**SUMMARY OF CHAPTER 11**

Balancing a video game is very personalized, delicate task. Mathematics model should be made to balance different cases. If they don’t feel the same then change values in model and retry. Should we make a game of pure skill, or a game of balance?

**Types of balances:**

1. Fairness

Should the game be symmetrical or asymmetrical? How can the game be made interesting for all? Is it more important to provide the biggest challenge or to keep the game interesting? The game should be fair to novice players yet challenging enough for skilled players.

1. Challenge vs Success

Balance the challenge in proportion to player’s skills. Don’t let skilled get bored, and keep the unskilled motivated and confident.

1. Meaningful Choices

Right number of choices. Choices that impact the game and force player to think strategy-wise. Risk in chasing big rewards, safe low rewards (Triangularity concept)

1. Skills vs Chance

Alternate use of chance and skill. Relaxation and tension pattern.

Game shouldn’t feel too tedious or too random, both extremes. Balance them by going in opposite direction.

1. Hands or head

Is the game hands-based (focusing on dexterity) or head-based (focusing on thinking)? What does your target market prefer in a game?

1. Competition vs Cooperation

Both are good motivating factors. A combination of both happens in team competitive games.

1. Short vs Long game sessions

Protect novices by temporary initial immunity. Prevent boredom by making death inevitable at end?

1. Rewards

* Praise, points, prolonged play, gateway, spectacle, expression, powers, resources, completion
* The more types of rewards you can work into game, the better
* Found through hit and trial
* Will often have to settle for pretty good instead of perfect

Psychology lessons:

* 1. Gradually increase value of rewards as player progresses (Acclimatization effect)
  2. Make rewards variable (chance of getting reward instead of a confirmed reward for every monster beaten)

1. Punishment

Makes earned rewards/progress more valuable.

Punishment should be preventable and loss should be regain-able

Positive reinforcement better than negative reinforcement

1. Freedom vs Controlled Experience

Freedom over exciting things. Do the boring things for the user.

1. Simple vs Complex

Right kind of simplicity and complexity needed. Innate complexity bad. Emergent complexity good. Simple ruleset from which emerges complex situations. We should be asking “What do I need to remove?” instead of “What do I need to add?” Game elements should have 2 or more purposes.

1. Detail vs Imagination

If user can imagine better than our detail quality, leave it out. Binoculars effect to set close up view into memory once, and let imagination do the rest. Details should inspire imagination, not stifle it.

**General balancing methodologies:**

* Doubling and halving
* Intuition by guessing exactly
* Document it. Write it down. Tables and all.
* Plan to balance
* Let players do a little bit of it through difficulty modes

**Balancing Game Economies:**

* Keep the balance
* Balance depends on:
  + How money is earned by user
  + How money is spent by user

Overall, the big question is: **does the game feel right?**

**HOW CAN WE IMPLEMENT INTO OUR GAME?**

Once our game has been implemented to a major degree, we will begin to test the game for finding the right balance. We already knew that we would have to test our game for balancing, but were planning to rely on intuition only. Now we have an idea of the 12 types of balance for which we must consider the game’s features.

A brief discussion for each type of balance in our game is as follows:

* Fairness

Currently our game only has 1 mode and 1 vehicle possible, but we are aiming to provide variety in game modes, user’s vehicles, type of opponents on road and a multiplayer version in the future. This should be enough to keep game interesting for all types of players, while allowing the novice to enjoy the game’s basic features on the standard game mode. Our priority is to keep the game interesting for as wide an audience as possible.

* Challenge vs Success

We will allow the user to survive collisions with the concept of lives or vehicle damage being implemented. This will not frustrate intermediate player if he loses his progress due to one simple collision. Similarly, we can change difficulty of avoiding other obstacles.

* Meaningful Choices

Each vehicle should have its own characteristics that give different type of advantages to player, but be overall more or less equal.

* Skills vs Chance

There’s a bit of both. Chance is the generation of obstacles, rewards and placements. Skill is how the player navigates the road to gain most benefit.

* Hands or Head

Our target audience prefers hands-based game.

* Competition vs Cooperation

Fellow AI bikers can be implemented who will take the collisions for you (always in front of you). Later in multiplayer, teams of 2 players can work together to achieve maximum possible combined score against other teams.

* Short vs Long

Novices can be granted immunity for first 10-15 seconds, so that on collision only their points are reset to 0, but the vehicle keeps running. After this timeframe their vehicle can be damaged by collisions.

* Rewards

Activate-able powerups, points, animated praise on reaching certain points’ milestones are all viable options. On a certain high level we may show a short cinematic to the user in which his opponents step into SUVs and turn them on (with intent of crashing into user’s vehicle).

* Punishment

Running over ‘light’ obstacles such as pedestrians and stalls should result in reduction of points, cessation of power-ups and reduction of speed.

* Freedom vs Controlled Experience

We will allow the user freedom to choose car, game mode and when to use what power-up. Upgrading car’s features may be too much freedom, so we are planning to leave it out.

* Simple vs Complex

As we implement most of the above-mentioned features, we must not let this variety of choice be overwhelming for user. For this, we will bring our prototype to fellow students and reduce the choices if gamers feel overwhelmed.

* Detail vs Imagination

A short, high quality, skip-able cinematic scene should be displayed before the game starts, that shows the game story behind the user driving.

Instead of relying only on what we ‘feel’ for each feature’s contribution to game balance, we can assign numbers and test if the sum of each difficulty level feels the same. For this, we may double or halve the variables e.g. frequency of obstacles’ appearance, speed of opponents, number of lives, speed of our car etc. We are not sufficiently qualified in game development at the moment to exactly guess the values, but once we are, we may use that method as well. In our 2nd semester, we are already aiming to provide different game modes to the user to provide the skilled player a more challenging experience. These game modes may include more ‘hostile’ opponents e.g. cars coming the wrong way and cars in pursuit of user’s bike actively chasing and trying to crash into it. We are also considering a mode in which points are lost for colliding with civilians, but that is a feature to be finalized in later stages of our game.

For game economy, our current idea is to have pick-able single-unit coins that force the user to traverse certain paths. At times, he may have to quickly decide on risking collision for a larger-unit pick-able coin bag that has more coins. These coin bags may be placed so as to force the user into risky situations e.g. extremely close to static obstacles.