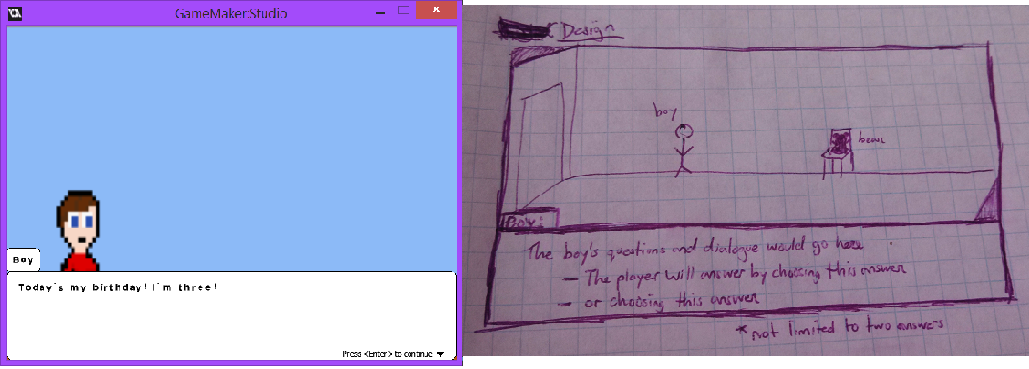
**Game Engine**

Through the course of trying to make the actual game, we’ve had a lot of trouble trying to learn Game Maker. We did some of the more important tutorials included with the program, but a lot of it has been googling and trial and error. Despite this, we still feel that Game Maker will allow us to create the game we envisioned. There have been frustrations with the restrictions and reduced resources that come with the free version. Some of the more helpful functions that are implemented into the engine are removed in the free license of Game Maker, which makes getting help from others with a paid version futile in some cases. There was a brief period where we thought it might be easier to make with a different engine/language but we ultimately decided to stick with our original idea.

One thing we did change in terms of the engine is that we’re trying to find extensions in the game maker community that might help us along with scripting. We initially thought we would learn Game Maker Language and script everything we wanted to do ourselves, but there’s not even close to enough time. Neither of us have used Game Maker before and there’s a lot more to it than we initially thought (not that we thought it was overly simple or anything).

**Demo and Deviations**

Thus far in the development of our game, we’ve been working towards the demo as our end goal. Quite honestly, the main goal so far has been “make it work”. We’ve really struggled with simply getting the first scene functional. Each area has been iteratively designed separately instead of the game being iteratively designed as a whole, but it’s working well. We’ve written the story, arted the art, designed the game and gone back and revised each one. We’re still not completely satisfied as if it were our finished product, but when we look at the work in progress demo, we’re happy with where it’s at. It’s on track and shaping up to our vision.



At this point, our game is pretty much what we proposed. The image above shows where we are now and where we started. To the left is our current iteration of the game and our original design of what we wanted it to look like is on the right. Our characters are still the boy and the bear, the setting is still the boy’s bedroom, and the gameplay is still based on dialogue choices. The story is probably the biggest change; it was conceptualized as divergent and branching, but ideas for a more linear story with the illusion of choice has come up a couple times. Another small change is the viewpoint of the game (see: art assets). We think that our biggest changes will be in the more superficial details, such as subtle changes of colours and decorations in the room. We may not have the time or knowledge to implement those things, but our base game is essentially what we wanted it to be at the beginning of the semester.

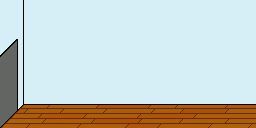
**Art Assets – Pixel Art**

The art of the game has been a challenge. First, we looked at royalty free art assets to see if we could use stock images until the game engine was functional. After this search, it became clear that using our own art assets would be easier in general. Even if we first created the simplest sprites as placeholders in the prototype, it would still retain the look and basic style we are trying to achieve.

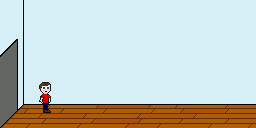
The first object drawn was the young boy. Since the demo goal is simply the one scene with no aging involved, creating this first sprite would be the most practical. After an hour or so, the first piece of pixel art was created for the game. This image was created in a 32 by 32 pixel square with 16 bit colours.

