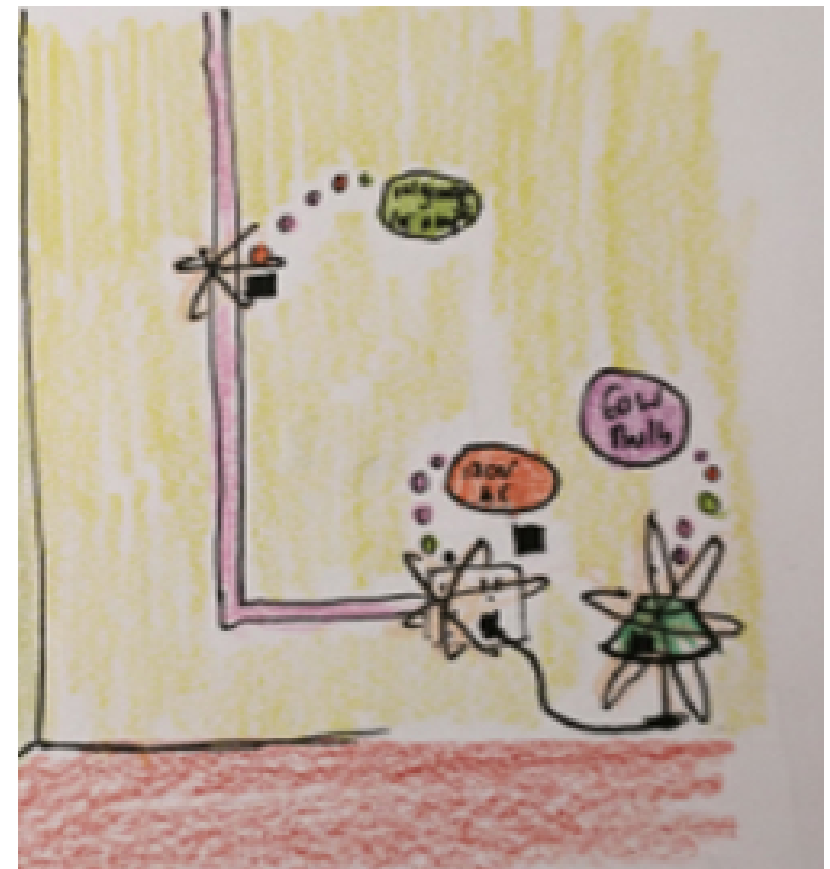
Energy as Flow



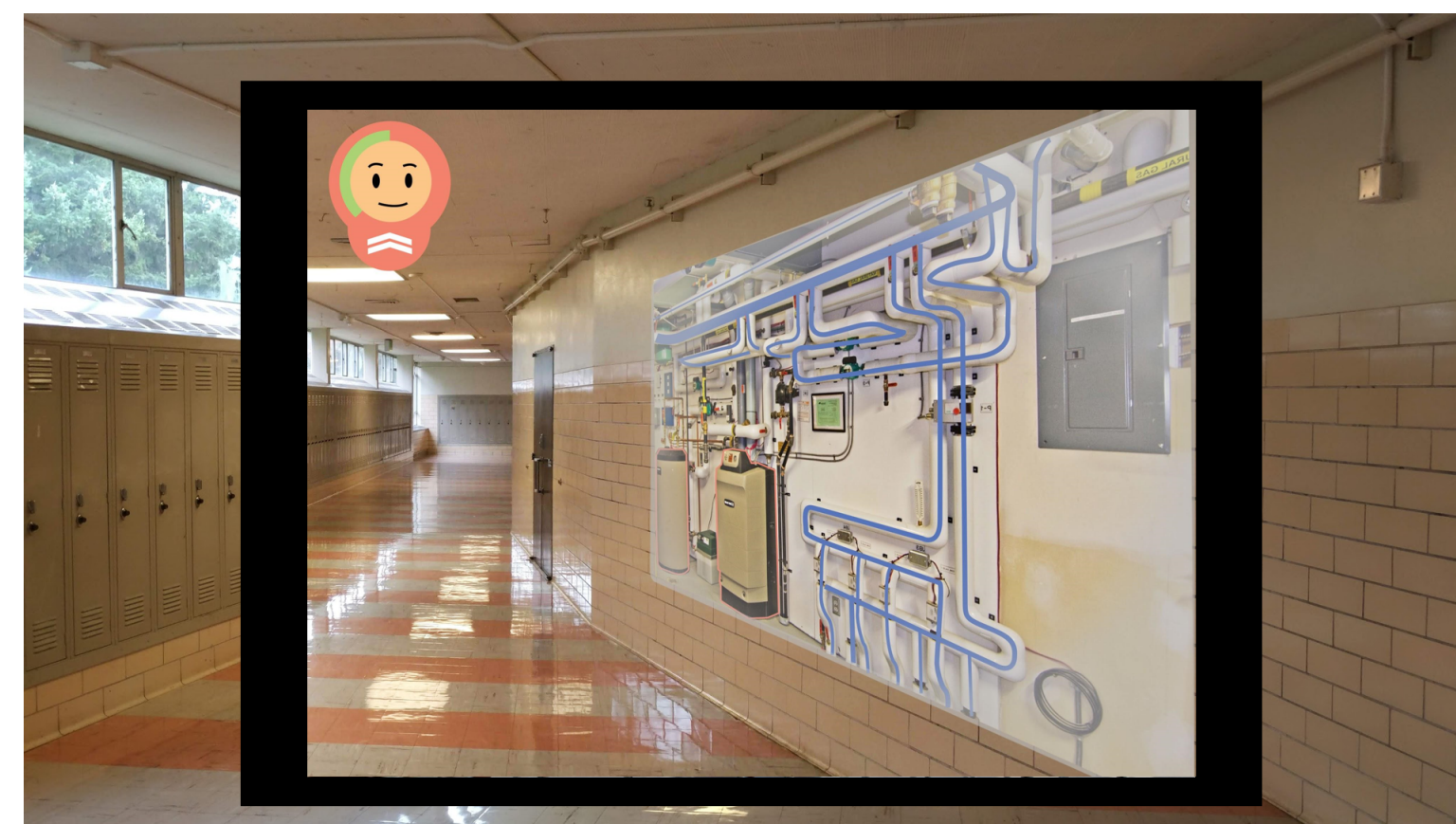
