

# Observation and ideation

## P3 Interactive coloring book - Cycle I

### STUs

#### USERS

College students and busy adults that want to creatively express themselves.

#### SITUATIONS

Users more likely to use a coloring book when they are relaxing after a long period of intense working/studying. They typically color or doodle during alone time.

#### TASKS

How would users choose colors? What if we limit color palette to a small set of primary colors?

What if we suggest colors based on the theme or objects on a given coloring page?

How can we help novice users unleash their creativity?

How should we use templates?

What do users see as a success?

Users choose colors based on their recognition of a given shape as real world objects, and also colors that match, contrast, or balance the rest of the coloring page.

Selecting a template to color.

## Hierarchical Task Analysis

Users choose colors based on themes and motifs presented in the given coloring page, user's preference for a type of art, and user's mood at a given moment. For instance, they might choose colors that match the real world, but they might also be creative and choose unusual color combinations.

What's a mistake?

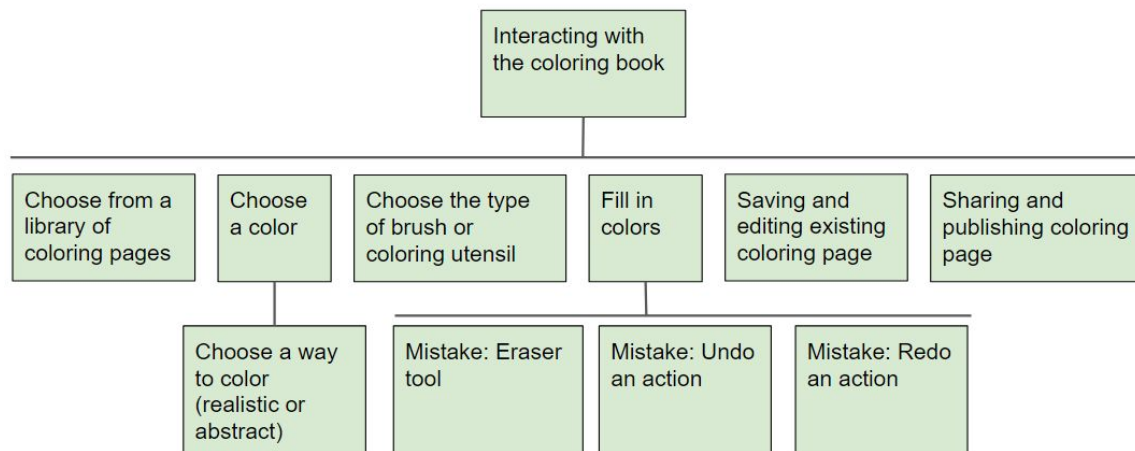
- coloring outside the lines
- using the wrong, or unwanted color
- unwanted blending of colors

How to recover?

- undo to the previous step
- redo to the original state
- erase a given section

After users are done with coloring, they may choose to save, or share it. Saving their artwork would allow for future edits, and sharing it would need integration with other apps.

With the current apps or mediums, users may have problems with inerasability of crayon colorings, inefficient or cumbersome color blending, limitation of coloring utensils, and inability to augment their artwork with AR or other technologies.



## Study Protocol/User Descriptions

1. Introduction: Would you like to participate in a coloring activity? It's for a class project - it should take around 10 minutes max. (10 seconds)
2. Background: When's the last time you colored? Do you have anything especially memorable related to coloring? Have you have any past experiences with using particular art tools such as crayons, markers, digital? (2 min)
3. Think aloud explanation: We're going to ask you to do something called a "think aloud" while do the coloring - basically, we'd like you to do is explain each step in your thinking while you complete the coloring task - sort of like a stream of consciousness. (short explanation, 20 seconds)
4. Task: We have some pages here for you to color in with some (8) colored Sharpies - you can select one we'll give you around 5 minutes to color it in as you like. We'll also be asking you some questions while you're drawing. (5 min)
  - a. Why'd you choose <color> to for this part?
  - b. Is there any particular reason you chose to color this part first?
  - c. What do you see as a success when you're drawing?
  - d. How do you feel right now?
  - e. Is there anything you wish you could have done more, or better?