HAL 9000:Users:MMDepatie:team6:Game Sprites:32Boy1.png

The image in word looks a little fuzzy but the idea is there. The boy will be positioned on the left of the screen, looking at his toy. We wanted the large eyes to instil a cute but also creepy gaze. As a first draft, this was a success. However, there is room for improvement. Next was the room. At first we wanted an isometric look to the room, this way giving our space some depth to the otherwise 2D image. This is the first attempt created in a 256 by 128 pixel space.



The look of the game we want is not the MS paint look. This room did not accomplish this goal. However, this room prototype did inspire us. Differentiation looks pretty cool. The different colour used in the floorboards looked pretty good, and inspired a new prototype. For now, the main error was in the room size vs. the size of the boy. Without any modification, adding the boy to the room looked like this.



The first attempted solution was to try and scale the boy to a larger size. So, scaling the sprite to 48 by 48 skewed the boy. This is attributed to base-2 art design. This size looked right, but the boy simply did not. Scaling to 64 by 64 kept the look of the boy, but he did not fit in the room. At that size, the boy was as tall (if not taller) than the doorway. Two things had to be done now, the boy had to be scaled to 64 by 64 (this helped Game Maker) and the room had to be redrawn to fit the boy.

At this point, the perspective of the room changed. Instead of the isometric look, we switched to a flat 2D point of view. This made it easier to fit the boy in the space. This also allowed for easier floor/wall differentiation. Now, the floor could simply be one colour and the wall another and the distinction would be simply made. The first redraw of the room, once again 256 by 128, looked like this.



This space was a lot simpler to place the boy in, but having only 2 colours looked a little too simple. While trying to avoid this MS paint look, we applied tiles to the wall. We wanted this effect to be subtle, which pixels changing colour, either one step lighter or one step darker. We called this “Pixel Differentiation”, because it sounds cool. When applied to this space, the room looks like this.



Did you notice the difference? This room is now using a total of 6 colours for the floor and walls instead of 2. It is the simplest way to avoid the MS paint look and adds “imperfection” to the space. Now that the room, in its simplest form, looks acceptable, we could move onto the boy. Scaling the boy to 64 by 64 added a lot of advantages. Now, for every pixel we had in 32 by 32, we now have a 4 by 4 pixel square in its place. With that, we thinned the black boarder of the boy and also applied pixel differentiation. The boy sprite now looks like this.



Of course more work can be done, but with every change and new prototype we are getting closer to the final look of the game. The simple space also gives us a special trick. We now only need objects to give height to the boy. We first had the doorway to give height, but now we don’t have that limitation. Placing a bed, for instance, in the room with a height relative to his mouth would give the boy the size of a small child. Doing the same thing, but with smaller dimensions to the bed, would make the boy “grow” without ever changing his sprite. This trick may or may not be exploited in the final version of the game.

The next step in terms of pixel art would be to create animation frames for the boy and to play with lighting. Shadows are pretty simple to do, it just depends on how many light sources we want in the room. A quick rough shadow prototype was done. The following image encompasses everything we have worked on so far, the best version of the room and boy, with a quick shadow added. Compare this to spites without pixel differentiation.



**Art Assets – Music**

*Matt did the music we hope to use. He will now write this section in first person.*

I’m a bass player. I took piano lessons when I was a kid but now I just play bass. I have composed before; mainly quick upbeat jams to pass the time. Recording music for a game is a first. So, I figured I would start with some bass line and turn it into a song. My goal was to record something about a minute long. After recording, the song was a little less than 3 minutes long.

At first I wanted to use the Twin Peaks theme, since it’s quite happy and sad at the same time. Sarah laughed and thought I should try to make something of my own. I reluctantly agreed. Even though I’m not using the theme, I’m still taking inspiration from it. This is probably the reason I used synth in the track.

I recorded the bass line in Garage Band using a microphone and my practice amp. I then used Apple Loops to add the drums into the song. I was able to add keys using the Rock Band 3 Keyboard and a USB to MIDI adapter. The final result has a sort of theme I can use throughout the game and rerecord it to either make it happier or darker. The version of the song featured in the demo needs to be rerecorded so that the bass and keys sync with the drum loop.

**Design Choices**