A Unique Spin on Tower Defense

HTL, or *Hug the Line*, is a metamorphosis of the classic tower defense game. In a traditional TD game, players fortify against and kill enemy units who are attempting to lay siege to the player. *HTL* reverses this mechanic. In place of enemies, *HTL* has Squibbles – living plants who constantly lose health and vitality as they travel along a garden path. And in place of "towers," players control Wizards – friendly gardeners whose spells help the Squibbles survive their journey and arrive safely at their garden beds.

A Work in Progress

HTL is being designed and developed by the Digital Future Lab at University of Washington Bothell. The initial prototype, completed in March 2016, was intended for use in classrooms as a computer science teaching tool. HTL is now undergoing commercial development with aspirations for retail deployment. Check out the following gallery for an inside look at how a game goes from concept to prototype to fully-fledged experience!

PART 1: Meatballs

HTL's first prototype was a simple, traditional tower defense game. At this stage we were just experimenting, so our art assets were temporary and pretty silly – we went with a theme of anthropomorphic food and our background art was a pixelated countryside. The Meatballs represented enemies, while the Nachos and Ice Cream were friendly characters.
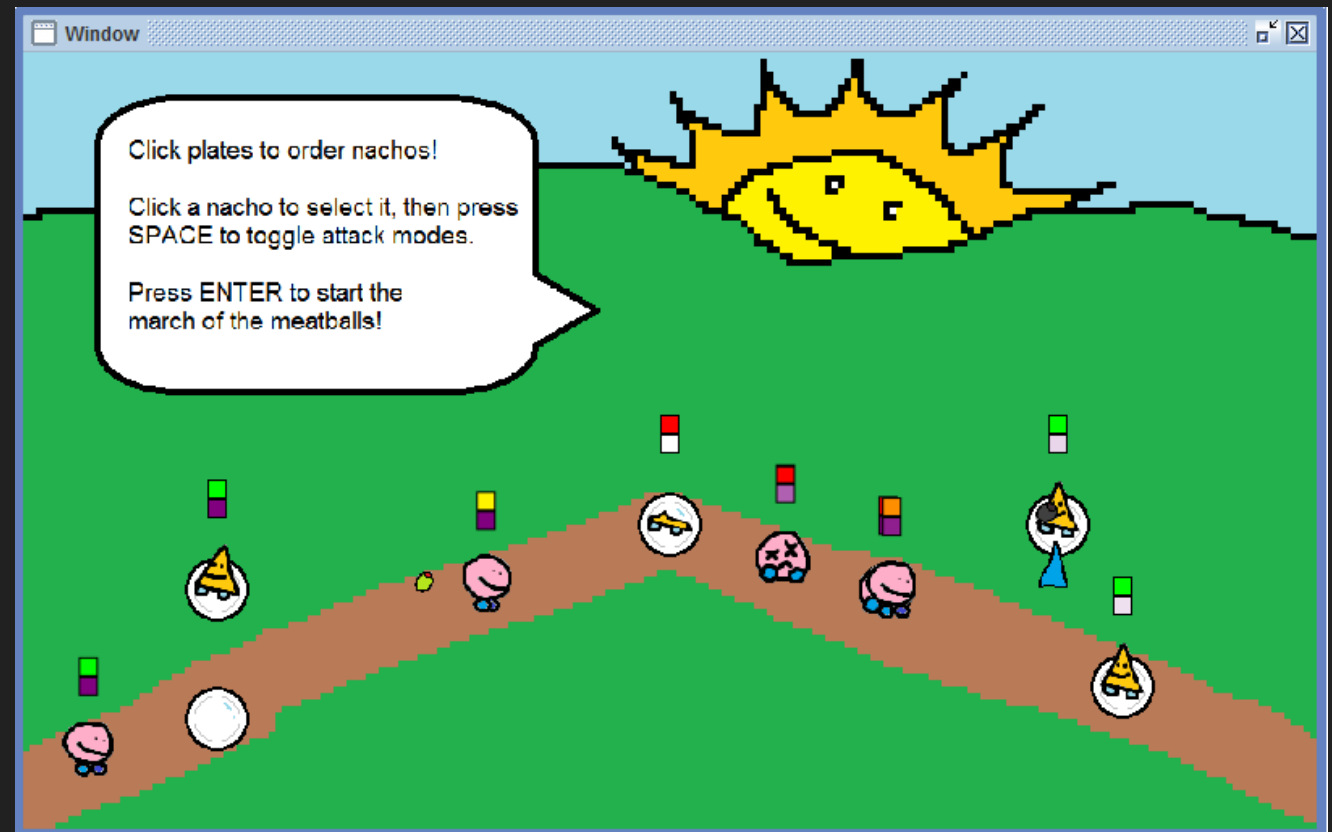
PART 2: Food Fight

