Week 5

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Original Final Week Message from Planet Kodu, 2010

It's been a wonderful five weeks running the Planet Kodu course, and we've learnt a lot, observing the games and unique approaches participants have taken. We hope you've gained some new programming skills, have a clearer idea of how to approach game design, and have enjoyed the experience!

We'll be leaving the course material online as a resource for the rapidly growing number of Kodu Game Lab for PC developers, and hope it will continue to be of use to the broader gaming community.

Thanks for playing!
Martin Jorgensen & Richard Olsen

Pushing the Boundaries – Games of skill and chance

Skill

Games of skill challenge the player with clear goals that demand a competent technique in order to win. An accurate aim for example, or the deft control of a joystick to maneuver around obstacles. These games often have a clear challenge and will slowly increase the difficulty, requiring the player to hone their skills.

Kodu is a wonderful platform for creating games of skill. With endless opportunities to reinvent the topography you can create narrow ledges, steep inclines, or simple shooting galleries with ease. Being able to adjust the behaviors of the game surface adds another interesting twist. For example, if you make the blue ground slippery when the player has to shoot a target it increases the challenge.

Considering the strengths and weaknesses of your game bots as we discussed last week, can add an additional element of skill to the this type of game. With bike bot, moving at speed is an obvious skill to master for example. Increase the speed, and you increase the level of difficulty.

You can easily achieve this slowly increase in challenge using point scoring system. For example, when your player reaches a particular score, the opponent bots recognize this, and move to an alternate set of behaviors where the speed at which they move increases.

Adjusting the friction, the amount of bounce, or the player's ability to jump may also be things you consider to add an element of risk and difficulty for the player.

The great thing about games of skill, is that they are often simple in premise, and yet completely absorbing. Players can become obsessive about games of skill, particularly when the goal is clearly in sight. It is the players own level of accomplishment that stands in their way of success, and for competitive players, competing against themselves is the best challenge you can offer. Having an evident point score on the screen can add to this atmosphere

Games of skill may still offer strategy and an element of chance, but move too far away from the skill based requirement and you lose a critical piece of what makes games of skill so addictive.

Chance

When you introduce an element of chance into your game, what you're really doing is offering the player something that they cannot easily predict, or that is impossible to predict. There may be an element of skill or strategy involved in a game of chance, but it is the unpredictable that keeps us coming back for more.

When a game offers the chance for you to win … if you're lucky … the gambler in all of us gets hooked. It's the thrill of the unknown that draws us in, and keeps us playing. Take snakes and ladders for example. Big opportunities to stride ahead of competitors or quickly lose ground make the game exciting.

There are a number of ways you can approach a game of chance in Kodu, and recreating a traditional board game where chance is the main ingredient is one obvious path to take. You can however, find the unpredictable in a game in other ways.

Drawing on the 'wander' movement of opponents in the game for example, make their placement on the board difficult, if not impossible to determine, particularly if they are moving quickly. Adding additional commands to the bot that further compound this unpredictable nature needs to be done slowly to ensure you get just the right balance in how they react, and the threat that they are intended to offer.

The obvious other way of introducing chance, is by using the random point feature, and have the characters behaviors assigned to different point scores. Using the programming 'pages' to best advantage here can allow you to create some very interesting behaviors in your games.

Who are you building for?

The funny thing about games of chance, is that even if the outcomes are entirely random, even if you've warned your players that planning a particular approach won't help them, some players will still look for the best strategy.

Think about players at the roulette table. On some level, they know the game is purely chance, but it doesn't stop them looking for a strategy to try to gain a favorable outcome. Players that love strategy will always look for the best advantage, even when the game is determined by a roll of the dice.

Similarly, in many circumstances, a player that loves skill based games may seek a slender advantage through that ability, despite the outcomes of game they are playing being entirely determined by luck.

You can create a great game with a focus on strategy, skill or chance, but many games will include an element of all three. An element of the unpredictable, an advantage in taking a strategy, and a roll of the dice all bundled together make the game challenging on a number of different levels.

You may decide to make your game to appeal to players that enjoy all these elements in a game, but I'd suggest that leaning toward one of these three will help define the sort of game you're building, and help you better consider what sort of player your building your game for.

