

By Team Paint

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Overview through Lenses:

- Player experience focuses on completing difficult puzzles.
- The game raises questions such as, How did the player get there? What is the temple's secret? Why is all the color gone from the world?
- Collecting paint and room keys are the most valuable to the player.
- The game is set in a whitewashed, monochrome temple where silver indicates items that can be given color through paint. The essential story is the a once colorful temple is now painted white and covered in dust. A rainbow spirit guides the player through the temple to the center, where the final level is reached. Ultimately, you release a fountain of paint that returns color to the temple. The story will resonate with players as they paint their way through each level, trying to discover the secret of the colorless temple while simultaneously finding out about their own.

DESIGN DOCUMENT PAGES

1. **Page Summary:** overview of entire game: name, 1-3-sentence pitch, concept, genre, audience, Game Flow summary, and basic Look and Feel.
 - a. **Pitch:** One day, while exploring the valleys of an ancient jungle, you stumble upon a monochrome temple. As an explorer of mystic ruins, you can do nothing to resist your urge to investigate. After wandering into the temple, you spot a colorful spirit, which proceeds to illuminate the entrance hall, before alluringly floating away. You give chase.
 - b. **Concept:** An Indiana Jones-esque adventure in a white-washed temple, where painting items different colors changes a corresponding physical property. Paint is in limited supply, but only through manipulating the temple's environment is it possible to obtain the keys necessary to unlock the central and final level.

2. **Gameplay:** challenge/puzzle structure, objectives, play flow

Overall gameplay can be characterized as a puzzle platformer. Players will have to navigate traditional platforming obstacles such as moving stages, defeating enemies, and traversing rooms with corresponding keys. The interaction with these obstacles lies in coloring them with various paints to make them behave in a way that allows the player to progress through the stage. Each level design requires the player to use certain paints in order to successfully move forward, such as combining the bounce paint and the animate paint to jump across a ravine. The game is played in first person, so the player will not have full view of the level. Challenges will also manifest themselves in the form of limited paint; players will have to manage the amount of each color that they are given at the beginning of each level to successfully move on to the

next. It may be possible for the player to recover spent paint later on in the level or receive new paint once certain objectives are complete, but the amount of paint afforded to the player should be limited.

The game will be structured into a series of levels, with each one requiring the player to reach a certain objective at the end, at which point the player will be transported to the next level. Play flow will be facilitated by incremental platforming puzzles that will vary in difficulty level but in general shouldn't be too time consuming. Moreover, certain challenges will contain certain hazards to induce some pressure on the player. The gameplay overall should be smooth and linear, making the player have to think but at the same time, always having something for him/her to do whether it's observing the environment or traversing the level.

3. **Mechanics:** implicit/explicit game rules, physics/ actions/ economy/ etc.

The game's mechanics are a colorful twist on the classic platformer and shooter mechanics. The player character traverses levels using basic movement abilities (running, jumping, turning, strafing) and his ability to apply and remove color from items in a grayscale world.

The color of items dictate their behavior. A colorless item is static and unresponsive, with no real effect on the environment or the player. However, applying colors to any object will give it special behavior. The following behaviors will be assigned to four unique colors (particular colors not yet decided):

1. **Animate** -- Animate causes an object to exhibit either translational or rotational behavior. For instance, applying the color for animate on a gear might cause the gear to rotate. Applying the color on some particular platform may cause it to move in some direction (or move back and forth). Visual cues for what type of motion an object will exhibit are intended to be included, but specifics as to what the cues will be have not yet been decided.
2. **Bouncy** -- Bouncy causes an object to exhibit elastic properties. The simplest example of bouncy is applying the bouncy color to the floor, and then being able

to jump onto that colored floor and bounce to the player's original height (useful if jumping from a raised platform). Bouncy can also affect moving objects (mirror their direction) and may have other future applications.

