Everybody Fits In

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Concept/Intent

Everybody Fits In is a 2D puzzle game for PC that has players finding the best way to fit variously-shaped students into the limited space of classrooms. The intent behind the game is to create an informative and engaging game for younger students that teachers can use to teach their classes about children on the Autism spectrum. The game uses short storyboard scenes and spatial puzzles to teach the broadness and many traits of those on the spectrum. A large array of bright colors will be used to keep young players engaged.

Target Audience

The target audience for *Everybody Fits In* is students aged 6-9. The game is built as a tool to be used by teachers to inform their students about Autism at an age where they are beginning to develop social relationships with each other. The game can teach students who are not on the spectrum about the condition, and students who *are* on the spectrum that they aren't as different from other students as they may feel. The game's mechanics are simple and its message is very understandable when used in tandem with a lesson plan. This will help teachers have an easier time teaching this topic by giving their students a hands on activity that will help them learn it. Kids will also be drawn in by the colorful art style that mixes sketch and vector art to create a friendly atmosphere.

Monetization

We plan to sell Everybody Fits In to parents/the general public for $1.99 on IOS (App Store) and Chromebook (Google Store). Following this addition downloadable content (DLC) packs will be released for 0.99, these packs will consist of five additional

puzzle designs per pack. There will be five of these DLC packs. Additionally if the customer is a teacher they can enter the name of the school they work for and receive the game and additional DLC for free.

Marketing Approach

Special Funding/Grant

We will be applying for The Small Business Innovation Research (SBIR) Program at the U.S. Department of Education (ED). This program is operated out of its research arm, the Institute of Education Sciences (IES). ED/IES SBIR provides up to $1,050,000 in funding to small business firms and partners for the research and development (R&D) of commercially viable education technology products. The program accepts proposals in the areas of education and special education. In the area of education, ED/IES SBIR funds the R&D of products to improve student learning directly or indirectly (e.g., through teacher practices) in authentic education settings (e.g., schools, after-school programs, or distance learning programs). In the area of special education, ED/IES SBIR funds the R&D of products for use by infants, toddlers, or students with or at risk for disabilities, or teachers (or other instructional personnel, related services providers, or family members) in early intervention or special education. For more details on the current priority area in the special education track. All three of these options offer a lot of aid in both software development and free marketing for the game. This also helps to startup indie developers which is the category we fall into. Along with that a majority of our demographic uses one or more of these platforms which leads us to believe we are reaching our target market. Due to our games simplicity and easy controls it will not be hard for young children to pick up.

Review Samples

Once our game is being produced we intend to send free review copies to all major review websites like venturebeat.com, gamespot.com, megacritic.com, ign.com, and gamesradar.com as we are confident in our ability to receive high review ratings and believe it’ll boost our games notability. We also intend to partner with some local schools and give them trial versions of our game to help them decide whether or not they want to implement our game into the curriculum. As time goes on we would work to spread our game to other school districts and eventually bring it nationwide.

Demos

It is our intention to release a free playable demo of Everybody Fits In once the game enters either alpha or beta stage. We believe this will allow us to receive free marketing and attention for our game before release. It is our hope to get our game in the hands of

potential buyers before launch to get player feedback on game mechanics and replay-ability. Additionally, we're under the impression that following the demo we will obtain free marketing via word of mouth from the demo's player base.

Social Media

We plan to set up social media accounts on platforms such as Facebook, Instagram, Twitter and YouTube to keep in contact with customers while also being able to keep all customers informed of all updates and promotions. The Facebook account will be used for promotion, giveaways, and be a forum for communication between potential customers and players following launch. The Instagram account will be used for promotion and giveaways, while the Twitter account will be used for promotion, giveaways, and act as a way for potential customers to communicate with the development team. The YouTube account will serve primarily for marketing, all trailers and interviews will be kept on the YouTube page. Along with this we plan to send review copies of Everybody Fits In to big named members of the gaming community who review games on YouTube. Finally, we plan to hold giveaways with merchandise during the games development, leading up to a give away of a select number of limited special editions of Everybody Fits In at game launch. These limited editions will be advertised throughout the marketing campaign and will include a signed copy of the game by the producer, lead designer, designer, lead artist, artist lead programmer and programmer, a small art asset book showing game development, and a small thank you card for not only participating in the giveaways but for supporting the game too. We would also bring the game to school book fairs in order to directly show the game off to the teachers, faculty and students alike.

Content

The context and environment of *Everybody Fits In* is an average elementary school. Students in this school are, for some reason, varying shapes and sizes. The children on the Autism spectrum are viewed as different shapes and sizes, while children not on the spectrum are all squares of similar sizes. However, when all of the students are fit perfectly into the room, everyone forgets each other's shapes and sizes and instead sees each other as equals in one large class.

The levels will be different classrooms in a school, such as a normal classroom, and art room, and a gymnasium. The board will be the area of the classroom for all of the desks, which will be what the puzzle's Student Pieces are.

Player Motivation

The game will feature satisfying feedback and relatively quick-to-solve puzzles, giving the children a sense of accomplishment that will push them to keep playing. The art style is also very eye-catching and designed to keep children engaged, so they will enjoy the bright colors and simplicity. Kids will also enjoy seeing the smiles on the pieces faces as they complete the various levels, this will make them want to continue playing and making the pieces happy.

