Game Prototype:

Beyond our Sight

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Team Two*2

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Goals

Cooperative puzzle games are not new and there are multiple different examples of such games which verify that the concept of multiplayer puzzle games works. Thus, we do not need to test this whole aspect of our game. However, our project differs from other examples of the same genre. In contrast to games like e.g. "Portal 2" (cooperative mode) the players in our game exist in parallel dimensions instead of being separated by physical barriers. Combined with their dissimilar abilities, this makes the characters not exchangeable and influences the design of our puzzles. For example, we do not aim for puzzles focussed mainly on timing/precision like in "Portal 2" but rather want to prioritize the task of communicating and combining information.

Another example of a similar puzzle game with different types of players is "Keep Talking and Nobody Explodes". Similar as in our game, the players are being provided with different information and need to combine their knowledge in order to succeed. However, in this game, the two player types are strictly separated and have a completely different gameplay. Compared to this approach, we did not want to have one player acting as a sort of 'expert' merely giving hints to the other player who is actually solving the puzzles. Of course, this has a major influence on our puzzle design, too.

As the puzzles and the communication/interaction between the players are the most important part of our game, we want to test the mentioned differences in our approach with our prototype. Our main goal is to check how good the collaboration works if both players have no idea what the other player is seeing. Furthermore, we want to demonstrate some of our puzzle ideas in order to see how difficult they are when one can only see half of the solution. Another important aspect we want to consider is how the style of the different perspectives influences the players' experience.

Prototype structure

Our prototype consists of a pair of equivalent rooms with objects inside them. It represents the two versions of one room inside our game. Each scene of the prototype consists of one half of a shoe box with objects like a table and a closet made out of paper in it. The two playable characters are represented by simple lego figures that are movable through the respective scene. These two scenes are placed with the back to each other, so the players cannot see the room of their partner. This allows us to construct a similar setup as in the planned game.

As our game is a puzzle game there was no need to simplify our basic game mechanics or rules. However, an additional third player is necessary to allow actions that would normally be part of the computer's tasks e.g. synchronisation of the scene since both of the regular players are only allowed to see their own scene. Furthermore, the third 'Computer' player makes sure that all movements made by the players are actually allowed in our game, e.g. the book on the table is only reachable if the second player helps the other player climb up.

The puzzle in our prototype serves as a blueprint for the ping-pong structure our later puzzles will follow. This means that when solving a puzzle, both players will be able to contribute to the solution more or less alternatingly, as each intermediate step by one player allows the other to reach the next. This prototype is able to demonstrate this approach and allows us to evaluate this approach before its implementation.

The two seperate boxes of the prototype allow us to analyse our multiplayer experience as well. This way a short roleplay about solving the puzzle already gives insight on the multiplayer dynamic of the game and how both players experience their different perspectives on the scene. Trying out both characters also helps to assess whether one character is considered more fun to play in this scene of the prototype.

Rules & Procedure

As the Prototype is a paper model of the game, there needs to be a set of rules to follow when playing or testing it. To enforce these rules as well as for handling the interaction with the paper world, a third player, simulating the program and the game's feedback, is taking part in the prototype test.

During the game, players search their room for hints and inform their teammate if they could gather any. Their teammate can then use these hints to reach information that was previously not available to them. However, many of these hints are hard to implement in paper, so the third player helps out at that point. The third player also handles the synchronized objects, which means objects that have a counterpart in the other player's world and are moved or changed when their counterpart is interacted with.

Further rules that have to be respected during a prototype test run are: Players must not look at the other player's scene or add objects from outside to their room. They also must not rearrange things in the room if the third player does not allow it, as this means this would be an action that will not be implemented in the actual game. As they are playing children characters, players also need to respect their characters' reach. This is planned to become an important factor in the puzzle design.