Sunlight Overlay



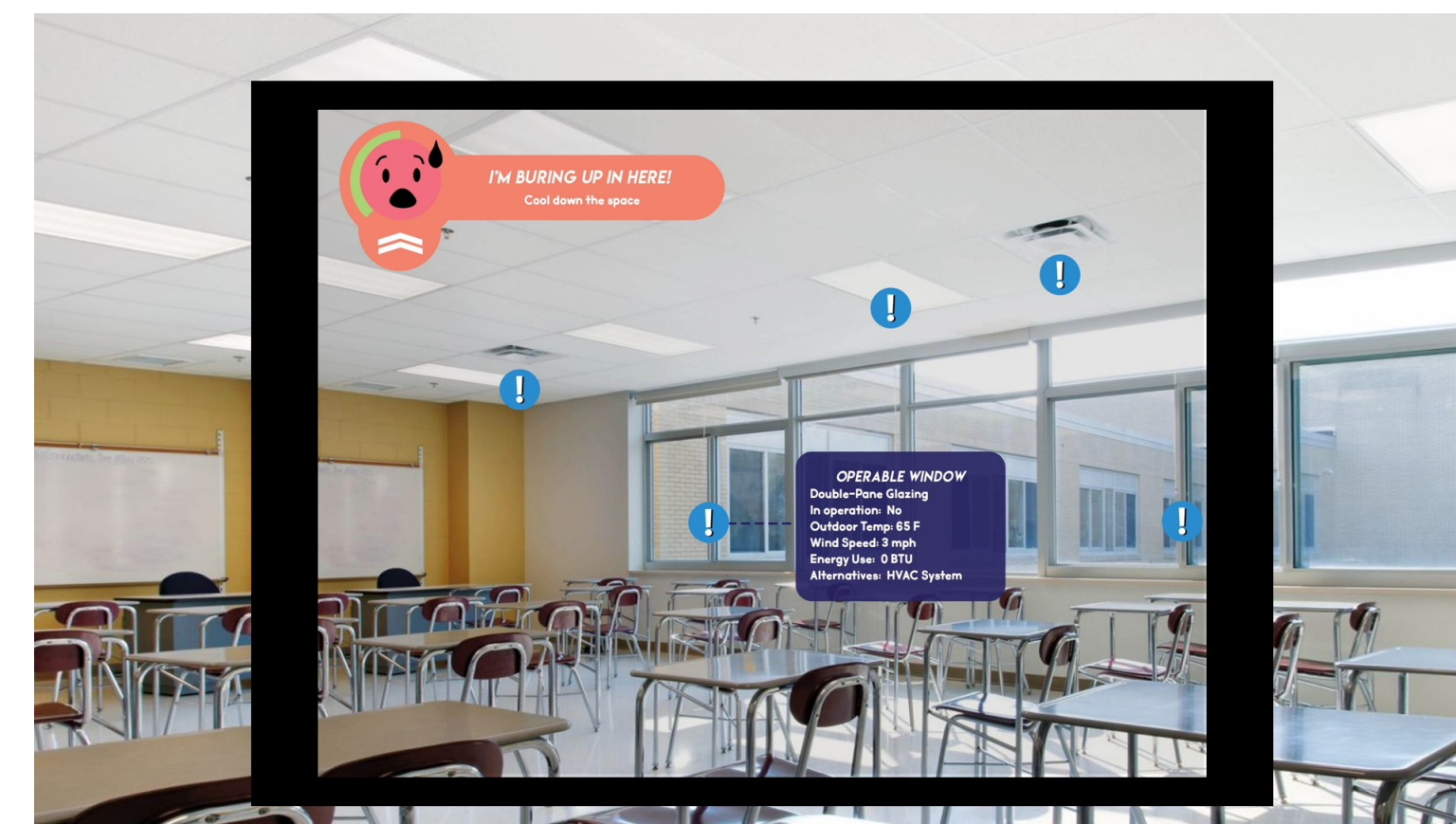
Solar Panels X-Ray View



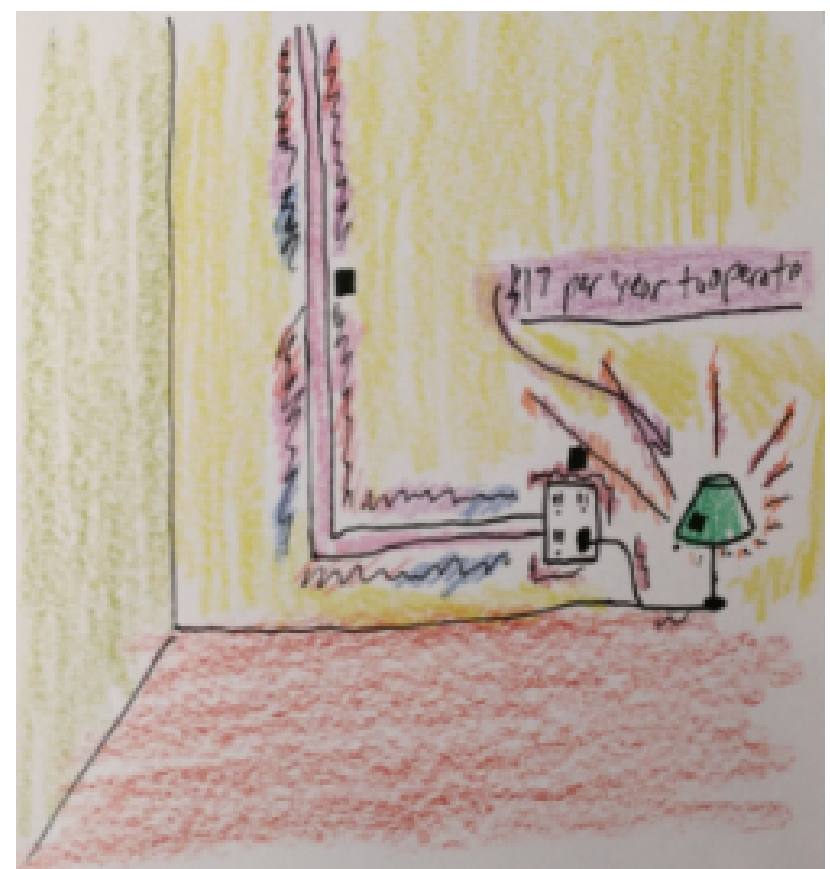
Thought Bubble Energy



Mechanical Room Overlay



Sensor Overlay



Energy as Vibration