

Chutes and Ladders Identity Builder

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Overview

"Sometimes, rather than defining a new algorithm and using it to generate materials, artists work with data or artifacts that are the result of some pre-existing process. Rachel Beth Egenhoefer recorded the moves in a game of Chutes and Ladders and then used bubble gum, lollipops, and string to turn the game play into a sculpture."

"Art Work: Simple Rules" Douglas Repetto, Make Volume 13.

Chutes and Ladders Identity Builder is a modification to the traditional board game. The main addition is the inclusion of digital avatars which change over time based on the events that occur. Along with this visual change, there is a corresponding narrative element which seeks to flesh out the morality plays that have been all but erased in the current conception of the game. The project was constructed by Ray Vichot (Design, Mechanics, Narrative/Documentation), Sara Raasch (Programming, Visual Design), and Bobby Schweizer (Art, Design).

Theoretical Background

Chutes and Ladders (alternately Snakes and Ladders) as we know it, like Parcheesi, is derived from a game developed in India around the 16th century. Known alternately as Moksha Patamu, Paramapada Sopanam, Vaikuntapaali, or Gyanbazi, the basic structure of this game was meant to cover the Buddhist and Hindu idea of reincarnation and becoming better through several lifetimes of progress, failure, and reworking back towards enlightenment. Snakes symbolized a particular sin or foible of humanity. The idea was that such a mistake would swallow you up and the tail of the snake symbolized rebirth as you proceeded to continue on the path towards enlightenment.

The game was adopted by Victorian English colonists in the 19th century and adapted it as snakes and ladders, changing the mechanics around (most notably increasing the number of ladders) and replacing the Hindu/Buddhist metaphors of death and rebirth with a more Victorian fashioned morality play based on hard work and humility opposed to indulgence and sin.

The modern version of the game, as released by Milton Bradley, possesses these morality plays

only in the barest of forms. There are only two images on either end of each chute or ladder which suggests an event that fits as either good or bad (usually a relationship that fits within physical causality, but not always). Still, for all of its whitewashing of its past, it is amazing the game still has any semblance of its past as a tool for social and moral teaching.

Our project aims to extend this lost part of the game, while complicating the notion of what our actions do to us as well as creating a persistent visual change on the usually static board game pieces,

As a result we decided to create a system which, while an essentialist reduction of identity, allowed for growth for a character over time within those specific statistics. Thus the change in character over the course in a game should allow for many variations in overall end –state of the character in the game beyond merely reaching the 100th space.

Back End Data

At the heart of our project is the GRASP system. Initially, we began prototyping systems of representation, relying on common "personality" types such as those in the Meyers-Briggs Type Indicator Assessment. These were ultimately rejected in favor of an original system. We created five attributes for an avatar. In order, with some explanation:

Grace - Physicality, ease of movement, lack of clumsiness.

Responsibility - Following orders, routine, habits.

Attractiveness - Physical Beauty, Prettiness, kindness.

Sociability - How well others wish to be around a person.

Presence - How charming, interesting, extroverted a person is

Initially we included a stat called Tilt, which was meant to reflect a person's emotional stability, but this was ruled out as both too vague a stat to capture and also too difficult to manage as far as technical details go.

Events alter these stats in various ways, depending on the narrative. Initially we created a system wherein whatever changes we made to the overall stats of a player, they could not exceed 1/10 the total number a spaces a chute or ladder would detract or add from, respectively. For example, the ladder where a girl is shown watering flowers, the total movement is 37 spaces. 1/10 of that, rounded, is 4. So the changes to a characters stats are as follows:

Grace +2 (A physical activity which requires some amount of gentleness)
Responsibility +4 (requires maintenance of clear directions and a steady habit)
Attractiveness +1 (Again physical activity, plus an association with flowers and beauty)
Sociability -2 (Solitary Activity)
Presence -1 (Introverted, quiet activity)

Creating an overall change of +4. As you can see, even though this was a ladder, not every statistic received a positive change. This was a conscious decision on my part in order to complicate the effects of the chutes and ladders. While I may not necessarily subscribe to the karmic philosophy of the original game, I believe it may be a more accurate, or at least more contemporary cultural notion to point out that any event has good or bad elements to it (such platitudes as "every cloud" has a silver lining" come to mind) and that there is always another side to the story. That said, these numbers are still being tested and it may be an alternate system for determining overall change may be necessary.