The following steps describe how the prototype should be used:

1. The characters enter a room together
2. They face an obstacle / puzzle
3. Each player searches for hints
4. The players communicate with each other and try to combine their information
5. They interact with the objects around them
6. The third player applies changes to the room
7. Go to step 3 until the players have found the solution
8. Proceed until the next obstacle / puzzle (2) or to the end of the room
9. The characters leave the room together

Physical prototype

As can be seen in the picture on the right, we build a prototype of our game out of an empty shoebox. The box shows the same room but from two different views. The view of the girl can be seen on top and the view of the boy on the bottom. To play the prototype, both boxes are placed so that each player can only see their own room. A third player representing the game system can see both rooms and moves the figurines of the players in both rooms simultaneously.

The objects look differently for each player, e.g. the drawers are only open for the girl meaning that only this player can reach the box with the key inside. On the other hand, only the boy is able to read the book on the table as can be seen below.
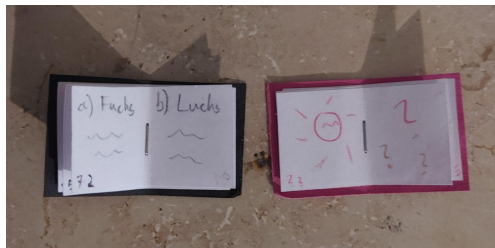
When trying to open the box, the girl is faced with a couple of buttons with animals on them as can be seen on the left. A hint for the right button is written in the book which the boy can only reach with the help of the girl. To know which page is the right one, the two players need to combine their views on the note on the wall to reveal the solution (Page 133 a).
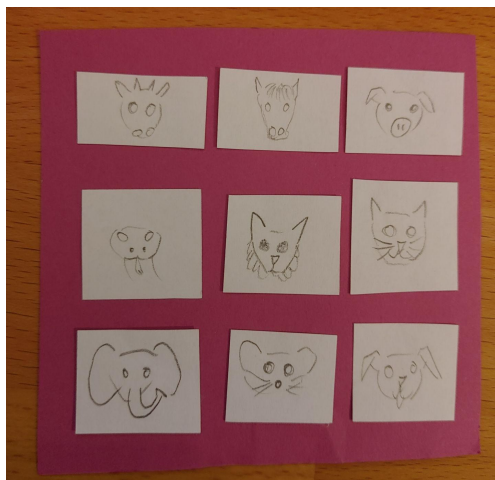
Page 133 a) of the boy reveals that the wanted animal is a cat. Now the girl can press the cat button, acquire the key and with the help of the boy put the key in the lock on the door. The two of them are now able to flee!
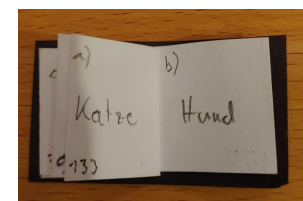
Experience

While building our prototype and designing our puzzles we discovered that this prototype does only enable the players to reveal specific objects but not whole parts of one room to the other player. Thus, it will not showcase our view-sharing ability. Additionally, the prototype cannot convey the same immersion we look for in the game, as the prototype puts the player in a different perspective than the game will. Instead of viewing the scene from a low-to-the-ground viewpoint of a child, players experience the prototype from a top-down "dollhouse" view. This makes exploration and the search for objects in a room less immersive as it is planned for the game.

Revisions and Discoveries made after testing the prototype

During playing, we discovered some possible issues with our puzzles. For example, if the room contains too many objects the players might not know which objects are relevant and where they should begin in order to solve the current puzzle. This is a disadvantage compared to the approach of "Keep Talking and Nobody Explodes", where at least the expert has information about which elements are relevant and which are not. In order to prevent this problem we plan to add a highlight system for interactable objects.

Furthermore, multiple objects of the same type could lead to misunderstandings between the players, especially if those objects are close to each other or can't be distinguished easily. Therefore, each room / puzzle should be evaluated regarding its complexity and simplified if needed. All objects in the same room must be either clearly distinguishable or must be located at the same position in both worlds.

When crafting the paper prototype, we realised that our puzzles also work without the planned 'sending over'-mechanic. Since we already have a couple of planned mechanics, we decided to move the 'sending over'-mechanic from desired- to high-targets since we would rather use the time to focus on puzzle and level design. We also asserted that our design of the orderly side of puzzles still needs more focus and inspiration until we feel like it is as fun to play as the chaotic side.