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GAT 211A—Fall 2014

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Project 1

Game Analysis

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Drunken Boxing (version 2: What a Mess)

Playtesters

Classmates from the GAT211 participated as first-time players for the combat system that I brought to lab.

**Name: Email:**

* Jason Guelbert j.guelbert@digipen.edu
* Berne Capone [charlesberne.capone @digipen.edu](mailto:g.huxtable@digipen.edu)

Playtesting

The first version of "Drunken Boxing" was informally playtested between my wife and me before the lab. The second version of "Drunken Boxing" is the first version that I brought to class to test with written rules. Both Jason and Berne read the rules over in a little over a minute. They started playing, but there were a few questions that the rules didn’t clarify enough for the both of them.

Initially there was some confusion about if you necessarily had to choose to “Slap” or “Booze” your boxer at all. The rules did not state that the player had to choose one or the other, which left both Jason and Berne thinking that they could opt from either at the start of a round. My intention was that you had to choose between both options every round, but I suppose without explicitly stating it in the rules I can see where both of them got the idea that they did not have to do it. I let them start the game without making them choose between them.

Jason won the first round by rolling higher than Berne. Thankfully, Berne finally decided to make a die decision and decided to pick a smaller die and Jason felt the need to go to a higher die. Unfortunately, both Jason and Berne did not make these decisions in secret from each other. Because of this, a few rounds Berne would pick a die, throw it, and then Jason would make a die choice and then throw his die. I think this may be a result of not reading the rules fully. It might also help to call attention to the fact that deciding to “Booze” or “Slap” needs to be made in secret before die throws begin.

Once different dice came into play the idea behind the maximum damage limit became an issue for both Jason and Berne. Both of them struggled to figure out who won when smaller and larger dice came into play. Jason mentioned that the complexity of the maximum damage limit might be made easier if it was not counterintuitive. He felt that the difference did not make sense. I think he’s right and I’ll have to rework how that part of the system works. Perhaps each die can have its own maximum damage limit be the value of the die itself. For example, you cannot beat a d4 by more than 4. It would be easier to explain this way, as well.

Overall the game lasted about 5 minutes in total, including reading the rules. There was definitely more confusion at the beginning of the game, but once the maximum damage limit was understood, the game went rather quickly. Jason was able to win by keeping a steady die, while Berne took the crazy train and experimented with the upper limits. The game shows promise, but definitely needs some revision and the rules to be better clarified.

Intensity Curve

The intensity curve I was hoping for when designing "Drunken Boxing" and the intensity curve that I think actually occurred during the playtest are different than I had wanted.

I was hoping that each round would show a spike in intensity as players eagerly awaited the die throw to see the results of their pre-round strategy. While I am glad that the intensity curves for both Jason and Berne show some indication of spiking during the rounds and dipping during the planning, the level of intensity is not quite there.

The beginning of the game saw Jason and Berne having a hard time getting into the game due to confusion about the rules and so they did not seem to be fully in that moment. Also, Berne seemed to checkout near the end, when it became increasingly clear that his crazy train strategy would not work out. Jason kept a pretty consistent intensity throughout the game as his strategy was sound and kept him increasingly in the lead.

I think the biggest problems with "Drunken Boxing", as is evident with the intensity curve, is that the game is difficult to understand right away and does not allow a player who has gotten too far behind a way to catch up.

Less Drunken, More Boxing (version 3: Signs of Hope)

Playtesters

Classmates from the GAT211 participated as repeat playtesters for the combat system that I brought to lab.

**Name: Email:**

* Jason Guelbert j.guelbert@digipen.edu
* Berne Capone [charlesberne.capone @digipen.edu](mailto:g.huxtable@digipen.edu)

Playtesting

Once again I decided to use Jason Guelbert and Berne Capone as the playtesters for the latest version of my game, “Less Drunken, More Boxing”. While both of them have played the game before, I decided that it would be a good idea to have them play again because the last version left them confused and kind of just going through the motions. My hope is that by eliminating extras and focusing on the core of the game I can get them to be much more engaged in this version of the game.

Both Jason and Berne started out by reading the rules. It was my hope that both of them would be able to start playing without any help this time, so I did not comment at all during the reading of the rules and setup. Unlike the last playtest, this time Jason and Berne did not ask any questions and were able to start playing after reading the rules for a little over 2 minutes. This is great news, especially considering that I figure this is my game at its bare minimum. If it cannot be understood at this state, then I do not know what I would do.

