ETH Zurich, Game Programming Laboratory - SS12

Polarity - Prototype Report

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1. Gameplay Prototype

The goal of the game is to rescue Miss Boson who has been sucked into the particle accelerator of the CERN laboratories in Geneva.

The particle accelerator consists oft tracks with magnetic walls. Walls with a positive charge are painted in blue, walls with a negative charge in red. Some of the walls have spikes and are harmful for the player.

The player, Dr. Higgs, sits in a spherical “polarity device” which can run through the tracks. The device can change the polarity of its magnetic charge. Positive and negative charge is shown with blue and red color respectively.

Walls with the same charge as the polarity device repel the device, walls with opposite charge attract the device.

Figure 1 shows a paper prototype of a simple level. We can see a track, painted with black ballpoint pen. Magnetic walls are marked with highlighter pens. Miss Boson is standing at the exit of the level. Dr. Higgs polarity device is represented by a fridge magnet. The fridge magnet is red indicating that the device has a negative charge. When the device moves down to the blue magnetic wall, it will be repelled and ejected into the large chamber. Here, the device has to change its polarity to avoid the spikes and reach the exit. Miss Boson vanishes into the next level just before Dr. Higgs reaches her. The time that it took to reach the exit is recorded in the high-score list. The player is encouraged to play the level again in less time.

Figure 2 shows a paper prototype of a more complex level. This level consists of three walls in 3D space. Dr. Higgs can only move along the walls. He can cross edges of the walls without getting harmed. The polarity device is represented by a fridge magnet. The fridge magnet is blue indicating that the device has a positive charge. When the device touches a star, the star is collected and added to the high-score list. The player is encouraged to play the level again by collecting more stars in less time. When the polarity devices touches a feather, it will float up against gravity. When the polarity device touches an anvil, gravity will be restored. All items, such as stars, feathers and anvils disappear once they have been used. Again, the polarity of the device has to be used carefully to avoid obstacles and to reach the exit. In all but the last levels, Ms Boson vanishes into a higher level just before Dr. Higgs can reach her.

