Playtesting Report: Code Bread

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Playtesting: Organization and Participants

All play sessions were held online by using *steam remote play together*, which simulates the keyboard input of the the invited player(s) in the game of the host. Thanks to this, our local-multiplayer game could be played over the internet with other people as well. While this approach does mean a reduction in image quality and responsiveness for players that aren't playing locally, these tradeoffs didn't seem to have too big of an impact on the playability of our game.

Most of our 17 testers were friends and fellow students. The majority of them played games everyday, however, there were also a few who play less frequently. Because our game requires two players to be played but sometimes we only had one playtester available, some tests were conducted with someone from our group taking the role of the second player. Therefore, the results may vary a bit between groups consisting of two new players and ones where a tester was playing together with one of us developers.

Post-Game Survey

Our post-game survey asked participants to provide information and feedback in the following areas:

- How often the participant plays games in general
- Roughly how long they played Code Bread for
- How they found the difficulty of the game
- Impressions on various aspects of cooperative play
- Whether the cow got in their way
- Impressions on various aspects of the air system
- Impressions on various aspects of the event notification system
- Impressions on the sound balancing and sound effects
- List an action that the tester found took too short or too long
- List the aspect of the game that they enjoyed or were annoyed by the most
- Rate the tutorial and learning process
- Rate the game's graphics
- Provide an overall rating of the game
- Provide any other comments

Results

Most of our participants played the game for more than half an hour. Our survey unfortunately didn't give the option to specify longer durations, but some participants even played for more than an hour. Despite this, there was a slight tendency for participants to rate the length of their test session as a bit short, a positive sign for the enjoyment of our game.

The difficulty of the game was perceived to be a little on the difficult side, particularly when starting off, but got better as they continued playing. Surprisingly the tutorial received mostly positive feedback, despite some testers noting that they had a little trouble understanding how the game works.

Cooperative elements were perceived as a valuable element of the game, while adding to the chaos of the game.

Regarding the fluid simulation, testers were generally able to understand the visualization of the simulation itself in terms of what the particles colors and counts meant, however the player's remaining breath visualization wasn't so clear. Without knowing its true meaning, this feature was often overlooked at the start.

The event pointer system on the other hand worked exactly as planned, testers generally found the pointers to be used appropriately and their information of about what was going on to be adequate.

Our game's sound received positive feedback for the sound balancing and choice of sounds, but several people noted that more events could have auditory feedback.

Visually the game also left a positive impression.

Regarding events and actions that were perceived as taking too long or not long enough, the main things that were mentioned were that repairing walls, catching breath and finding the cow took a bit too long, and that some players wanted more time between a pizza being ready and it getting burnt.

Playtester's favorite elements of the game were the simulation and its visualization, as well as the resource gathering aspects and learning curve. The cow and water gathering received mixed responses. Having an asteroid spawn almost immediately once the first pizza is delivered was overwhelming for some players and it was noted that interacting with the right object can be hard, particularly when there are many interactable objects around. Testers noted that towards the end of the game, too much time was spent repairing broken walls, and there was too little time to do anything else.

Overall feedback on the game was positive with only one tester really not liking the game. Suggestions for future improvements included having more colorful characters, item stacking, a minimap, more maps, a way to fixate plants and an option to slaughter the cow.

Changes made since Alpha Release (before external playtesting)

Most of the following changes were the results of our internal playtesting sessions and overall are quite small but improved the gameplay immensely. Especially changing the layout of the map (e.g. adding a second oven) was done in mere seconds. Furthermore, we sped up our game by decreasing the time most actions take and decreased the difficulty at the start.

Level Design

- Added second oven
- Additional broken walls for the southern side of the ship

Fluid Simulation

- Fixed air simulation flickering by applying a preconditioner to the matrix system
- Compute the average density of oxygen and carbon dioxide per room to ensure that the quantities stay constant over time if there is no external influence and that no unexpected behaviour occurs
- Exterior door now works properly and sucks out air when opened
- Objects move with air flow all the time, not just when gravity is disabled, multiple objects can be moved with the fan simultaneously

UI/Menu changes

- Improved inventory navigation (auto switch to nearest filled slot on drop)
- Main menu improvements (background image, loading animation)
- New Pizza icons that are easier to tell apart
- Reduced in-game UI border to increase the view area
- Most menus now have circular navigation (when navigating past an end, the selection moves to the other end)
- Additional tutorials for shop, fire
- Tutorial page numbers, scroll bar
- Added steam nicknames of oneself and the remote play partner as player's name
- Event pointers for broken walls and fire, more event pointer icons

Balancing

- Tractor beam fixes and difficulty adjustment - the tractor beam now uses a sphere cast rather than a raycast, reducing the chance of asteroids not being grabbed when it looked like the tractor beam hit
- Difficulty scaling based on money earned: Asteroids and fires don't occur until the first pizza is delivered, then increase in frequency as players earn more money
- UI sound changes
- Ice asteroids can spawn multiple water bottles

Gameplay Elements

- Additional pizza type (Pizza Tomato)
- Random fires: Pickups will now randomly catch fire
- Plant O2 conversion rate display