Jason and Berne are definitely much more engaged in this version of the game so far. With this playtest they actually stare at each other and quickly asses what kind of die they will pick before throwing dice against each other. Luckily for me their first throw of the game results in a tie. There is a brief moment of “what do we do now” before Jason starts to read through the rules. It appears that they have skimmed over this part before, so it took them a little bit of time to figure out that they would pick new dice to throw again. Berne wins the tiebreaker by throwing an 11 to Jason’s 8. Berne is very excited about scoring so much damage right from the start of the game.

The next hiccup in the game comes about when the last dice thrown in the round is a d4 against a d20. Jason had been saving this d20 and was excited to blow away Berne’s d4. Unfortunately, there is still confusion regarding the maximum damage limit. I have to explain the intentions behind the mechanic, which is not a good sign. Jason is visibly not happy that he would take so much damage from a d4 when a d20 is clearly a better die. After the rule is clarified this mistake is not made again, but when one of them does manage to roll extremely better than the other it is a moment of annoyed letdown in the game.

Berne ended up winning the game due to several good decisions of throwing smaller dice when Jason threw bigger dice, in addition to winning more tiebreakers. While the game works well, the confusion behind the maximum damage limit still does not work in a satisfying way for both players. Jason suggested a change to the mechanic to have the die you throw determine how much maximum damage you can possibly receive, eliminating the static 5 damage cap. We all agree that taking damage from a d4 under throwing a d20 is not a good idea. I think in the next version of the game I’ll say that if you overthrow a die you don’t hit the lower die, but the lower die does not do any damage either. This should help fix the feeling of losing big to a small die.

Intensity Curve

The intensity curve I was hoping for when designing "Less Drunken, More Boxing" and the intensity curve that I think actually occurred during the playtest are different than I had wanted.

The most significant areas of difference in the graph happen after the dice throw. Understanding the outcome of the dice for both ties and outcomes involving the maximum damage limit are still difficult for players. Both Jason and Berne had to look up the rules to understand what to do when there was a tie, and also when there was a small die versus a large die. The tie situation was easy to resolve, and ended up becoming an intense moment for both of the players once they understood how it worked. The maximum damage limit, however, will need to further revision. I think it's fair to say that Jason felt cheated by the current way in which the maximum damage limit works. This led to the end of round 1 being kind of a letdown for him.

I feel like this version of the game definitely feels close to my intentions for how a typical round should play out, even surprising me a little bit. I thought the repetition of picking and throwing dice would bring down the intensity near the end of the round. Thankfully, Jason and Berne actually had more fun near the end of the round because they kept trying to trick each other right up to the remaining dice throw.

Black & Blue (version 4: Refining Combat)

Playtesters

Classmates from the GAT211 participated as repeat playtesters for the combat system that I brought to lab.

**Name: Email:**

* Jason Guelbert j.guelbert@digipen.edu
* Berne Capone [charlesberne.capone @digipen.edu](mailto:g.huxtable@digipen.edu)

Playtesting

I probably should have picked completely different playtesters for this version of my game, but I did not think about this until after the playtest was over. Instead, Jason Guelbert and Berne Capone acted as the playtesters for the latest version of my game, "Black & Blue". Fortunately, Jason and Berne are excellent playtesters and even though they may be used to my game at this point, I think their opinion of where my game is currently at might be useful for me to gauge how well I'm doing.

Because Jason and Berne were familiar with my game they spent less time looking at the rules and instead looked over the rules looking for inconsistencies. They both agree that the rules make sense, but are a bit wordy. I cannot help but agree with them and I usually make graphics as examples but I have yet to do any for this game. Berne is happy to see that his suggestion has made it into my game.

Right away both Jason and Berne seem to be enjoying the game. They appear to understand the rules and are instead focusing on trying to outwit the other with what dice they will choose to roll first. It is nice to see that my playtesters are not tired of the game or emotionally checked out. This feeling is especially confirmed as the game goes on. When Berne takes and early lead he taunts Jason and makes sound effects when his die roll crushes Jason's die roll. This is amazing results, just a few playtests ago my game could not elicit such immersion into the game. While Jason does not seem to have much luck in rolling high numbers there are moments of the game when he pounds his fists on the table when he's able to win a roll and do some damage to Berne.

The new mechanic seems to be working well, but once again, this might be skewed results because both Jason and Berne have played the game before. Still, it is great to see that the game moves at a rapid pace and keeping track of damage is not a difficult thing to do. I have noticed that Jason and Berne do stumble with the health cards a bit. I'd like to use tokens instead, but I may not have the time or money to spend on something like that for now.