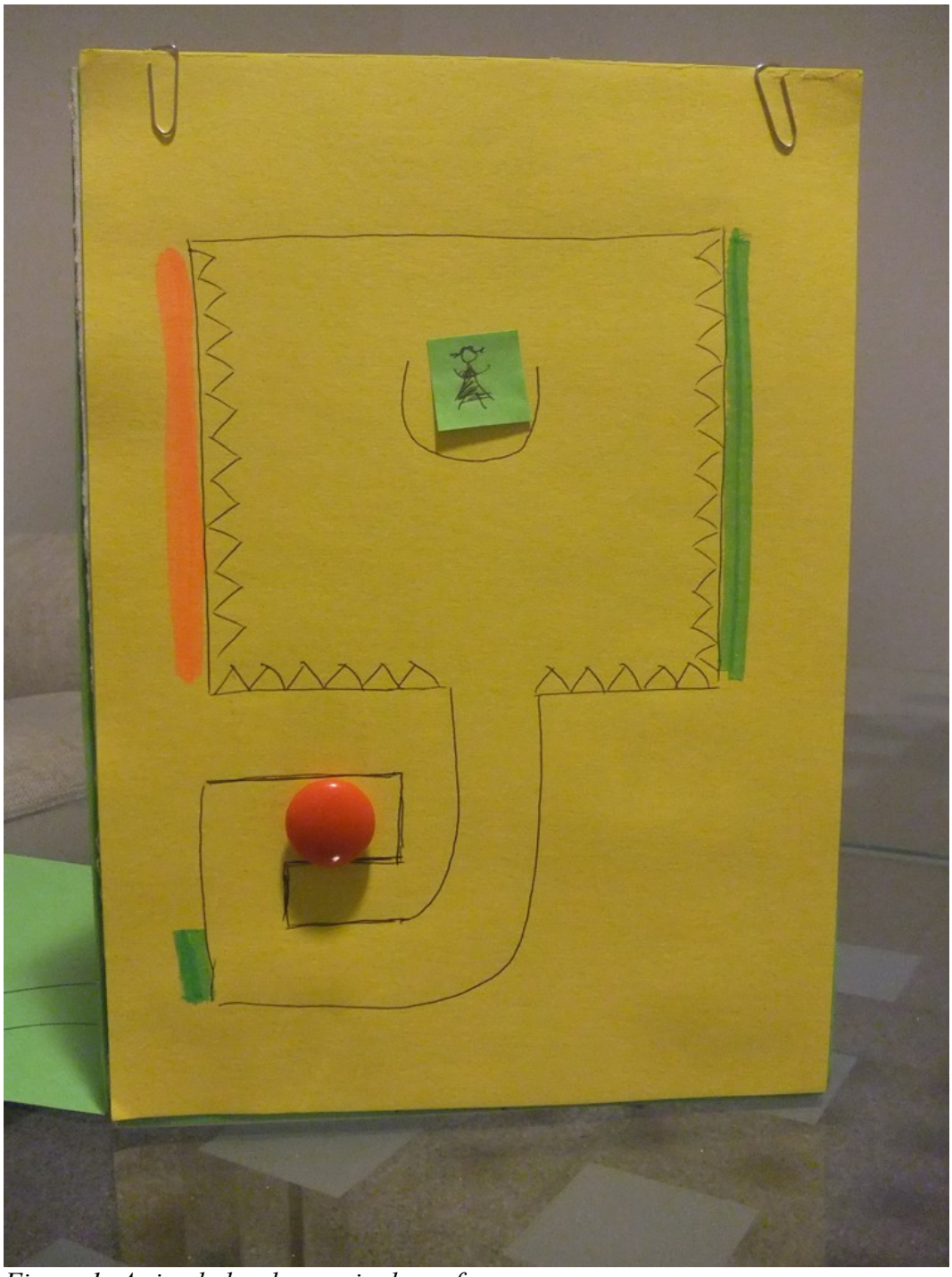

Figure 1: A simple level on a single surface

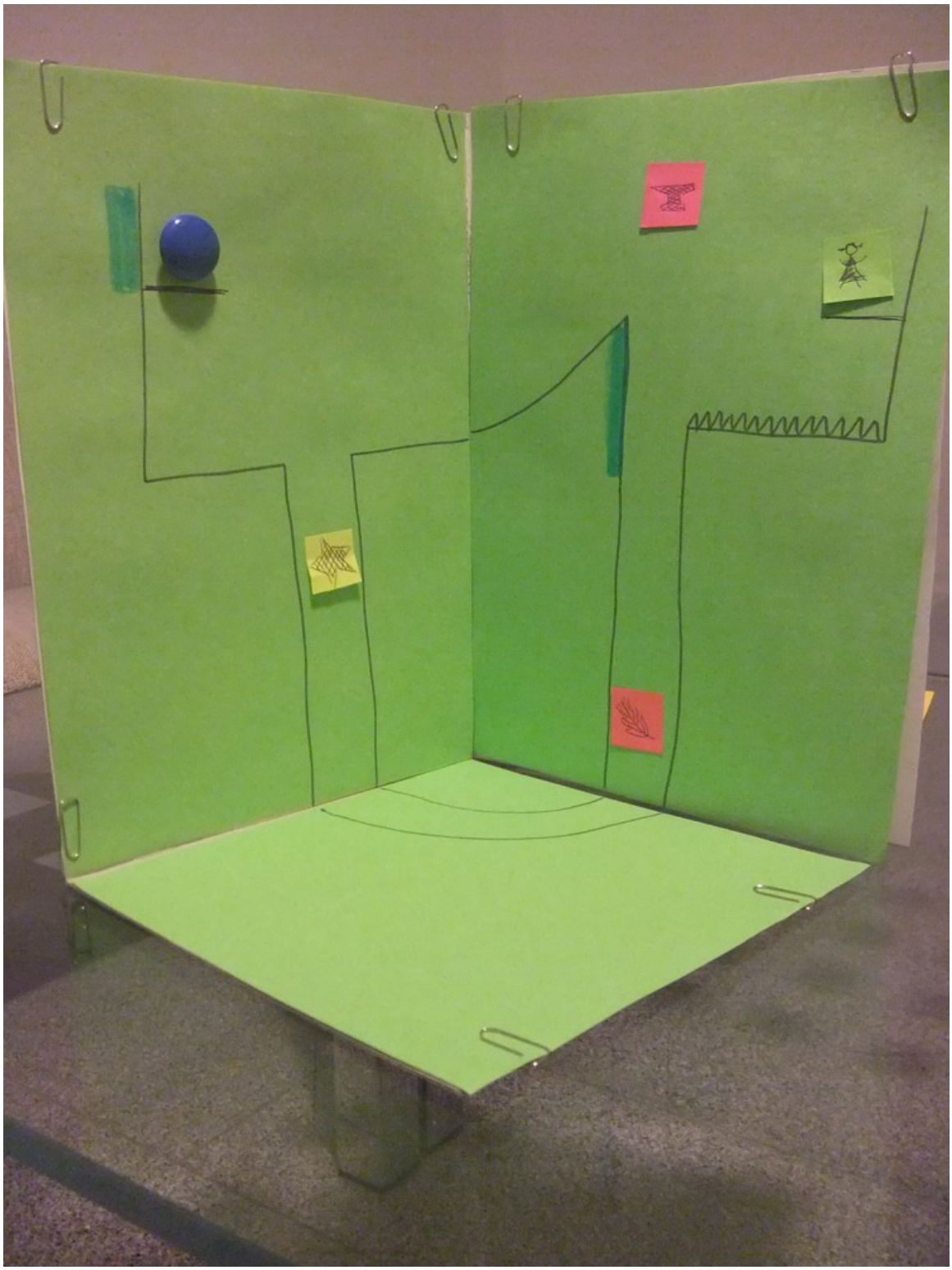

Figure 2: A level on 3 surfaces

2. Experience with the Prototype

For us, the prototype was not very helpful, because the game lives from the fast paced simulation. We created a playable Java prototype. A screenshot of the prototype is shown in Figure 3.