5. Thanks: Thanks for your time! Would you like to keep the drawing? (Take picture if they want to keep it)

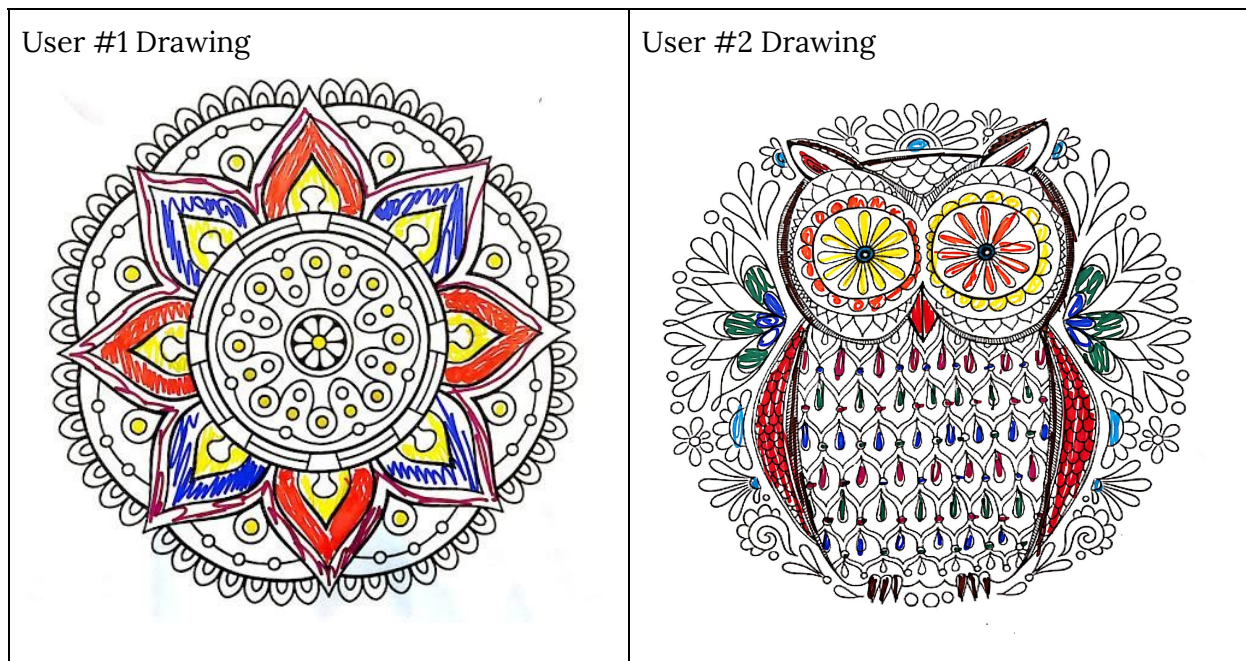
User 1 is a female college student working with her laptop inside Free Speech Movement Cafe.

User 2 is a male college student that is working at the Moffitt Library front desk, busy balancing school and work.

## Transcripts

Link	<a href="https://docs.google.com/document/d/1JOt3t79n0dc1izWe8u2RDGGlm8RsKg6T7-YxQLpBbs/edit?usp=sharing">https://docs.google.com/document/d/1JOt3t79n0dc1izWe8u2RDGGlm8RsKg6T7-YxQLpBbs/edit?usp=sharing</a>
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## Colored Pages



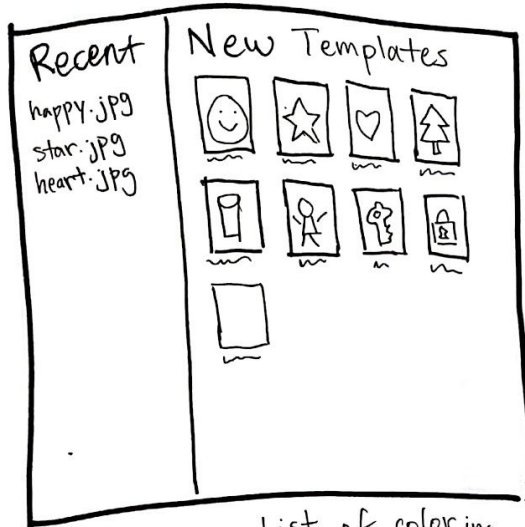
## Synthesis

2 themes and evidentiary quotes or observational notes (e.g., what was included in the design archive).