Berne wins the game early into the second round of the game. Afterwards both Jason and Berne agree that the game is fun and solid. I'm happy to see that the game goes by quickly without much of a problem. Jason does think my game could use a better way to use the theme. He's right, the game at this point is just a "beat the other player's dice" game, with no real strong attachment to the theme other than the feeling of competing one versus one. Jason also mentioned that tokens would probably work better for health than the health cards I'm currently using. Other than this, both Berne and Jason said they think the game is good.

Intensity Curve

This might seem too optimistic, but I think the game is pretty close to achieving what I'm looking for in an intensity curve:

I've decided to construct my ideal intensity curve to represent what a potential round could look like, based off of what I'm noticing when Jason and Berne playtest my game. Each round begins with a moment where the players gauge each other's intentions, pick dice secretly, then roll their selected dice. From here dice outcomes are evaluated, sometimes with ties leading to tie-breakers. After this the round continues until all dice are exhausted and the round is over. My intended curve is hopefully a good idea of what can happen through the game.

Watching Jason and Berne has given me great insight into areas that were problems before and appear to be mostly corrected. The area of dice outcomes seems to be mostly fixed because they do not trip up over the damage limit anymore. There is still a moment where they have to evaluate the dice, and once or twice they pause to deal with their health cards. This moment brings down the intensity curve because they need to focus their attention to managing numbers and minding the rules.

Remaining dice outcomes are a bit lower than I'd like, especially when a player feels like the game is going to be over and they will lose. Right now there is not a lot of health in the game because I do not want the game to last too long or force my players to manage a large number of health cards. This part of the game could use a little lift, or a comeback mechanic to help a losing player get back into the game. However, I cannot be happier, because I feel like the game in its current state has fixed the biggest problems so far. Hopefully further testing with new players will confirm these findings.

Black & Blue (version 5: Knockout Mechanic)

Playtesters

Classmates from a different section of GAT211 participated as first time playtesters for the combat system that I brought to lab.

**Name: Email:**

* Garrett Huxtable g.huxtable@digipen.edu
* Eric Gleiser [e.gleiser @digipen.edu](mailto:g.huxtable@digipen.edu)

Playtesting

The last playtest that I did was helpful, but I really should have had different people play my game to see if the damage limit worked well. For this reason I've gone outside of my lab section to find fellow students who have never played my game, much less have even heard or seen it. Eric and Garrett are both members of a different lab section for GAT211 and were chosen to playtest my game because I value both of their insight and respect them as fellow designers.

I gave both Eric and Garrett a copy of the rules and they took about 3 minutes to scan over the document to look for errors. They both thought they had a good idea of how to play the game and started playing right away with Eric playing as Blue and Garrett playing as Black. Garrett was quick to point out that I should probably rename my players to "Black Trunks Boxer" and "Blue Trunks Boxer" to avoid potentially offending someone with "Black Boxer". While it seems overly sensitive to me, I agree that it is better to be safe rather than sorry and it is a change I'll soon implement.

Round 1 began with Garrett beating Eric in the first dice roll. While I am thankful that both of them understood how to deal with damage, for the first time a different problem came up. Both Eric and Garrett picked up both dice afterwards to potentially play again on the next turn. I had to stop them and let them know that once dice were thrown, they could not be picked up again until they ran out of dice and started the next round. This is something I'll have to clarify in my rules. I'm glad I took the time to get another playtest in.

Round 2 started with Eric losing all of his health for the first time after a tie-breaker. This version of the game introduces the knockout recover mechanic, and I was interested to see how well it works. It took a little bit of re-reading the section about the knockout mechanic, but Garrett started to count down and Eric rolled to get as much health back as he could. Eric ended up getting 6 health back and the game continued on. Garrett even ended up getting knocked down, but by that time Eric had 1 health left and lost the game shortly thereafter. The game took about 7 minutes and ended part of the way into the third round with Garrett winning the game.

Overall the playtest went well and the new knockout mechanic seems like a success. While Eric and Garrett were not as into the game as Jason and Berne were, they both agreed that the game felt solid and that the knockout mechanic worked well. Eric mentioned that the health cards are clumsy and that tokens would be better. This is not the first time I've heard this and it really is something I would like to implement, but I cannot afford to do it at this time. Garrett thought it would also be fun to tell players to throw fake punches in between dice roles. I think I might go ahead and use this advice, as it can only add to the theme.

Intensity Curve

Unlike the last playtest, this intensity curve is not as perfect to what I wanted, but it is probably more realistic since it was played with new playtesters:

I've decided to construct my ideal intensity curve to represent what a potential game could look like, based off of what I'm noticing when Eric and Garret playtested my game. Each round begins with a moment where the players gauge each other's intentions, pick dice secretly, then roll their selected dice. From here dice outcomes are evaluated, sometimes with ties leading to tie-breakers. After this the round continues until all dice are exhausted and the round is over. The next round has a good chance where someone could get knocked down and has to perform a knockout recovery. Lastly, the game eventually comes to an end and the intensity curve is over. My intended curve is hopefully a good idea of what can happen through the entire game.

