

BuckBall!

May 7, 2015



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Problem Question: How do we engage our players and teach them the fundamentals of football within our own scheme?



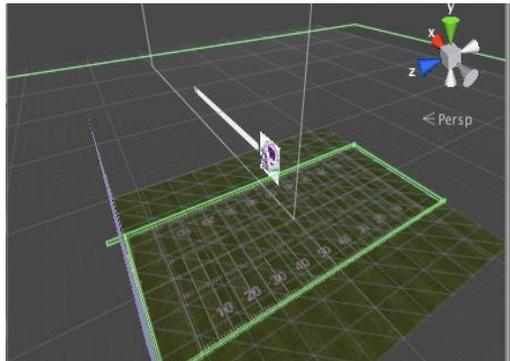
The Making of a Customized Football Game by Jason A. Engerman

This game was developed out of the need for players to improve their ability to learn the game of football. As coaches we wanted to create a way for our players to understand the fundamentals of the game. We can only tell them what to do for so long before they start to tune out. So I came up with the idea of building a game that was tailored to the students and coaches. The format of a game speaks to the language that students already engage in and would be a fun and engaging method of learning fundamental concepts of football. Throughout this process I referred to coaches as well as students as my clients and gained feedback throughout the 15-week process. The following project notes relay the plan, process, and progress made on the project as well as compromises that had to be made along the way due to foreseen and unforeseen design issues.

The Plan: Task Analysis, Learn, Design



Becoming a Designer



During my task analysis, I spoke at length with several coaches as well as players. The coaches were concerned with the players' abilities to remember plays while they were on the field. The players seemed to forget their place and responsibilities frequently. I knew that gaming simulations would be a great an engaging tool to use for these players because they all loved to play games with each other.

Using this information I decided to inquire about the elements that should be included in the game. After speaking with coaches, it was clear that they wanted a full-length game loaded with customized plays and grids that allowed players to visualize their trajectories and understand spacing. This I thought might be outside of my ability as I needed to learn the system, so I offered optional models for the coaches to choose from. We agreed on a design that would place a grid on the field and light up when players moved over the squares. This would allow

for the player to more easily conceptualize position and responsibilities.

In speaking with the students it was clear that I would have to design a product that 3-dimensional but also that was new and exciting. It had to first of all be fun and enjoyable. Balancing the desires of the coaches and the players would require a judgment on behalf of users. Using my research and knowledge on gaming, I knew that I had to privilege the user needs and desires over the coaches.

Being a designer according to, The Design Way, requires making judgments and developing as a designer (designing the designer). I had to make adjustments along the way and was able to negotiate a final product that was commendable and useful according to my feedback from both the coaches as well as the excited students. Throughout this process I've learned not only a cool gaming engine but also how to become a better designer.



Process: Learning Pathway

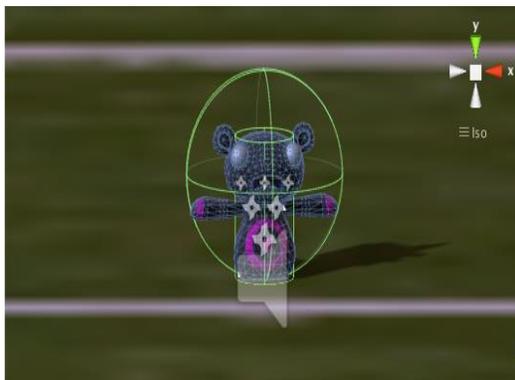
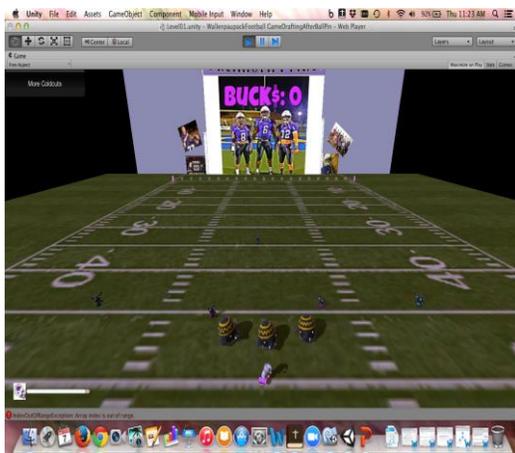
Weekly Chart

