

Alpha Release:

Beyond our Sight

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Team Two*2

Maximilian Hess

Oliver Jung

Viktoria Kirchleitner

Moritz Schirra



Multiplayer Implementation

Changes & Additions

A crucial part of our project is the online multiplayer. We only used the simulated server-client system of the Unreal Engine to test our implementation so far. For the next phase of the project, a working multiplayer system is necessary and important, so we started to implement a real online connection system for the game. To achieve this, we make use of the Steam client and account system, so only a Steam account is necessary to connect to another player and play the game online.

Furthermore, the communication between the players is very important for the core game idea, so we wanted to allow communication directly in the game. As a result we implemented the possibility to use voice chat in the game using a push to talk system. This way the players can communicate and solve the puzzle together by pressing the corresponding voice button.

Challenges

Central part of our game is the multiplayer. Unreal Engine's replication system serves a good base for networking however, getting it to work correctly does require some extra effort from time to time.

Design Revisions

We realized that the nice-to-have split screen mode for the local multiplayer does not work for our game idea. The core idea of the game is the missing information of each player respectively as well as the communication between the players, so it would not work if both players can always see the view of the other player during the game. Nevertheless, we want to provide local multiplayer, so we implemented a connection option using networking via LAN or WLAN. This solves the problem of a shared screen and information without the need of an internet connection or a Steam account.



Interactions and Puzzles

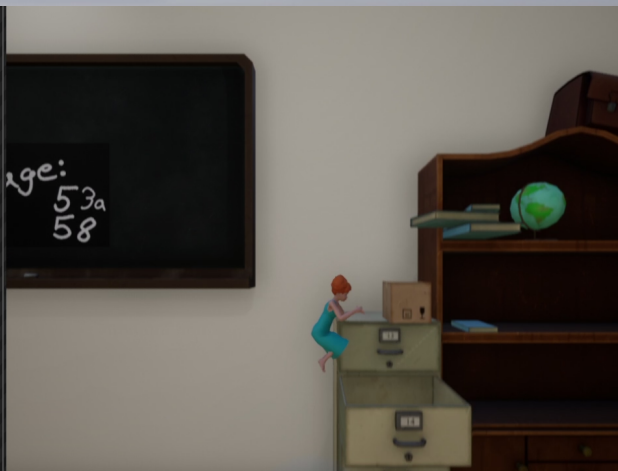
Changes & Additions

During the Alpha release period, our protagonists, who are now called by the names Alice and Anton, received new abilities to interact with the world around them and also some polishing on already existent ways of interaction.

One of the new features in this version is the fully implemented stealth gameplay. There, both players can go into stealth mode by holding “Shift” while walking. However, this has different effects on the different protagonists. Contrary to the boy, Anton, the troublemaker Alice is even less tolerated in the hallways or in restricted areas. Thus, she cannot pass either the open door of the teachers’ office nor surveillance cameras without being sent away. Anton on the other hand is much more popular with the teachers. If he is quiet he is allowed in the hallway, as he is expected to be on an important errand anyway. Consequently, Anton needs to help his friend by using a larger movable object to shield Alice from the teachers’ vision. This gameplay feature has been polished from the interim demo and is now fully functional with both protagonists. When an object is moved by the boy across a stealth zone, the girl can hide behind it while sneaking and pass through the stealth zone this way. This is necessary to complete room two. The first stealth zone is visually highlighted by a strong “rectangle light” that throws obvious shadows when passing through. We might add an option to pull objects instead of just pushing them, but this depends on the playtesting results indicating a need for that feature.

Furthermore, crouching with a character to enable the other player to climb higher places now works correctly, fixing previous problems with wrongly behaving colliders. This feature is already needed to climb the shelf in the first classroom. The game now also includes multiple pickupables. Not only the key but also a crowbar can be acquired and used to break certain things to allow for progression through the level, bringing more of the chaos-theme into the gameplay.

