IMPACTS OF SOCIAL IDENTITY IN TEAMBUILDING

DECO3850 CRITICAL REFLECTION ESSAY

SHARED EXP

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The purpose of this essay is to investigate the impacts that place and space have on social identity, and the implications this identity has on teambuilding exercises. Through an exploration of observations from existing products and the impacts of physical space on teambuilding, the success and failures of the Rickety Ship Simulator *will be evaluated. The essay will focus particularly on interlinking of the different control schemes used.*

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Introduction

Teamwork has always played an important role in the workplace. In the past, groups have had the opportunity to work with each other for long periods of time, eventually forming a high functioning team. The issue with this is that 44% of employers are now relying on temp staff and contractors (*Hays Salary Guide 2017*, 2017). This regular rotation of employees means that teams are given little opportunity to develop. To supplement this, companies often use team building exercises such as escape rooms, however the open-endedness of these exercises lack role rigidity and individual value. A solution to this is to provide users with unique roles, forcing them to become dependent on each other, and reflecting a real team environment.

Rickety Ship Simulator is a team-based game where players must cooperate to fly a spaceship and earn as many points as possible. Each player employs a unique role and must communicate with the rest of their crew to succeed. Communication between players is facilitated through a variety of techniques.

One of the techniques used to facilitate communication is the use of modular controls. Rather than taking a conventional approach where all players have equivalent control over the system, players instead embody one unique part of the game's function or control. Splitting the game's functionality like this enforces communication in a fun yet tense environment.

Due to my contributions towards the game's control design, I had the opportunity to work on all 4 roles. As a result, I will be using this essay to explore how *Rickety Ship Simulator*'s controls have been used to support communication and team skills. I will be using the insights gathered from the products exhibit in order to reflect on their success in developing team bonds between users.

Background

Team-Building Philosophy

The simplest definition of a team; "a group of people coming together for a common goal" (Cohen, 2017). This definition stresses the importance of collective work and responsibility. These are the core features of an effective team. Despite this, it is also important to stress the individualism of the team's members. "A collaborative relationship is not merely the sum of its parts, but it is a synergistic alliance that maximizes the contributions of each participant" (Evans, 1994). This philosophy implies that all members of a team have a responsibility not only for themselves, but also for drawing the greatest potential out of their teammates. For a person to be considered officially part of a team, they must first be able to work with their teammates more effectively than if the two were to work individually in parallel. This is done through the unification of their goals. At its core though, it is still essentially an alliance. They still have their own personal strengths, weaknesses, and connections to their goals. As a result, the purpose of teambuilding is not to unite its members to create a singular collective team. Instead, teambuilding exercises must train each individual to understand the strengths and weaknesses of the others in their team, and how to communicate with them to best draw out everyone's potential.

Common Mental Models in Teambuilding Exercises

When working in a team, a shared understanding of due process is needed to avoid conflict and inefficient work. Cannon-Browers et al suggest that a team with a shared mental model can greatly improve their performance by streamlining collaboration (Cannon-Bowers, Salas, & Converse, 1993). As a result, teambuilding activities should aspire to improve a team's ability to generate a core mental model. While escape rooms do in fact encourage this type of activity, they do so in a way which assumes that all players begin with equivalent knowledge. Players can formulate strategies unobstructed because they share the same level of experience. Conversely in a work environment, team members each have a plethora of dependencies that they must personally communicate to their team. If a team member is unable to successfully communicate their needs, any mental model formulated by other members will not account for their work's full scope.

Yen et al suggests that "effective human teams often benefit from… anticipating different needs of teammates" (Yen et al., 2003). This implies that team members should be aware of not only their own deadlines and dependencies, but of the rest of their team's as well. To teach teams how to apply this in their own workplace, team members will need to learn the importance of communicating their needs with their team prior to deadlines.

Effects of Space and Place on Social Identity

Often people can forget that communication is not solely a spoken experience. While online verbal communication could be used to cover a large amount of the difficulties inexperienced teams endure, a shared-space experience is still necessary to fully facilitate the interactions of a real team environment. Pan et al stated that "When groups collaborate [in shared physical spaces], they naturally maintain workspace awareness: knowledge of each other's interactions and activities in the workspace" (Pan, Lo, & Neustaedter, 2017). This allows players to better understand and anticipate the actions of their team members. Pan et al's report went on to observe that the communication of escape room attendees would break down when they began solving puzzles in separate rooms. Despite sharing the same space, the divide of a wall was enough to sever their sense of belonging. Furthermore, Wilson states that a person's social identity is directly linked to *feelings* of proximity, which extends beyond the act of simply being near others (Wilson, Boyer O'Leary, Metiu, & Jett, 2008). Users must not only share the same space as users, but also the same place. If there is a disconnect between team members, then it will lead to a disconnect in communication. Therefore in order to facilitate a consistent feeling of belonging, team building exercises must maintain both a shared experience, *and* a shared space.

Netto et al. go on to state that "space is a necessary but not sufficient condition for the reduction of [social] entropy" (Proshansky, 1983). From this it can be read that in order to build and develop the desired team bonds, as a bare minimum team building exercises should create a supportive space. This space (and associated place) must be shared by all participants.