3. Permeable -- Permeable renders an object permeable from one side. The simplest example of permeable is applying the permeable color to a wall. The player can then walk through that wall as if it were a hole. However, the player cannot walk back through the wall unless he/she paints a new "hole" (permeable color) on the wall. This is consistent with the theme of paint (paint will only exist on the side of the wall on which it is painted) and opens up opportunity for interesting puzzle-driven interactions and level design.
4. Sticky -- The sticky mechanic causes an object (usually a wall, ceiling, or floor) to hold in place whatever object comes into contact with its painted surface. This could be an enemy, a moving block, or possibly even the player himself. The exact details of how sticky will work, and what its implications to the game will be, have not yet been decided (in particular, we are unsure whether sticky will hold the player in place or allow the player to do more useful things like cling to walls or ceilings).

Items that can be painted these colors will be visually indicated by a lustrous silver color. Once an item is painted, it will be that painted color. Just as a player can apply a color's mechanic to an object, he/she can also take that color's mechanic away by "reabsorbing" the paint. This returns the item to its original lustrous silver color and unaltered behavior.

Not all objects can be painted any color. Visual indicators, probably in the user interface (i.e. a changing crosshairs) will indicate if an object cannot be painted a certain color. This is a feature we hope will not be prevalent in the gameplay, and that if an object cannot be painted a particular color, it will be relatively obvious (i.e. making a fan blade "bouncy", when it is most obviously supposed to rotate).

The player has a limited amount of paint. Budgeting paint is a key puzzle element to gameplay (and thus, is described further in the gameplay section). It has not yet been decided exactly how paint will be received, but ideas for contained in the environment in different ways (e.g. paint fountains) have been mentioned.

4. **Story & Setting:**

The player is an adventurer who has entered a once-colorful temple that is now just a former shade of itself, all of its walls and floors covered in white. A rainbow spirit will appear and give the player a paint staff. The rainbow spirit will then act as a guide, showing the player how to navigate the first few levels. Using fountains that spout paint, the player will collect paint and use the paint staff to color certain objects. After the player has completed a few levels, the rainbow spirit will only show up during key moments and give a hint about which direction to take at the beginning of each level.

While completing each floor, the player will end up restoring that area of the temple, returning some color to that location. Upon reaching the final floor of the temple, the player will realize the truth behind the temple, and will act to fix the mechanisms/ machinery at the temple's core to fix the color fountains and repaint the temple.

5. **Levels:** describe intended level progression

Each level in the game has the same goal (abstracted behind story-telling elements): reach the end of the level's physical space. In other words, each level is a simple puzzle of traversal. The player must use the game's mechanics and tools at his/her disposal to do that, with each level presenting a unique puzzle to stump the player. The idea for level progression starts by introducing colors one at a time to the player's toolset, so that the player can ease into gameplay without having to worry about too many conflicting mechanics. The following describes the "tutorial"-type progression of the first few levels:

Level 1: Introduce the player to the basic movement mechanics and the first color (the “animate” color). Provide the player with a large starting platform, on which he/she can move around using the basic movement mechanics. There will be a platform on the far side of the room, from which the player can “complete” the level. Between these two platforms, bridging a large gap, will be 3 moveable platforms. However, they will be inconveniently placed so that the player cannot quite traverse the gap. The rainbow sprite (as described in the story) will move towards the middle platform, color it with the “animate” color, and the platform will move side to side. It is then left to the player to deduce he/she must color the other two platforms to traverse the level. Only the “animate” paint will be provided to the player.

Level 2: In a similar fashion as in level 1, introduce the player to the “bouncy” mechanic. Have the player traverse a number of raised platforms by coloring the floor beneath them with the “bouncy” color, leaving them to jump and bounce to the next platform as if on a trampoline. Again, use the rainbow sprite to illustrate this behavior for the player. After the player traverses the pure-bouncy portion of the level, provide them with “animate” paint and provide a simple puzzle that uses an easy combination of the two colors to traverse.

Level 3: Another level that uses “bouncy” and “animate” in conjunction with one another, this time with a little more critical thinking required to solve. This level serves as a buffer between learning mechanics so that the player remains engaged in the puzzle-solving gameplay, and is eager to acquire new mechanics, which will be introduced in level 4.