Eric and Garrett have probably given me a more realistic view of what the intensity curve looks like for my game. While I would hope for more intense spikes, the game does not deliver exactly what I am looking for, but it does seem to spike in the right places. Eric and Garrett seemed to dive into the strategy part of the game but were not as openly elated as Jason and Berne were. That being said, they still seemed to experience the intended moments of intensity where combat did more damage and tiebreakers gave the hope of swinging the momentum of the game.

The newly added knockout recovery mechanic fits well into the game. While it is not quite the intensity spike as I originally wanted, it does have its moment in the game where it is new and varied from the rest of the game. It definitely fits the theme and gives the players something new to do and a potential to come back and win. For the most part I am satisfied that the game is working as well as it currently is.

The "Why"

The final version of this game is a result of trial and error when it comes to understanding how to create an effective combat system. Despite all the changes that the game has undergone from its original idea to the version I am submitting for grading, I feel as if though the game has stayed true to the idea of creating a simple combat system that feels competitive and involves trying to outwit your opponent by secretly choosing dice to roll.

Even though I do not really like dice games I decided to use dice in this game because they are easier to use than cards for the type of game I intended to make. The game is based on the basic idea of trying to do more damage to your opponent than they do to you. Dice work perfectly for this as they are easy to pick up, throw, and determine an outcome. The decision to use multiple value of dice is because I wanted to create a game that has more option other than out-roll your opponent. My idea of using multiple dice was my way of giving the player a hand of cards. Each player would know that they had these multiple dice, but they would not know which one they'd choose to play. The idea of dice as cards was the starting point for this game.

The game got complicated when I tried to figure out how to make evaluating dice outcomes work. To prevent the game from being a "always roll my highest dice" I thought the game would benefit from trying to make all dice useful in one way or another. The idea that the dice act as the limit to how much damage you can take gives potential to low value dice, like the d4. While you can still take damage, the d4 can save you a lot of hurt if strategically thrown. This mechanic was quite hard to nail down, but I believe the current version of the game implements what I want well without being overly complicated.

With the dice mechanics in place, the idea to use cards to represent health and the player are the result needing some sort of UI element for both players to use to keep track of each other's health. The player card is in the game to help keep track of if a player can use the knockout mechanic and works well as a simple flip of a card to track this status. The health cards really should be tokens, but as it stands it is not something I could implement at this time. The health cards are clumsy, but are better than having the players manually write down and keep track of health. At least the health cards are an easy visual aid for both players to understand at a glance.

The knockout mechanic is meant to give the game more of a feeling of boxing, as well as act as a comeback mechanism. Like an extra life, the knockout mechanic is a second chance to try and help a player win the game even if they are losing. This mechanic involves both players and should help make the game feel like they are boxing. The box art and design of the cards should also help with evoking a feeling for a boxing match and were designed by myself to help reinforce the theme.

Mathematical Analysis

I'm not going to lie and say that before I started making this game I calculated the reasoning behind why I choose a d4, d6, d8, d10, d12, and d20 as the dice used in the game. For some reason it just felt right to use these kinds of dice right from the start. I figured that since both players have the same starting pool of dice then they begin the game with even odds at winning. However, as dice are thrown their remaining dice can be slowly discovered which can lead to their opponent better guessing what die they will throw next. Using this knowledge, players can best figure out what die to throw. Of course, the hidden knowledge aspect of this game means until the last die is thrown, one can never be 100% accurate about what die their opponent will choose to throw.

With this knowledge, the kinds of calculations an opponent can do are based upon dice match ups and how each dice will fare when rolled against their opponent's dice. These probabilities are expressed in the following graphs below:

What these graphs tell us are things that we think we might know right from the start: the higher value a die is, the better the chance you will win against a lower value die. To counteract this knowledge, I wanted to originally implement a system where the lower die could actually inflict damage if the odds were too highly stacked for the opposing die. Unfortunately, this mechanic was not truly understood or appreciated so this mechanic was dropped. Instead, the lower dice have value in limiting the amount of damage you can take.

Where the math gets interesting in the above graphs is when similar dice are matched against one another. I suppose the similarities in the graph echo the initial idea that I had when I was expecting the game to be a pretty fair match up. This proves that the game is I was expecting higher or lower odds to tie, but instead ties are pretty evenly probable throughout the graphs. This works well because if critical hits were to happen all the time it would lose its interest and the game would even very quickly.