The second version of *HTL* was designed as a twist on the traditional tower defense game, introducing the elements of empathy and nonviolence. It was conceived as a game where both the player characters and the enemy units would experience stress as a result of combat, and players could choose to engage in nonviolent methods of defense that would be less traumatic to the combatants. This involved the creation of a system where the health/stress of enemies was vitally important to the player.

PART 2: Food Fight

Here you can see the "Beertender," a friendly character who could support other player units by making drinks for them. This animation would play if the Beertender met a tragic end.
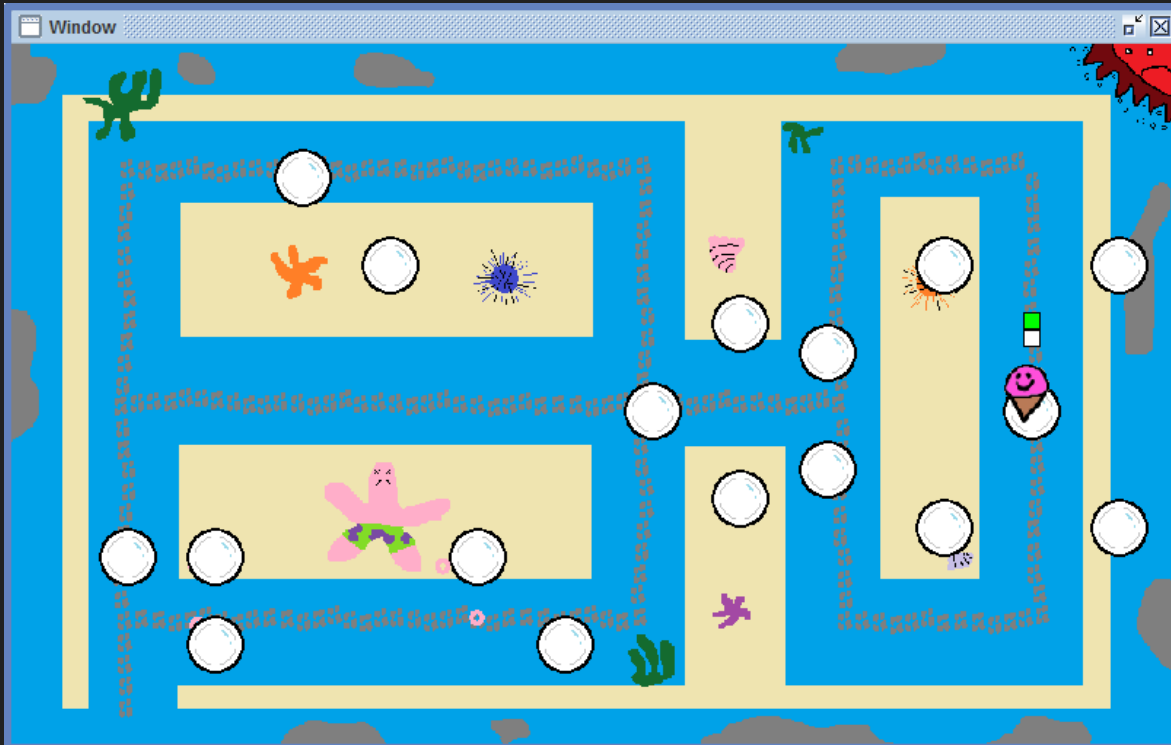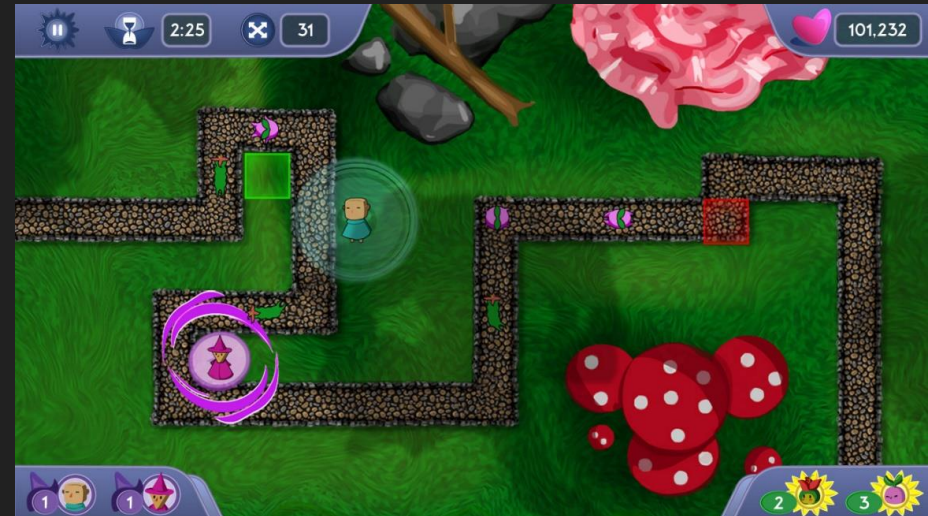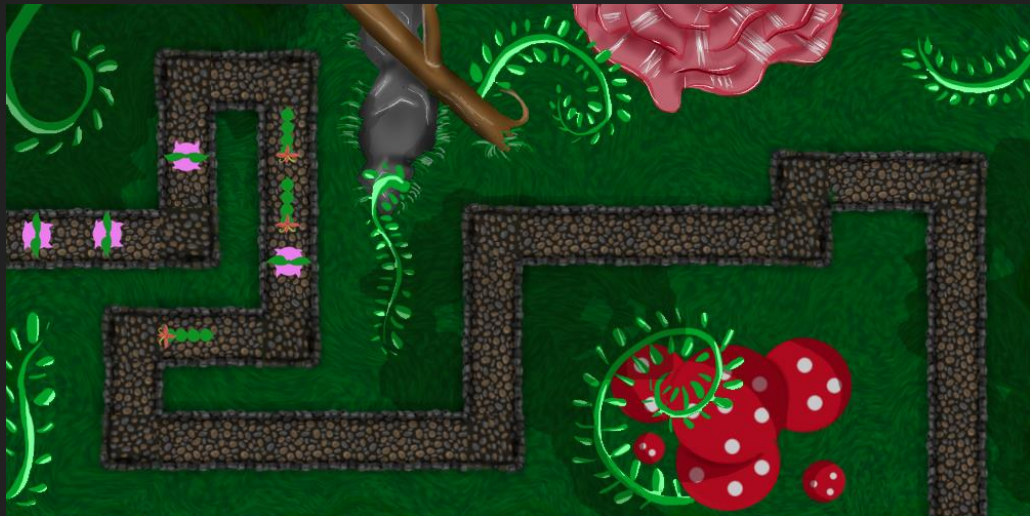
Despite the more serious theme, we were still playing around. We changed to a new background – an underwater theme – and created a variety of new characters to do battle with the Meatballs, all of them edible.

PART 3: Wizards and Squibbles

The third version of *HTL* brought major changes. Not only did we move toward a serious visual target and production-level art assets, we also decided to move away from traditional tower defense mechanics. This is when we decided that our "towers" (the Wizards) should actually be attempting to *save* the incoming "enemies" (the plant-creatures called Squibbles) from decay, environmental factors, and a loss of vitality.