From the prototypes we learned that we will need to create many short levels. Each new level should slightly raise the bar for the player. Levels later in the game should add new gameplay elements to keep a novelty aspect in the game.

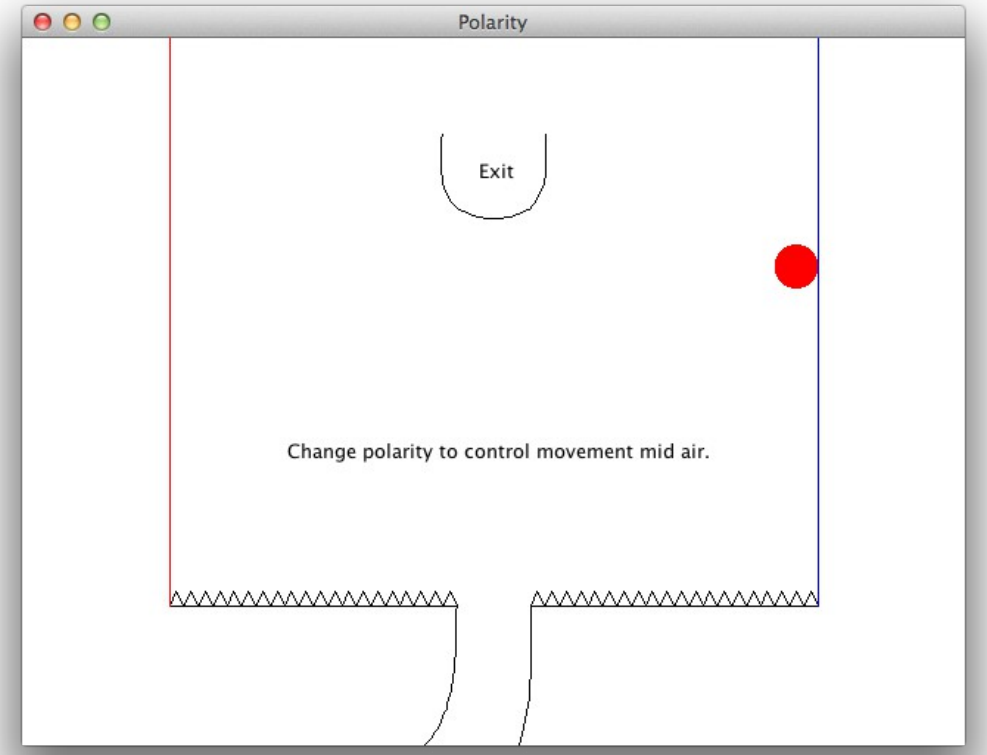

Figure 3: Screenshot of the Java prototype