

# Skills Learning Game Design Document

## Overview

Our project is a futuristic sci-fi roguelike card game where players must combat a series of enemies. Upon successfully defeating a foe, players are asked multiple choice questions surrounding various topics in computing taken from the IBM Academic Initiative and Skills Build websites. Upon answering a question correctly, they can add more powerful cards to their starting deck of initially unimpactful cards. The player wins after defeating all enemies, and loses if they die.

## Game Mechanics

Main features:

Card Mechanics:

- Cards have different 'Specialisations' (corresponding to topics from Skills Build)
- Cards can deal damage to enemies or have other effects to make yourself stronger. Some of those could be blocking damage, dealing extra damage, gaining specific buffs, increasing your stats, healing, increasing your 'power' or drawing/discarding extra cards.
- Cards have 'keywords' which affect them in certain ways. For example, attack, block, buff, heal, draw, power etc.
- Card synergies and deck builds could rely on different card specialisations, so focusing on a single aspect of the given skill topics could benefit the player in creating a more powerful and synergistic deck.
- Cards are played differently. Some can only be played once per combat, while others can be reused after the entirety of the players deck has been played.

Level Mechanics:

- After completing a level, you get the choice between adding a new card to your deck or occasionally the option of removing a current one. This is most likely where topical questions will be incorporated.
- Stretch goal stores and events will be added after/before certain core enemy encounters and can act as a way for the player to advance and power up before moving on to important sections of the game.

Battle Mechanics:

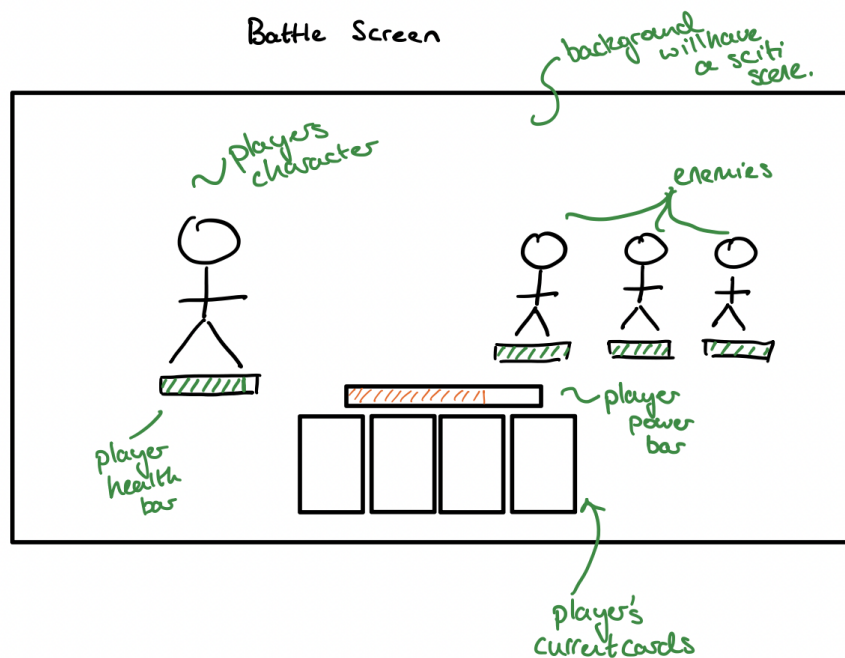
- During levels, you have a certain amount of "power", which corresponds to the amount of cards you can play in one round. After each round the amount of power will increase, and there might also be cards which boost your power generation.