System Evaluation

Gunner/Pilot Interaction

The gunner and pilot systems of the R.S.S were heavily coupled due to the fact that they shared the same screen space. As a result, the two roles were expected to rely heavily on communication to coordinate their attacks. The issues with early prototypes was that they relied too heavily on coordination. Players found it far too difficult to direct their aim, keep the ship steady, and press a button to fire all at the same time. To amend this, I modified the gunner system to make use of lasers. Given that lining up a shot and firing it was too difficult to handle, part of the communication aspect was removed. Since aiming was still part of the system, it was assumed that this interaction would maintain a high enough level of player-player interaction. As a result, the interactions for this role were not re-tested.

This was a foolish decision, as the two roles saw *far* less interaction than expected at showcase. This was because the two roles had become too independent. In the original prototype, hitting a target was almost impossible without coordinating a strike. At exhibit, the gunner only needed to hold their hand over an asteroid for long enough. It would definitely be easier to work together with the other players, but it was no longer necessary.

This leads on from Wilson et al's statement that "colleagues [can be] situated in close physical proximity, yet seem quite distant." (Wilson, Boyer O'Leary, Metiu, & Jett, 2008). The lack of necessity to communicate had put up a social barrier between the gunner and the pilot. Despite being present in the same space, the game had provided them with two different places to occupy.

This issue could easily have been prevented if the interactions had been properly tested after major changes were made to the system. If the errors had been caught earlier, some methods for making interaction more compelling could have been applied. One possible solution could have been achieved by further coupling the roles, and making it so that the gunner controlled the ship's speed, while the pilot controlled the type of beam being fired. Through empirical evaluation, the most effective methods could have been selected and implemented.

Simpler Intel/Engineer roles

To enforce communication between the intel and engineer roles, ship repairs were done through a word-play puzzle. A switch-board in possession of the engineer was used for these repairs, but only intel would know which of the various inputs on the device did what. The devices were all given extremely similar inputs, forcing players to clarify their communications. When testing out the instructions for the game, I quickly realised that this was far too time consuming. Even with experienced players, one repair sequence could take an entire minute.

To amend this, I removed the majority of word-based puzzles. Instead, each input was given a unique name ('button 1', 'switch 2' e.t.c). Players would still need to guide each-other to the correct inputs, but most interactions could be safely dictated without fear of being misinterpreted. However following Yen et al's suggestions, the system should prioritise teaching players to understand and anticipate the actions of their teammates. While most of these puzzles were removed, an initial 'diagnosis' stage maintained its difficulty. This was due to the importance of teaching players to share their mental models.

The outcome of these changes was far more positive than expected. Players still needed to regularly clarify with one-another despite the decreased difficulty. Furthermore, the simpler word-play puzzle allowed players to more easily formulate strategies in advance. One group of players even noticed that using the terms provided by the game would be difficult in advance, so they created their own code. By developing a consistent mental model themselves, they were able to streamline their performance. Creative solutions like this are evidence that the game successfully provides a team-building experience.

Engineer/Intel to Gunner/Pilot

While proximity played an important role in providing a team experience, it appears that we greatly underestimated the impact that it would have on the game. To connect these two sections, pilot and gunner were intentionally tightly coupled. This was done by providing intel with a map to guide the pilot. In order to find resources, players would need to work together. Furthermore, the engineer was directly linked to every role, and was meant to prioritise systems by keeping in contact with all of them. Despite how successful this interaction appeared to be in testing, there was rarely any interaction between the engineer/intel roles and the gunner/pilot roles during exhibit.

Here, Wilson et al's social barriers have created a feeling of isolation between the two sections of the game. Our set-up in exhibit used a television screen that only the pilot and gunner could see. In order to prevent intel and the engineer from seeing this view, they were placed behind the screen. This lead to a phenomenon similar to that observed by Pan et al. Despite being in the same physical space, a small divider put both sides of the screen in their own unique places.

With intelligence, there was still some level of communication. With a radar in front of them at all times, they still had a connection to the state of the game at any given time. This enforced the shared experience, causing intel to feel included. Unfortunately, I had not designed the engineer in this way. When I coded the game aspects of the engineer, I specifically designed it in a way where no information about others was visually displayed to the engineer, and no information about the engineer was displayed to the rest of the crew. The intention of this was to force players to communicate in order to play the game, however on the contrary it led to the isolation of the role. Engineers would only ever communicate when intel asked them to fix something. This pipeline of interactions does not reflect the team dynamic R.S.S was designed to support.

Conclusion

Though *Rickety Ship Simulator* was unable to consistently get strangers to work as a team, when people of relative familiarity used the system it successfully facilitated strategy and teamwork. As a result, the system has the capability to improve an already existing team, but still lacks the resources to develop new bonds between unacquainted members. The development of this project should have seen more effort put into bridging the physical and social boundaries put between players, focusing on ensuring that each player feels included in the same place. Through the designing of these controls, I have found a far better understanding of how social cooperation should be handled.

Of the five success criteria initially created, only two criteria can be related to the use of controllers. These are; That players communicate freely throughout their play, and that they leave with stronger social and professional bonds. As we didn't consider the possibility that our system would only succeed with a portion of our target audience our success criteria cannot be used to accurately reflect the product's outcome, however the fail rates we saw would consider the success criteria to be unmet. It is also worth noting however that the users observed at the edge may not reflect the actions of an unintroduced team. As a result, the findings of this should be treated as inconclusive.

Despite a failure at the exhibition, the project still maintains the potential to build bonds between its users. If the systems were more tightly coupled in a way which didn't distance players from one-another, it could have been far more successful. The results of this essay would lead me to consider having the players share vision of the ship's front-view, further involving players in a single centralised experience. Rather than supporting asynchronous parallel play, I believe it would be interesting to see how players interact in this kind of environment.

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