Game States

The Start

The game starts with an empty classroom that is surrounded by different pieces. At the beginning of a level, the piece representing the child who is on the spectrum is placed into the level automatically, this piece may not be moved by the player.

Win States

The win state for the game is when the player manages to fit all of the pieces into the classroom. Once this happens, all of the pieces will form together to signify that the class has been unified and the player will be able to advance to the next level.

Fail States

There is no fail state within this game other than the player giving up and not finishing the puzzle.

Mechanics

Picking up and placing

The player is able to click on the pieces that are scattered around the board to pick them up. The player can then drag them over to the board and click once more to place them again.

Snapping

Each board has a certain number of snapping points on it so that the player will have an easier time fitting everything together. Everytime a piece is placed onto the board, the piece will lock into a spot.

Rotating

When a player picks up a piece, they are able to press the spacebar to rotate the piece 90 degrees.

Systems

Cutscenes

Before every level, there is a cutscene that introduces the child who is on the spectrum in the next level to the player. The cutscenes are very brief and give the player a basic idea of which type of ailment that the child has.

Board

The board acts as the constraints for the puzzle. Each level has a different board that is a different shape. The boards will sometimes contain different objects that can be moved around but cannot be removed from the board.

Pieces

The pieces in the game can be put together to make the shape of the board. Every single puzzle requires the player to fill the board completely with the different shaped

pieces. The pieces are not allowed to overlap one another. Pieces with unique shapes are automatically placed on the board at the beginning of the level and cannot be moved by the player

Levels

After the player fits every single piece onto the board, they will be able to proceed to the next level.

Spatial Puzzles

Some levels have certain conditions where the player must make sure that certain pieces aren't next to each other. Ex: A certain kid might be hypersensitive to noise so the player cannot place a noisy kid next to them.

Game Engine

The game will be developed in the Unity Game Engine. Unity comes with a lot of built-in features that are right at the developer's disposal, which eliminates the need to construct a game engine specific to the game from the ground up, thus saving a great deal of time. A majority of the team is comfortable using the Unity Engine which translates to a more efficient workflow.

In addition to the team being familiar with the engine, Unity also provides a built in collaboration function—Unity Collab—that allows for workspaces to easily sync. The use of Unity Collab will provide a fast and easy way for both programmers to sync his/her code together. Using the Unity Engine will allow the team to publish the game on multiple different platforms that are present in an educational environment.

Design Pipeline

Unity Engine

Implementing Puzzles

Within the program, there is a specific snap AOE for each piece, these pieces will need to be placed in any spot within the puzzle that the specific piece can fit into. For instance, if there is a spot where the L piece can be fitted into that AOE will go there. However since 1x1 squares can also fit within the spots on the L piece the AOEs will have to be put where appropriate. With the way the game is programmed, it is safe to have multiple AOEs overlapping each other. Any pre existing pieces or AOEs are saved as prefabs for easy use. If any piece should be unmovable, create an anchor game object to represent this piece and have no AOE’s within the anchor’s space.

Rotating in engion

Each piece that can be rotated has a public enum (under the Shape Rotation Script) within the bound piece of the game object, this enum will showcase what direction the piece is currently facing. The AOE’s also have this enum, however its located on the object itself.

Adding new pieces

Each piece consists of two parts, a bound and the art. The art part of the piece handles the rendering and any effects on the individual piece. The bounds part holds any scripts necessary and the colliders. AOE's just hold the polygon collider and any necessary scripts. The only exception to this is abnormal pieces (such as L and Z pieces) that require multiple rectangle / square pieces to fill in, however the collider will be edited to match the sprite. The designers had been made familiar with this simple process so that they merely need to drag in the corresponding AOE's and then the pieces that will make up the puzzle.

Components of each game object

Pieces

Bounds

- Transform
- Sprite Renderer
- Piece Script
- Shape rotation
- Polygon Collider 2D
- Rigidbody 2D
    - Body Type: Kinematic
- Shape Scale Script (if non unusual shape)

Art

- Sprite Renderer

AOEs

Base Gameobject

- Transform
- Sprite Renderer
- Polygon Collider 2D
    - Trigger is set to true
- Snap Spot Script
    - Required Object should be set to the tag of whatever object fits inside
- Shape Rotation Script
- Shape Scale Script (if non unusual shape)

Anchors

Base Gameobject

- Sprite renderer
- Collider 2D
    - Trigger is set to true
- Rigid Body
    - Body Type: Kinematic

Art Direction

The art style of “Everybody Fits In” is very colorful as it is unique. It’s target audience is aimed at younger kids enrolled in school roughly from 1st - 3rd grade. “Everybody Fits In” has a mission to deliver a game that not only educates young students, but also contains a very fun and kid-friendly style. Through the use of colorful Vector shapes, characters, and environments, “Everybody Fits In” will without a doubt achieve the goals in a game we aim to create!

Sound Design

The game will feature sound effects such as soft blipping sounds for when the player snaps pieces to the board as well ad cheering sounds for when the player finishes the level. We will attempt to produce some fitting music that will be in a chiptune style. The music will have a very happy tone to it and will be very light and calming.