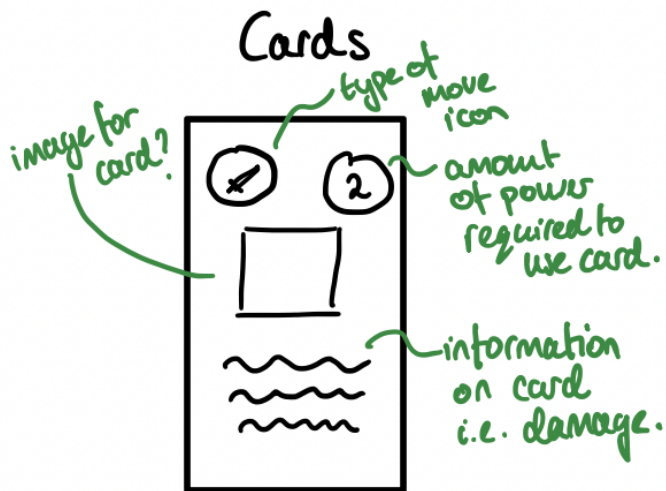
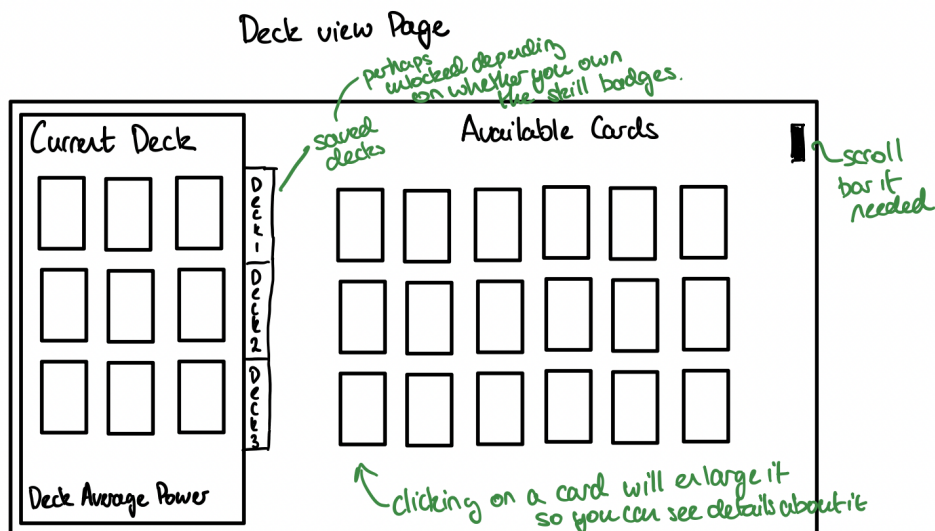
- Enemies perform an action at the end of each of your turns. Enemies could either be drawing cards as well and using those, or just have their own unique action set. If the former is applied, they will have a separate pool of cards that are more limited compared to the actions of the player. The actions enemies can perform will be limited to the core mechanics, i.e. attack, block etc.

Stretch goals:

- Ability to save decks - perhaps these could be unlocked if you have unlocked the IBM Skill Build Badges.
- Different types of encounters, like stores or events, so there is variety in the gameplay
- At certain points in the game, players can 'upgrade' a card in order to make it more powerful, perhaps this could be if they answer enough questions about a specific topic.
- Players can be rewarded consumables to use during combat, giving them a temporary boost in strength.
- Players can be rewarded modifiers which give permanent boosts in strength.
- Players can unlock harder difficulties when beating the game.
- We could add different, unique, types of cards, such as cards that may persist in your hand for more than just one use per draw, a card that essentially buffs the attack/utility of other cards for the remainder of combat, or for a specific number of uses.

## User Interface Sketches





There will also be other elements for the user interface, such as loading screens, level screens, starting screens etc.

## Data

We will be getting the questions for our game from the IBM Skill Hub, using the questions from Cloud, AI, Security and Data Science questions. We will be selecting each question depending on its difficulty - which will relate to the card that you get.

Since this is a single player game, there is no need for it to be online, and not much data will be saved between playing sessions - except your current deck, and level.

## Platform

We will be creating the game on Unity, with the aim of making it compatible with both Windows and Mac Computers. A potential stretch goal is to make the game compatible with more devices, however since the game will be redirecting to the IBM Skill Hub, it would be most appropriate for devices with large screens to be used, making laptops and PCs most suitable.

## Implementation Plan

A brief guide on the timings for when we plan to have things done by:

- We plan to have the basic battle mechanics completed by the release of our MVP (end of November).
- From there we plan to add the levels in the game, allowing for multiple battles to be completed, in addition to adding more specialized card mechanics by our first release.
- From there we will be tidying up, and adding any stretch goals we think would be able to improve our game in time for the final release.

## Testing

In addition to completing unit tests and integration testing to ensure that our game works. We will also be testing with students at the University of Bristol frequently in order to see if there is anything we can improve. Our main priority is to ensure that the game flows well with the Skill Build questions not being too obtrusive, but also allowing our end users to learn more about the subjects.