Level 4: Introduce the “permeable” color. This level resembles the first level, with platforms moving side to side. However, the level makes a “U-turn” (not game language, just a visualization), and once the player traverses the first large gap,

he makes a turn and sees a nearly identical puzzle, where he must traverse a large gap to reach the end. However, there are no moving platforms. He does, however, have access to a new paint color. This paint makes objects “permeable” from one side. He paints one side of the wall (possibly in multiple locations) to allow the moving platforms to pass through the wall, so that they are now bouncing in the second room, providing a means to reach the end.

Level 5: The final “tutorial” level. The player is introduced to “sticky” in a manner consistent with the first few levels. Part of the puzzle will involve some sort of large cylindrical obstacle rolling down a ramp that must be stopped in order to bridge some gap so that the player could cross. Puzzles where “sticky” is an obvious solution will introduce the player to the mechanic.

After the “tutorial” levels (the first 5 levels that introduce the game’s mechanics), the game will progress with levels of increasing difficulty that can (but are not required to) involve any and all of the 4 mechanic colors. It is likely that we will introduce new puzzle elements to the game (e.g. keys to doors, etc.), which will probably be introduced in a similar way as the core mechanics (gradually, and one at a time).

In the final level, the puzzle will be a means of restoring the temple (fixing the color fountains). This may take a different form than previous level, and may center around some central object rather than escaping the current room/level.

6. **Interface:** visual system, needed key elements:

a. Controls

i. keyboard and mouse:

1. WASD for movement, mouse to look
2. LMB - paint shoot/slash

3. Space - jump
4. Number buttons - paint select

b. HUD

- i. Simple life bar - 3 hits
- ii. Color wheel/palette with numbers showing quantity of paint
- iii. Crosshair depicting paintable objects

7. **Artificial Intelligence:** opponent/enemy, friendlies, and support AI:

a. Environmental AI

- i. Simple moving platforms in all three dimensions
- ii. Reactionary hazards such as collapsing platforms and falling rocks.

b. Enemy AI

- i. Simple sentry enemies which follow a predetermined path until player enters line of sight.
- ii. Upon encountering player, sentries will chase player until the player exits the sentries line of sight for 2 seconds.
- iii. "guardians" that will patrol and upon sight of the player, will give chase until the player is out of range.

8. **Technical:** target platform, game engine/network hurdles to research

- a. Paint will be created for the PC platform operating under the Unity game engine.

9. **Game Art**

a. Overall Style:

Shapes and colors very clean. Initially all white--rooms appear sterile and empty. Sparsely colored archways or doorways reveal to the player what color paints they will have access to during that round.

b. Color Scheme:

- See design inspiration below
- 4 distinct colors to indicate each paint power

c. Asset List:

Possible interactions for each object indicated by the ornaments/patterns it has. List of paintable objects as of now includes:

- Floating platforms
- “Bouncy” trampoline platforms
- Animated objects (varied movements, but same indicator)

Mockup designs will also be created for:

- Overhead model of entire temple
- Archways
- Final destination fountain

d. Design inspiration (see attached pdf document):

https://docs.google.com/presentation/d/1VtC-ZAyiKuBR7wt112i8SdFgjwjpkiV42Im94KJG41U/edit#slide=id.g791a8fc21_0116

10. Audio:

a. Description of style

As stated above, we have not yet settled on a distinct architectural aesthetic for the game, but the music will take advantage of those cultural cues to unify the soundscape with the landscape. For example, if we ground our theme in the Ukiyo-e woodblock prints of Katsushika Hokusai (and the corresponding color scheme of blue, red, white, and green), the music will draw heavily on Eastern modes and orchestrations, and incorporate traditional songs from Edo-era Japan. That being said, the music will gain energy from new instrumentations of these folk songs, aiming for a Neo-Tokyo soundtrack.

