Switching animons during a battle will be required. This works similar with the “inspiration” game animon was based on.

From the basic Animon types in MP1, create “evolved” Animons that:

(1) has additional moves, and/or

(2) combines the moves of the basic Animons.

Auxiliary

Check the references sections at the end of this page, to get ideas of how to make evolved Animons.

The Animon World is very small. It is basically a grid where the Trainer can move around and interact with the different elements of the game. The Animon World must be at least 15 (height) x 40 (width) tiles. Figure 1 shows a simplified version of the game interface.

Figure 1. Simplified Interface

The Trainers are shown as small circles. Wild enemy Animons are hidden in the tiles, as indicated by the stars. When the player’s trainer (green circle) steps on a tile with a wild Animon or a Trainer, a battle window will show and they will fight.

Note: We would just like to emphasize that you **DO NOT** need to create your own sprites (background pictures, character pictures, etc.) for the game. You can just use is available on the Internet and include them into your project. Please acknowledge your sources if you used someone else’s sprites.

Your Animon game now includes a level-up capability for the Animons. Basically, an Animon starts at level 1 and levels-up as they gain more experience. The starting experience of an Animon is 1. The level of an Animon is computed as:

Experience is gained through defeating other Animons in battle. The computation of the experience gain is as follows:

As the level increases, the Animon gets stronger. The base stats of the types of Animon are shown below:

|  |  |  |  |
| --- | --- | --- | --- |
| **Type / Stat** | **HP** | **Atk** | **Def** |
| **Grass** | 45 | 49 | 49 |
| **Poison** | 35 | 60 | 44 |
| **Fire** | 39 | 52 | 43 |
| **Water** | 44 | 48 | 65 |

The actual values of Animon’s stats are actually linked to their current level. The stats are calculated as follows:

So for example, if Anibasaurs level is 8, its current stats are computed as follows:

Rounding down the results of the equations, Anibasaur’s current stats are: **HP = 25, Atk = 12, Def = 12.**

The damage calculation also needs to be updated to include the current level of an animon. The new damage computation is shown below:

When **Animon\_x** attacks **Animon\_y**, it uses one of its moves. The damages caused to **Animon\_y** is computed as follows:

**Damage\_on\_Animon\_y = ((0.4 \* L + 2) \* A \* B / 50 / D + 2) \* M \* R / 255**

Where :

L = level of Animon\_x

A = Attack power of Animon\_x

B = Base Power of the Move of Animon\_x

D = Defense Power of Animon\_y

M = Multiplier of the Damage as show in Table 1

R = any random number from 217 to 255

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Grass | Fire | Water | Poison |
| Grass | 0.5 | 0.5 | 2 | 0.5 |
| Fire | 2 | 0.5 | 0.5 | 1 |
| Water | 0.5 | 2 | 0.5 | 1 |
| Poison | 2 | 1 | 1 | 0.5 |

Table 1. Multiplier of the Damage

Evolution: All Animons will evolve at level 10. You may determine beforehand which animon they will evolve into.

Deadline: March 31 (M) or April 1 (T), 2014

Deliverables:

* Source code (send via email)
* Class diagram

References:

* <http://en.wikipedia.org/wiki/Gameplay_of_Pokémon>
* <http://bulbapedia.bulbagarden.net/wiki/Main_Page>