Aside from chutes and ladders, a change in status is made if a person has gone several times in a row on a ladder, chute, or neither, They add visual cues such as confetti, gray clouds of stink, or an anonymous mask. They also enhance or nerf statistics for the duration of the streak.

As far as the technical aspects go, Character Data is maintained in an SQL table. Our system runs on PHP which updates each character status to the table. Then, depending on the values in the table various <div>s which contain the art data are turned displayed. The drawback to this system is that this necessitates extraneous clickthrough in order to call on the table to write new data and well as read from it in order to generate the avatars. Streamlining this process using an AJAX interface is part of the future implementations as outlined in the Streamlining subsection.

Art

The avatars chosen for the children of Chutes and Ladders were intended to convey a level of iconicity. While the regular Chutes and Ladders figures are illustrated in a cartoon style, the pixilated look helps abstract further the base avatar. These sprites were taken from the RPG Maker development kit and enlarged using Photoshop's near-neighbor algorithm, so to retain the pixilated look. The artifacts layered with the sprites purposely maintain their sharper quality. This contrast in quality highlights the changing avatar and allows one set of artifacts to be used across all characters. Despite some gendered pieces, all artifacts apply to both sexes of players.

A balance between recognizable and obscured artifacts was sought to provide a more nuanced view of the pictorial modifications. For the responsibility category, the whistle and badge were more obvious choices, while the orange elementary school safety patrol sash required more specialized knowledge. This knowledge might better suit current elementary school students, who are a part of a community of practice familiar with this type of artifact. The grace category was modeled after classic Hollywood star and dancer Fred Astaire, as a paragon of poise and movement. Presence uses a blue sphere that increases in size to draw attention to the player character in the middle. Sociability brought in other avatars in the background. Attractiveness was perhaps the most difficult attribute to characterize because it is difficult to convey how others would perceive the character without just using more avatars in the background. As it stands, the first level is a flower pinned to the avatar's shirt, the second adds a tiara to invoke images of a princess or beauty pageant winner, and finally outlines of photographers snapping photos fill the foreground.

Future Implementations

Streamlining

As the system is currently implemented, each player has to maneuver through a series of pages to select their character, select their move from the board, and see the resulting image and narrative. This was due to some coding limitations within the timeframe of the project. We realize that it would be best to have all steps on one page that dynamically updates. This would make the digital portion of the game move faster and would place the altered avatar in the view of the players at all time. In doing so, the transformations of each avatar would be more apparent.

Portable technology

The next implementation may take our game into an entirely digital realm. From our current implementation, it is plausible to take that extra step. However, we are still debating whether or not this is an ideal option, as there is still something to be said for the tactile experience of the board and dice/spinner. We recognize that even a laptop is a fairly bulky piece of hardware to have for passing around a table. Part of the fun of the game is the tactile engagement of both the board and the avatar manipulation system, so ideally would best be implemented on lightweight tablet PC. Additionally, the game might go the opposite direction of being entirely digitally instantiated and instead place all of the aspects of the system right on the board and table. The player pieces could use small LED screens and wireless technology to update their appearance directly on the board.

Gameplay

Further iterations of the game could take into account the history of play on the board to affect movement. For example, a character that has climbed the same ladder multiple times may not be rewarded as heavily for repeating the same action, while a chute-stricken character might learn from their mistakes. Also, it would be useful to have the current statistics of a character affect gameplay--a player with a high grace stat might actually better survive the "bike falling" chute. Currently the GRASP system is laid out on a track that begins at zero. More interesting transformations could occur if the system were set on a spectrum with negative and positive values. This might result in an avatar that has a whistle, badge, and top hat but stands under a raincloud. It would also benefit from using more procedural transformations rather than pure art assets. Finally, the narratives could be extended to change based on the proceedings of the gameplay and accumulate over time, so as to give the player a final "story" of their experience that explains how their avatar shifted to look like at the conclusion of the game.

References

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