In short, the audio will use the visual style of the game to develop a faithful background of music theory and songwriting, while still creating music that sounds distinct from its respective cultural tradition.

b. Asset List

i. Music

ii. SFX

1. Player

a. Paint Staff

i. Sound dependent on color

b. Footsteps

i. bridge

ii. pathway

iii. (additional floor surfaces will be necessary)

c. Jump

d. Landing

e. Respawn

2. Environment (list based on first level concept)

a. Paint hitting paintable object

b. Paint hitting non-paintable object

c. gears turning

d. water flowing

e. wind

f. water dripping

g. rock crashing

h. rain

i. thunder

j. pressed switch

c. Tools for Development

i. Ableton

With game music heavily dependent on loops rather than linear songs, the unique sequencing capabilities of Ableton will make it the primary digital audio workstation for development.

ii. Audacity

Open-source and available on all major operating systems, Audacity will be crucial for developing the sound effects of the game, including any potential audio recording for sound effects and music.

iii. Wwise

Wwise is rapidly becoming the industry standard for game audio composition and editing. The software will be especially useful for processing sound effects within accurate simulations of the video game environment, and performing real-time music editing while the game is run on another host.

iv. pdmusic.org

With the art of the game derived from a unified source, the music shall draw heavily on midi files taken from public domain that corresponds to the same culture and era as the artistic inspiration. These scores will be arranged and orchestrated to reflect a unique interpretation of the original musical pieces.

11. Milestones and Production Timeline:

a. Week 5: Paper Prototypes

- i. We will produce an open level where all of the color interactions are available for use, and there are many different objects with which the player can interact.
- ii. At this point we will have finished the mechanic for using and reabsorbing paint.

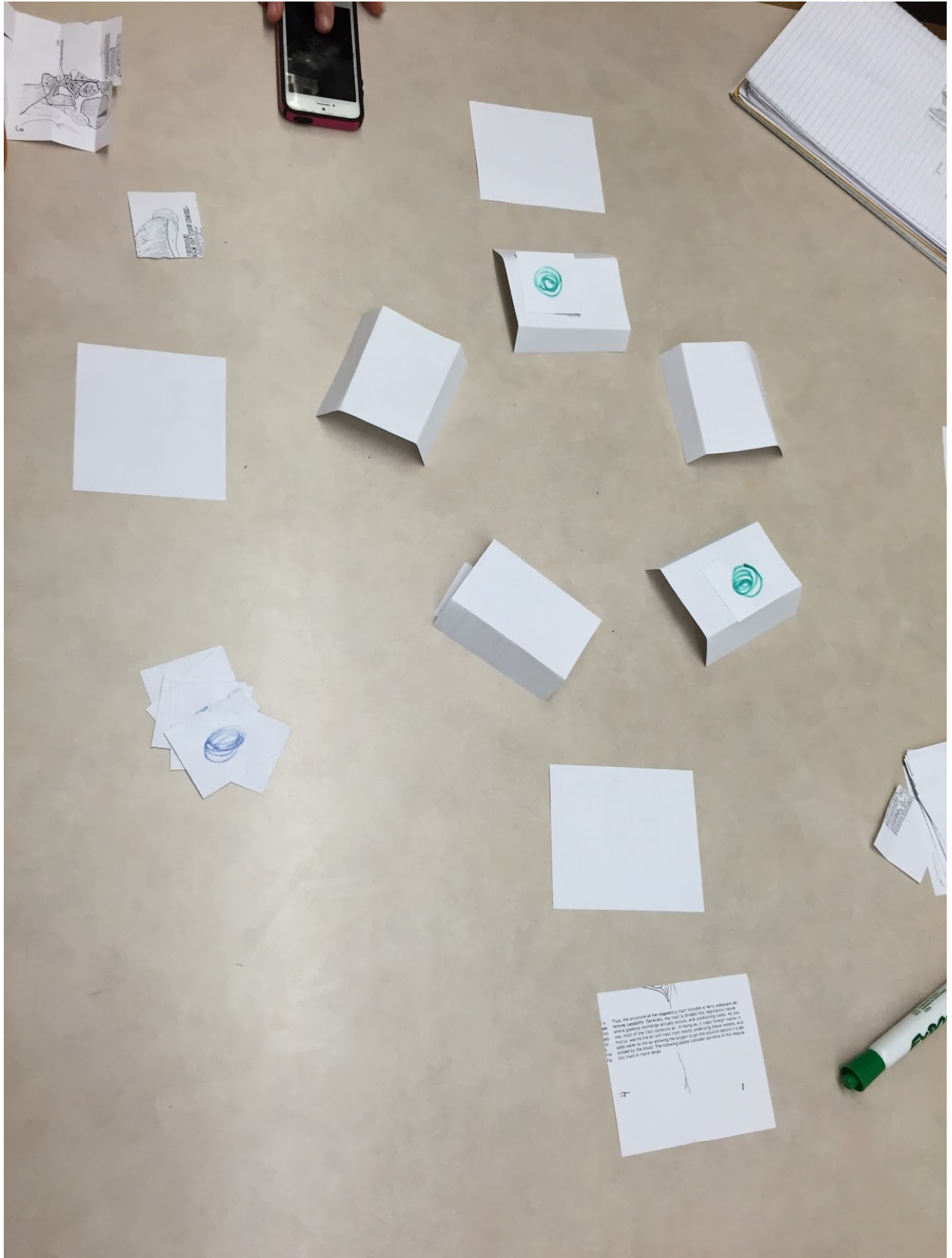
- b. Week 6: Digital Prototypes
 - i. We will produce 4 - 5 levels of increasing complexity, each requiring more creative use of paint and its properties.
- c. Week 7: Full Playable Prototypes
 - i. We will have completed a short game about the adventurer re-painting a temple will be completed.
 - ii. Most of the details will be gray boxed at this stage.
- d. Week 9: Revised Prototypes
 - i. We will revise level complexity, perhaps even the attributes of the colors, based on user feedback.
 - ii. We may modify the story to align it more closely with the gameplay mechanics.
 - iii. We will include more levels to increase game length.
- e. Week 12, 14:
 - i. We will decide on as well as lock our audio and art choices for the game.
 - ii. During this phase, we will conduct a copious amount of bug testing.
 - iii. We will possibly have to reorder and modify game levels to better align with the story