Progress in Pictures



Assets and Animations

Changes & Additions

Since the Interim Demo, we added a lot of assets to the game. So now all objects in the rooms as well as furniture have their final models and textures instead of the simple white cubes they consisted of. This also applies to textures for the walls and the floor, they now have a distinct texture. Objects like doors also have the corresponding opening animation fitted to their new model.

We also improved the models for our player characters, so e.g. Alice, the girl, now has a new hairstyle. Furthermore, some errors regarding the character animations have been fixed. Until now, during some animations body parts from the characters clipped through the clothes. We fixed most of these issues by selecting parts of the models that are simply not made visible by the engine, so they cannot clip through the clothes anymore. Additionally, we reduced the complexity of our models by removing unnecessary vertices and baking details into textures.

Regarding the animations of the characters, we speed up some of them to improve the user experience during a playthrough. Furthermore, the pickup animation for e.g. the keys now do not only play the animation but also actually pick up the keys so the characters can hold these interactables in their hands.

Progress in Pictures



Shaders

Changes & Additions

In the Interim Demo we had some problems with the areas around the players. From the perspective of Anton, the boy character, the direct surroundings were displayed a bit lighter than the rest of the scene and there have been some issues with the area around Alice, the girl character. We fixed those problems and now this visual effect works as intended.

Furthermore, we also added objects that can only be seen by one player. An example for these are the drawer cabinets. They are closed from the perspective of Anton but Alice sees them open and can jump on the drawers. These objects are a core part of all puzzles and can be found in every room. This feature reaches from limiting certain information to one view to making entire platformer passages exclusive to one protagonist. To identify these objects and to work with them is one of the most interesting and unique challenges for the players in our game.

Progress in Pictures





Level Design

Changes & Additions

As is necessary when beginning the playtesting period, all five rooms of the level that we aimed for in our high target are fully built and almost fully functional. They are diversified and thought-through enough to now undergo the polishing that comes with the playtesting feedback. Each room comes with its own layout, theme and puzzle. We also alternate between longer, complex puzzles and shorter ones, as to not exhaust players in the process. Thus, room number one, three and five are the core of the game. In addition to the multiple steps of the puzzle, which players usually solve in a ping-pong style by utilizing each protagonist's unique skill set, they also involve a secret code to be entered at the right place. However, these codes are never a mere number but instead they are symbols / categories more visually and logically connected to the school setting. Alice e.g. recognizes images of cute animals and can differentiate between different colors of a color scheme while Anton can enter the letters of the notes of a music sheet that the musically interested Alice describes to him.

Furthermore, we added checkpoints that allow for a small setback for players when they make a mistake during the two stealth passages in room two and five. The checkpoints are

set when entering a room, as this is the most comprehensible point in time. They could also be used in a save system, in case we add one later, either as an extra or if it turns out sought-after during playtesting.

We also started adding more clues and wayfinding indicators in each room, often only visible or readable for one protagonist. Right now, clues are only integrated at certain points in the game, as we do not want the puzzles to become too easy. These clues will become more numerous as soon as we have the feedback to know which parts of the puzzle are not intuitive enough yet. The nature of hiding some clues and wayfinding assistance from one protagonist even encourages more of the communication between players that we aimed for in the first place.

Challenges

Right now, it is still hard to estimate how difficult these puzzles will be for new players that have not seen footage of the game yet. As an example, certain mechanics like pushing objects and the stealth gameplay might be quite intuitive in isolation, but it is hard to predict if they can be easily enough understood and applied to the puzzles at hand. Even so, the playtesting phase will give us valuable insight in that regard and our ability to add more varying clues and hints to the puzzle allow us to settle on the difficulty level we strive for.

Progress in Pictures





User Interface and Menus

Changes & Additions

Unreal Engine's UI system ran into some issues in the multiplayer context so we've been holding back on some UI elements until now and added them now for the alpha release. Also, some of the overlays e.g. for the puzzle boxes needed fixing since the black-and-white post-processing filter for Anton's perspective didn't apply to the UI elements. Furthermore, there now exist dialogue boxes for both protagonists that are used to express the thoughts of the characters and therefore relay information and hints to the players.

Progress in Pictures



Beyond our Sight

Host

Join

Options

Quit