Theme	Observations	Quotes/Evidence
Users want access to more colors	Users want to have more colors at their disposal, or to be able to blend colors themselves.	<p>User 1: “I wish I could have more colors.”</p> <p>User 2: “I wish I could do color blending. I really love to do that but it’s not really possible to do with markers.”</p>
Users want their coloring to be artistic (pleasing to the eye) but don’t want the process to be overly complex	Users said they want to make their drawings pretty but they don’t often have the time or patience to fill everything. They also want to have the right balance, contrast, and match of colors, and choosing the right combination of colors can be tricky.	<p>User 1: “I want to make it look pretty but I’m also impatient to fill in the colors neatly and completely.”</p> <p>User 2: “I want to achieve the right balance, contrast, and match in my drawing.”</p> <p>“I’d rather do sketching in black and white, it’s simpler.”</p>
Users view success of a coloring page as how it looks as a whole	When asked about what they consider a success, answers seemed to mention the coloring as a whole, rather smaller details or rather the enjoyment of the task.	<p>User 1: “I define success as does it look nice as a whole.”</p> <p>User 2: “I define success as having a theme that unites everything together.”</p>

## Brian Chen's Sketches

Sketch #1

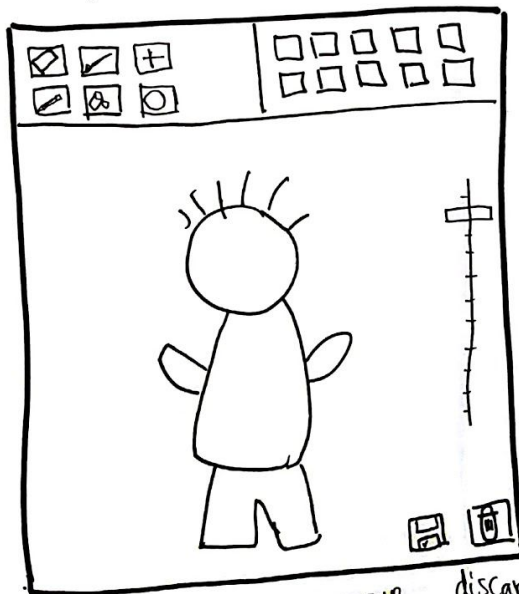


Main Screen  
(loads upon  
opening the  
application)

recent  
images that  
have been  
edited

List of coloring  
templates to start  
a new coloring page

some  
basic  
tools  
(eraser,  
brush,  
select,  
pencil,  
etc.)



10 basic  
colors

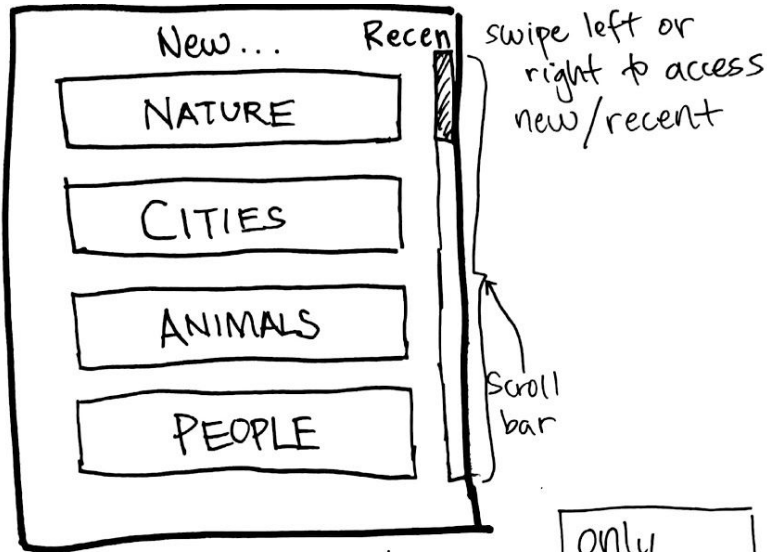
scale  
for  
changing  
the size  
of the  
tip (brush,  
eraser,  
pencil)

save discard

Simple

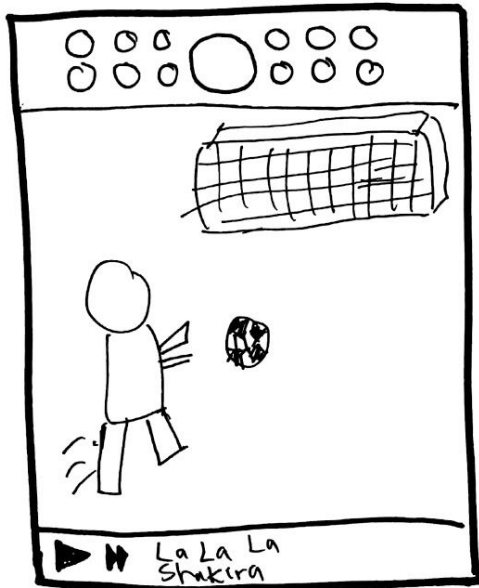
Simple - a rather traditional approach to coloring things, supports decent amount of features

Sketch #2



List of categories to choose from, upon clicking, more coloring pages to choose

only supports filling (no brush, pencil, etc.)