New Features

- Tractor beam oxygen warning message when player is running out of oxygen and should probably stop using the tractor beam, player automatically gets kicked out of tractor beam when only 20% of their breath is remaining
- Item shop to buy additional plant pots, seeds, fire extinguishers and potentially more
- Game End screen, post-game statistics display for various events that are tracked over the course of the game
- Added sounds for player faint and revival, munching cow, melted ice asteroid
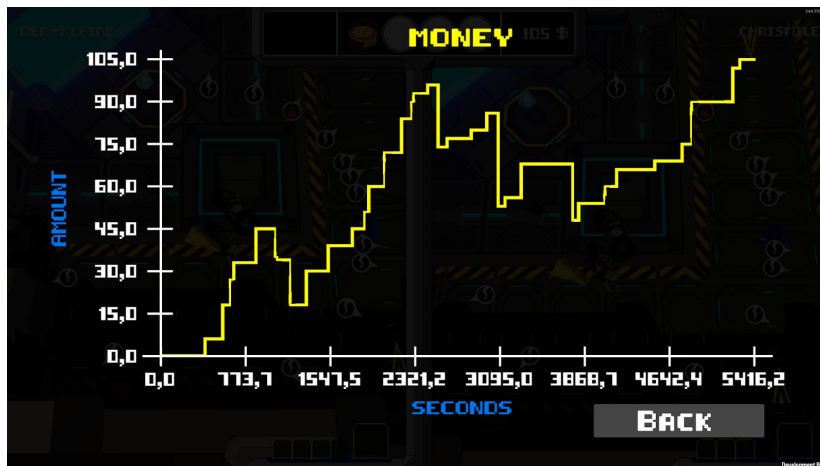
Changes based on Feedback

- Added arrows to doors to make doors more visible (players were running into walls before)
- Added arrow and pulsing entrance to asteroid catching mini-game to indicate where to put the ice asteroids
- Put a flower on the seed package since the logo looked like a corn cob
- Added progress-bar to wall repairing (players were not sure if they are repairing and were expecting a progress bar similar to the revive-indicator)
- Reduced resolution of the fluid simulation to 128x128 in order to adapt to worse hardware (could be moved to a separate setting sub-menu)
- Increased recovery speed after depleting the players' oxygen supply
- Fixed oxygen/carbon dioxide production of objects if close to walls
- Fixed this bug…
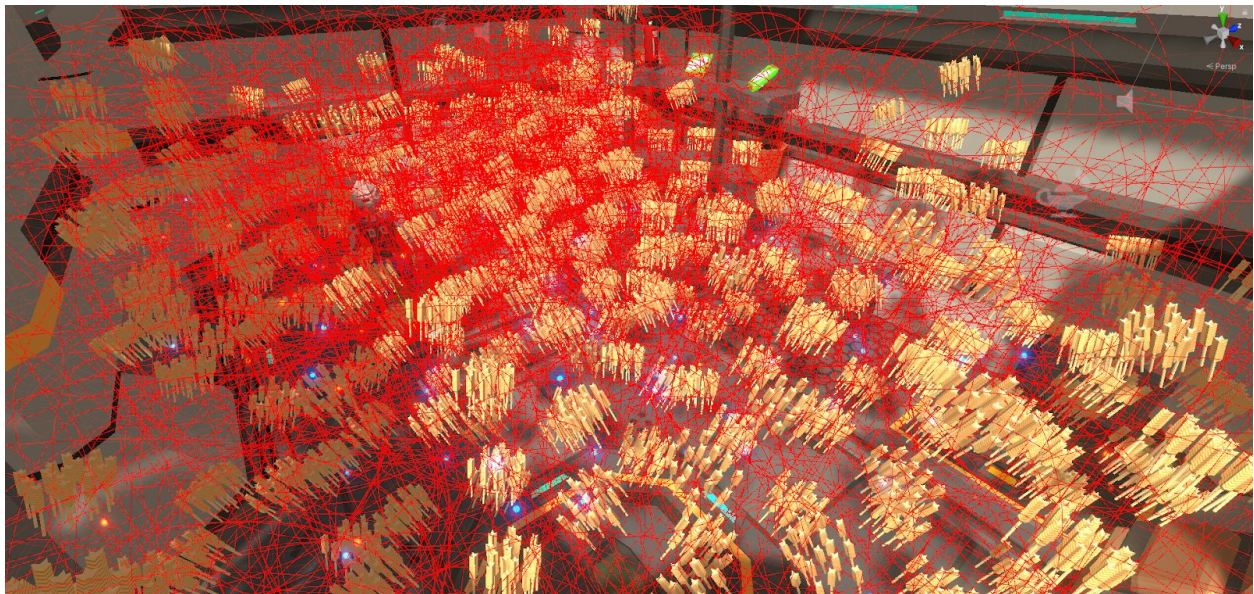
Planned Changes

Balancing

- Prevent plant pots from falling over as easily
- Rotten pizza (have pizza go bad if left undelivered for too long)
- Reduce amount of asteroid impacts

Quality of Life

- Change priority to large pick-ups (e.g. fire extinguisher) when standing between multiple objects
- Description text when cultivating any plants
- Add a better way to store items/stack nearby items of the same type

Visual Clarity

- Make oven easier to find at the start
- Replace directional, global light by local Pointlights
- Make it clearer which areas are warm
- Add outlines for selected pick-up items
- Give oxygen bar a more flashy appearance effect to make it stand out more
- Differently colored players
- Make it clearer when cow is hungry
- Fix fire extinguisher spray not rendering over fires
- Add coloured lighting to better differentiate between different rooms and have more colourful scenes
- Open plant status menu with a menu item selected, because players didn't notice they could select the buttons/items in the menu
- Improve visibility behind southern walls

New Features

- Sound when pizza is done
- Wall repair sound
- Add more decoration objects
- Minimap
- Highscores & leaderboards
- Add more events that can lead to failure in the late game other than the asteroid impacts that suck out air (e.g. cow getting angry)

- Speed up wall repair if two players interact concurrently

- Upgrades for the ship for the ship

- More interactions with the fluid simulation
- Final page of tutorial in the main menu should include a start game button
- Improve colliders for the stairs leading up to the pizza teleporter

Bugs

- Fix possibility to interact with ovens/doors through walls
- Fix invisible plant pot after the plant burned down