TESTING AND PAPER PROTOTYPING:

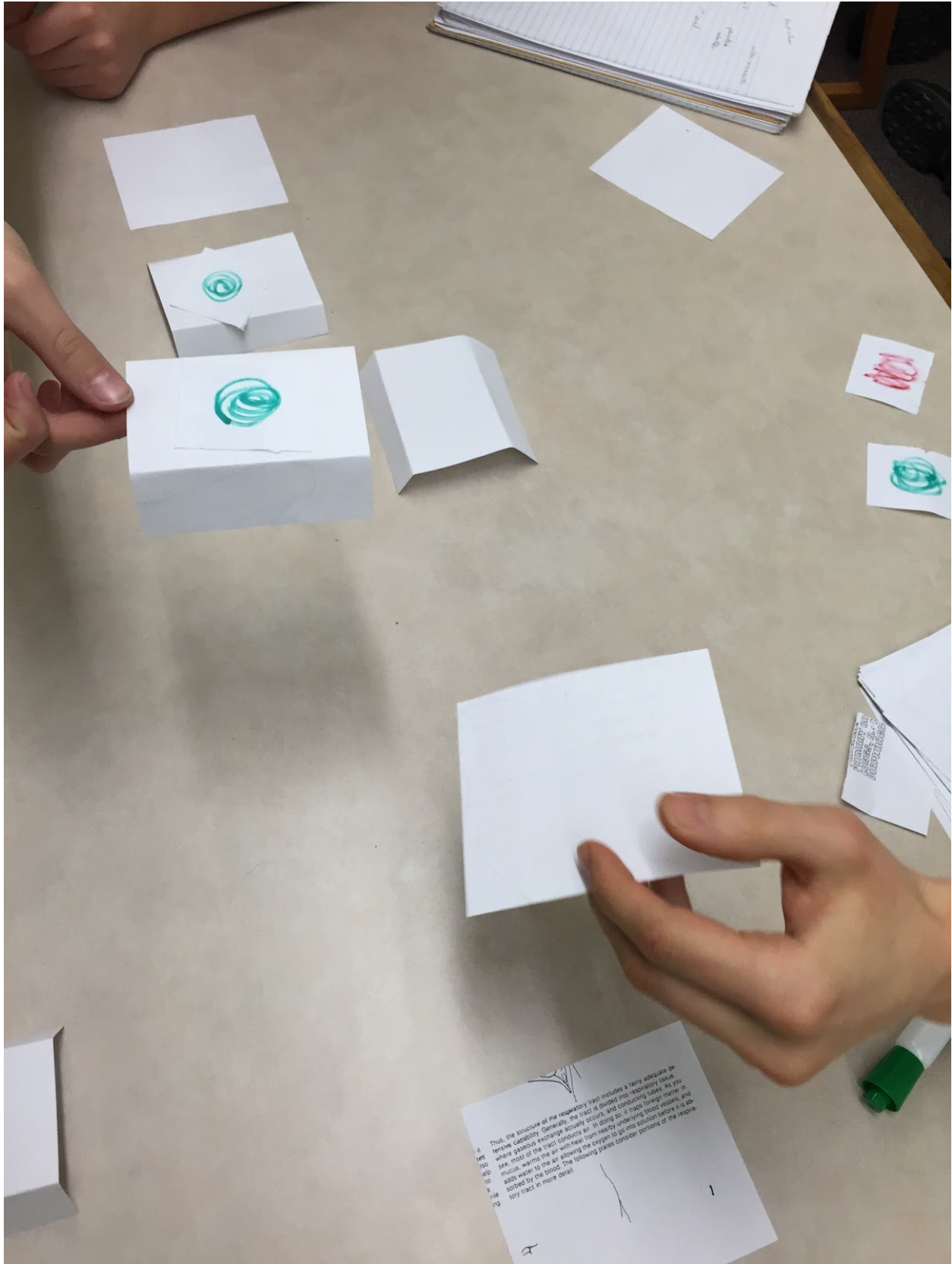
As we designed and refined our potential color powers, we settled upon four distinct abilities: animate, bouncy, permeable, and sticky. Paper representations of both stationary platforms and floating/interactable elements were made to help visualize these powers and then to build basic levels. Colored slips of paper represented the paint and could be placed on different interactable objects. This made it easy to demonstrate potential tactics for navigating each puzzle. Often multiple team members would hold or animate a platform within the 3D space while one team member walked through the level with their hand, adding color strips and jumping from platform to

platform. This week we prototyped the first and most basic level of the game in which the player solves a series of smaller puzzles, each one focused on a specific paint power. This helped our team to determine all the ways in which a paint color could interact with its environment and to start visualizing the 3D space in which the game will be played.

Pictures of paper prototypes on following pages.



1. The solution of the respiratory tract includes a fairly extensive set of
2. "simple" proteins: Globulins, the "real" albumin, and globulins, which are
3. with a general term: globulins, and globulins, which are
4. the most of the total protein, and globulins, which are
5. with a general term: globulins, and globulins, which are
6. with a general term: globulins, and globulins, which are
7. with a general term: globulins, and globulins, which are
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10. with a general term: globulins, and globulins, which are



Thus, the structure of the respiratory tract includes a fairly adequate
defensive capability. Generally, the tract is divided into respiratory tract
where gaseous exchange actually occurs, and conducting zone. As you
see, most of the tract conducts air. In doing so, it traps foreign matter in
mucus, warms the air with heat from resting underlying blood vessels, and
adds water to the air, allowing the oxygen to go into solution before it is ab-
sorbed by the blood. The following pages describe portions of the respira-
tory tract in more detail.