Knowing your limitations

There are limitations to Kodu, and when you know them, you'll find it easier to work within the restrictions that the Game Lab has. Some of these limitations are built into the game intentionally to promote more diverse and exciting game play. For example, bots have different abilities, different strengths and weaknesses. Once you know what these are, you can build games that leverage those abilities to best effect.

The game engine has a limit to how big or complex a world it can cope with, and this forces you to work with a more intimate game space. In the same way that telling a story in ten words rather than thousand requires you to focus more keenly on each world and its value in the story, the same is true of this game space limitations. You must weigh each element of the game carefully, assess its value, and determine whether it is adding to the experience of the game or is unnecessary or even detracting from it.

A good example of this were the soccer games blogged about on the Planet Kodu website. Some had peripheral characters on the sidelines that were there purely to add some extra color. You might say, that these characters added little to the experience of playing the game. They certainly didn't influence the

challenge the game offered. It's undeniable however, that they added to the overall atmosphere, and were for me, one of the most memorable elements. As I've stated before, knowing what to include, and what to leave out of the game can be a delicate balance, but can make all the difference in terms of engagement.

Of course, any game you build will have rules and therefore you must set your own limitations. When the player knows the restrictions under which must play, the game play can become more intense. Knowing how many rules to include, and how much freedom you allow your player can greatly affect the playability of your game.

Finally, like any game environment, Kodu has its own quirks and character, and your best games will often be those that use to these unique elements to best effect. PlayStation games are in a completely different category to Nintendo Wii for example, both have their appeal, both have strengths and weaknesses and are satisfying because of them.

Puzzles

Many games use puzzles, game play that can be solved using deductive reasoning, in order to add variation to the game. Often puzzles are used to unlock doors to other game areas or open containers that contain equipment needed by the player.

When creating puzzles, the game designer must make sure that the goal is easily understood and that it is very obvious what the goal of the puzzle is and how the user can proceed. One way to ensure this is to make it easy to get started with the puzzle and give the player feedback on their progress.

It is also very important that the player feels that the puzzle is solvable, using multiple puzzles making the first one easy and then gradually increasing the difficulty in subsequent puzzles is a useful technique. Having said that it is important that we allow the player to give up if they no longer want to work on the puzzle.

Finally, if all else fails it is useful to tell the player the answer to the puzzle. Knowing the answer will help the player with subsequent puzzles and reduce the level of frustration with the puzzle and subsequently the enjoyment of the game.

Refer to the Puzzle Solving game design pattern.

Probability and Chance

Games need chance and probability to be fun. If a game played the same way every time then it wouldn't be worth playing more than once. Also if there isn't any variation in the gameplay then "working through" a level loses its fun because it is predictable and therefore boring.

In game making we use random numbers to add variety to our game play. Randomness may be used to determine when and where opposition characters appear or how the non-playing characters react to certain events. When using chance in our artificial intelligence we need to be careful that we get the level of difficulty correct, the way we determine how likely events are to happen may have a dramatic effect on the skill level needed by the player and therefore how fun the game is.

There are two methods we can use. The first is to look at the code and calculate the likelihood of various events happening, particularly looking at the unlikely events and how game play will be affected when they occur. Using a table may be useful in considering how two random events will work together to determine game play.

The second method is to play test. When play testing to determine how randomness affects your games you will most likely need to play the game a lot. When playing try to see how random events influence each other, if a series of unlikely events happen will this make the game either unplayable or too easy?

Determining the actual possibility of random events in your games won't necessarily help you understand how the random events in your game will affect the perceived playability of your game. The actual differences between various random events may not always be apparent, the subtle differences may either not be apparent or seem to be greater than they actually are. Getting others to play test your games and discussing how random events are perceived is the only way to determine how random events affect the player's mind.

Chance and randomness can be used effectively to increase the level of difficulty, and therefore the level of skill the player needs as the game progresses. Good games get harder and are perceived by the player to get harder as progress is made.

Finally, chance and randomness should not be used in way that the player perceives its role to be too great, and therefore believing that luck not skill will determine success in the game.

Game design patterns useful when using chance and probability in your games.

- Limited Foresight
- Strategic Knowledge
- Player Balance
- Memorizing
- Balancing Effects
- Risk/Reward
- Imperfect Information
- Tension
- Luck
- Limited Planning Ability