Week	Goal	Process	Influences
1	Understand Unity Engine	Video Tutorials, Forums	IST 446
2	Begin Beginner Games	Multiple Ping Pongs, Roll a Ball, Survivor shooter	Unity Website & Tutorials; YouTube & The Art of Game Design (Lens of Curiosity and Existential Experiences)
3	Begin Creating game environment	Unpacking textures, engine layout, materials, folders, and gaming environments	Unity 4.61; Unity website & Assets Store
4	Character Development	Avatar, Nav Mesh agents, C# coding, Prefabs,	The Art of Game Design- Mechanics & Aesthetics
5	Character Development & Setting Up the Camera	Animators, Animations Controllers, Baking, Nav mesh agents,	The Art of Game Design- Mechanics & Aesthetics
6	Health scripts for Player & using the GUI	Using the GUI system, C#, Prefabs, Physics Engine, Animator Controllers	The Art of Game Design- Mechanics & Aesthetics
7	Health scripts for Player & using the GUI	Using the GUI system, C#, Prefabs, Physics Engine, Animator Controllers	The Art of Game Design- Mechanics and Aesthetics
8	Swap avatar elements for football	Manipulating pre existing avatar mesh's	Unity Tutorials, The Design Way- The Whole & Systemics
9	Swap avatar elements for football	Manipulating pre existing avatar mesh's	The Design Way -Judgment- Things, Stuff, Junk (Being a Designer & Becoming a Designer)
10	Pin Ball to Player and have him throw ball to receivers	C# coding, Physics engine	" " "
11	Pin Ball to Player	C# coding, Physics engine	" " "
12	Game over pop up and reset level button; Pin Ball	GUI, C# coding, Physics engine	The Design Way -Judgment (Things, Stuff, Junk)
13	Pin Ball to player; Create a game over pop up in GUI, & Reset level button	GUI, C# coding, Physics engine, Buttons	The Design Way -Judgment (Things, Stuff, Junk)
14	Restructure approach to focus on Trap the Mouse	All skills	The Design Way; The Art of Game Design- Mechanics & Balance
15	Pin Ball to Player; Game over Pop up GUI; Reset Level and refine game flow mechanics, Balance the game; Starting Scene; Upload to Server	All skills and Server Use	The Art of Game Design- Mechanics & Balance

Note: Many elements were used throughout the design process and non-sequentially such as tutorials and both Design books.

Process: Learning Pathway

Functionality, Ease of
Use and Aesthetics



I was heavily influenced
by The Design Way, The
Art of Game Design &
Csikszentmihalyi

Functionality was a major concern throughout the development of this game. I leaned on The Art of Game design principles to help think through the how the user would operate through the game. These mechanics needed to be simple and effective. I did not want to take the users attention away from the content presented within the game design.

Using the D-Pad was simple and aligned well with minimizing distractions. Usually in games of this nature there are several buttons that add new dimensions to the ability of the character. Madden is a game that my population plays a lot so competing with games like this was not an option and I did not feel that it would benefit the game or the goal in any significant way as of yet. This approach also speaks to the easy of use and intuitive nature of the design.

The main goal that was settled on was to create a functional game that allowed learners to apply one simple skill in football. I believe I was able to create a game that focused on a concept called escaping "Trap the Mouse". Defenders try to squeeze the runners ability to escape from being tackled. So it is important for tailbacks or runners to avoid these traps as they run towards the end zone.

The final product of this game provides the runner the ability to practice these skills of avoiding

being trapped. I've also embedded various balancing techniques. These include the character speeds and health attack points. The Zombunnies at the corner positions take away 10 points, the Zombears at the linebacker positions take away 15 points and the Hellephants at the linemen position take away 30 points. The combinations of speeds and health were adjusted to create a game that is difficult enough to maintain player attention but also to show some hope of success. This concept builds towards a state of flow. Flow is considered the quintessential play experience. Both The Art of Game Design as well as the work of Csikszentmihalyi in line with my work on play and gaming has influenced my decision making in this process.

Aesthetic considerations were heavily considered in this design by way of choosing cartoon like characters and fun characters. These animations were taken and repurposed from a Unity beginner game, but seemed to fit perfectly for my purpose as well as holding the attention of my audience. Psychologically, I believe that these characters represented delivered not only an aesthetic feel but maintained a fantasy element for my users. I intentionally wanted the players to view their defense as overgrown softies, so that they could embody this notion when they take the field.



Final Thoughts

Play Here

<http://personal.psu.edu/jae208/WebBuildGamev2.html>

On reflection, I believe that this process has been revealing. I was able to go from knowing practically nothing about Unity to now having a built a functional game with a practical purpose. When I took this course previously in level three, I was able to say that I understood the process of design as we were using building in flash and using Design the Mind and Change by Design. However the new insights from The Design way has allowed me to put into practice some basic principles of design with a philosophical lens. I have struggled through most of the design process with this project. I turned the player prefab into a ball, I lost all the data on my hard drive and dealt with the normal pains of learning a new system. Despite these setbacks I was able to design a functional product that I am very proud of. I can build from this and will grow in the process. It seems to me that the tutorials in this domain have embedded errors. In other words, my fellow game designers seem to view mistakes as opportunities for learning and growing. They intentionally and unintentionally have errors in all of the videos that I have seen. This has reassured me that plans and designs need to change as we learn and grow together. I was not able to create the originally planned game, however I was able to renegotiate a suitable stand in that both the coaches the kids love and I can build from. Customized elements including pictures and names on the wall were excellent additions that the kids really appreciated. It gave them incentive to win so they could see their names on the wall.



My next steps will be to create more scenes that will include different versions of the game. This single scene that I have now works well for tailbacks and other ball carrying positions. I would like to be able to have the defense run defensive sets as well as create an offense that can run offensive sets. This would take an incredible amount of help though as there are no tutorials on this tasks that takes considerable Unity development talent. This summer I will attend the Games Learning and Society conference. I will leverage my connections to gain insight on how to