HELP THE WIZARDS RESCUE THE SQUIBBLES!

= RESTORES ENERGY IN BURSTS!

= GIVES A SPEED BOOST!

SQUIBBLES LOSE ENERGY AS THEY MARCH TO THE END!

CLICK TO PLACE WIZARDS ALONG THE PATH
RE-SELECT WIZARDS TO MOVE THEM AROUND

PLAY

0:12   12   30,254

WAVE 4/5

2   1   3
4
5   6

0   1   12   9

0:12   19   20,854

WAVE 4/5

0   1   12   9

CREDITS

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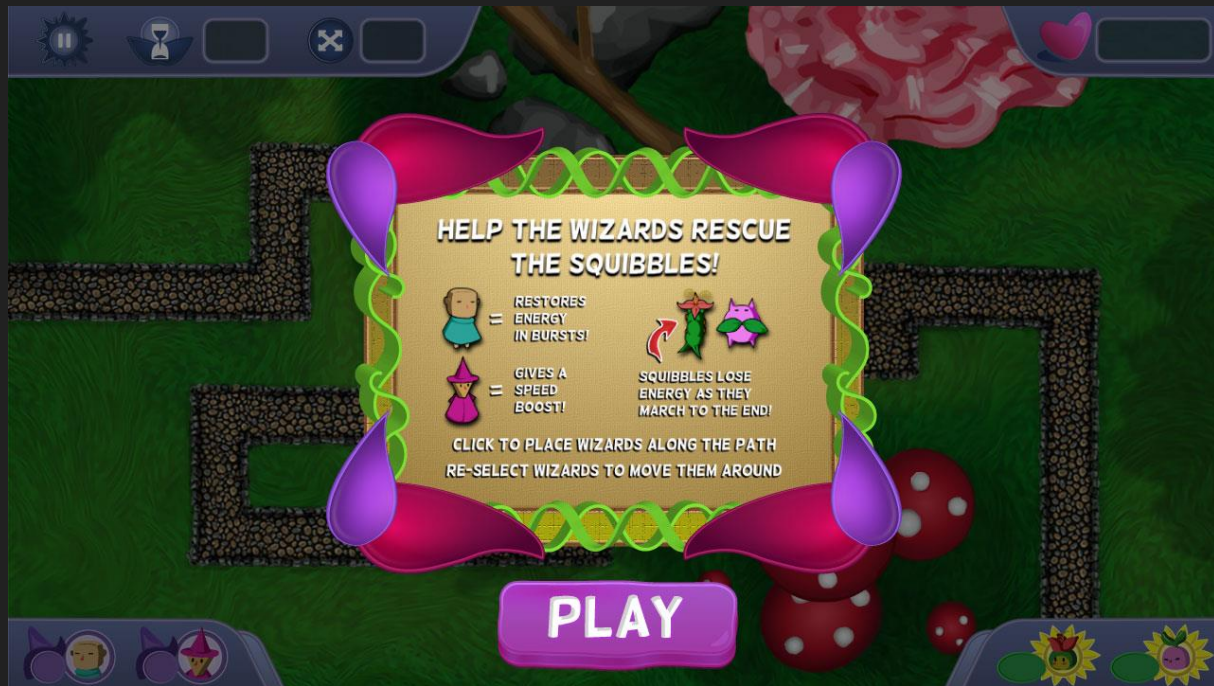**BRYCE VILLANUEVA**
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PART 3: Wizards and Squibbles

The change to a nonviolent game with nonviolent mechanics helps decide our new visual design for *HTL*. Our artists created whimsical wizards and cute, cheerful plants, as well as new background art and path tiles evoking a magic forest setting.


