Item Genie

Matcha

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Objective of the software system

Many games consist of items that add bonuses to in-game character attributes, as well as potentially provide some abilities that can be activated to veer the game in your favour. The scale of these games often means that there is an overwhelming number of items with varying attributes and trade-offs, and as such it can be difficult to make strategic choices of what item to equip. As such, it would be hugely helpful to be able to visualise the trade-offs of equipping an item over another, given limited resources the player has at hand such as amount of in-game money.

Item Genie hence seeks to enable better gaming choices by players by allowing comparisons between items' attribute bonuses and cost, so that players can tailor their in-game purchases to the current situation of the game. The UI part focuses on facilitating these comparisons, whether through a numerical or graphical manner, and will provide functions to sort, search and selectively focus on specific items and attributes for side-by-side comparison. This will be based on backend data of all the in-game items and their properties.

In particular, for this module, Item Genie will use a MOBA game, League of Legends or LoL for short, as an example. LoL is an intensely competitive PvP game which has many opportunities for a turnaround for either side, as long as players know how to capitalise on various situations that arise to their advantage. In addition, there are constant updates to the game, tweaking item attributes. With the rapid changes in opponents' strategies and constant rebalancing of the game, the player with more knowledge of how various items compare to others has a natural advantage in countering opposing strategies.

Major functionalities of the system

- Allow selection of certain item attributes for comparison through checkboxes

- Allow selection of specific items for comparison through both checkboxes and drag-and-drop

- Compare the above-mentioned attributes in a numerical and graphical manner, such as through sorting and bar graphs. The mode of comparison can be accessed through tabs.
    - For the numerical comparison, attributes can be sorted based on their magnitude
    - For the graphical comparison, bar graphs will be used to illustrate the difference in attribute magnitudes for different items. There will be options to tweak the display of these bar graphs, based on how much data the player wishes to compare, both across items and across attributes.

- Categorize items according to their attributes and tier (stage of the game in which players will normally get that item). Items for different tiers can be colour-coded for easier visualisation.

- Searching of items or attributes to be selected for comparison

- Present a graphical view of how items can be built up from other items

- Enable bookmarking of items for future reference and comparison

Major challenges of the system's user interface

In any complex game, items will consist of many different types of attribute bonuses and abilities. This means that the amount of information to present is immense, and the organisation of this large amount of data in a simple and clear manner will be difficult to do well. Not only are we comparing across different items, we are also comparing across the many attribute bonuses that an item can have, which might potentially lead to clutter the more attributes the player chooses to compare.

Preliminary drawings of the user interface