Our audio team created a full sound palette for this version of the game, including two music tracks and many sound effects. Our developers created a system for designers to test and balance the gameplay, and the result was a playable and alterable game prototype. This, finally, was *HTL* 1.0!
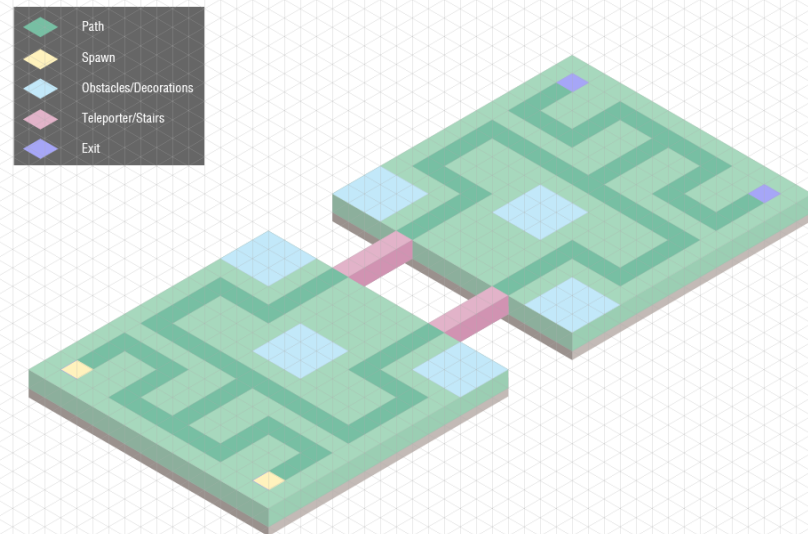
PART 4: Isometric Gardens

After the prototype was completed, *HTL* underwent a major review to decide how the team wanted to move forward on the project. We wound up changing the camera view to isometric instead of top-down in order to capture more of the charm of the characters and create a more dynamic visual experience.
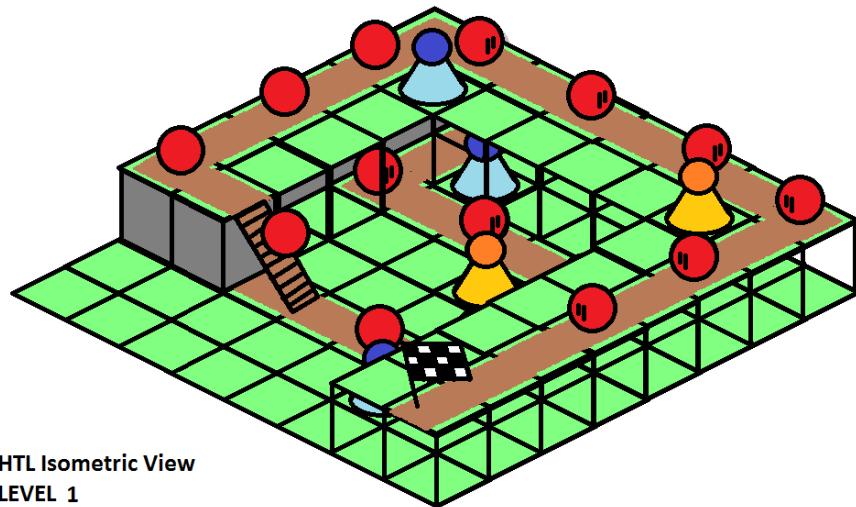
HTL Isometric View
LEVEL 1

Path
Spawn
Obstacles/Decorations
Teleporter/Stairs
Exit

PART 4: Isometric Gardens

PART 4: Isometric Gardens

We also created a more stylized, abstract look for the tiles and backgrounds. Conceptually, we decided to approach the world of *HTL* as if each level were a different garden, and began to draw inspiration from real garden architecture in the design of new paths.

PART 4: Isometric Gardens

Behind the scenes, we're working on a level editor that will allow our designers near infinite freedom to create more levels and experiment with gameplay. The future of *HTL* is still up in the air while we work toward creating a strategic, fun, and empathetic experience for our players. Keep an eye out for *HTL* 2.0!