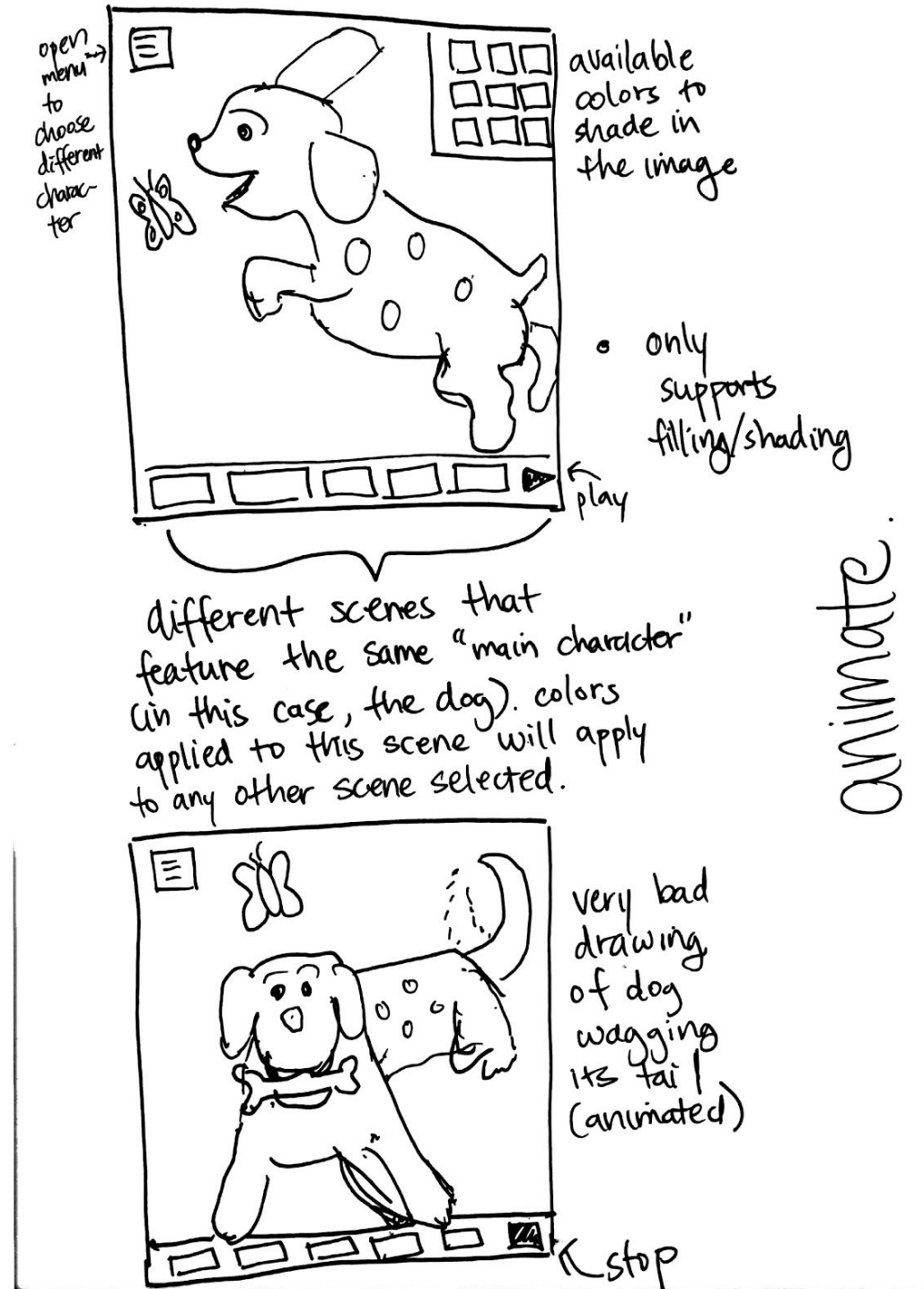
Color chooser:  
long press middle large circle to switch to a different set of colors  
(currently displayed 12 colors + 1 main color are all various shades of the main)  
(e.g. forest, lime, teal)

play/next song that fits the current template's coloring page

Musical Coloring.

Musical Coloring - pick a template from within a certain category and music related to that specific template will play

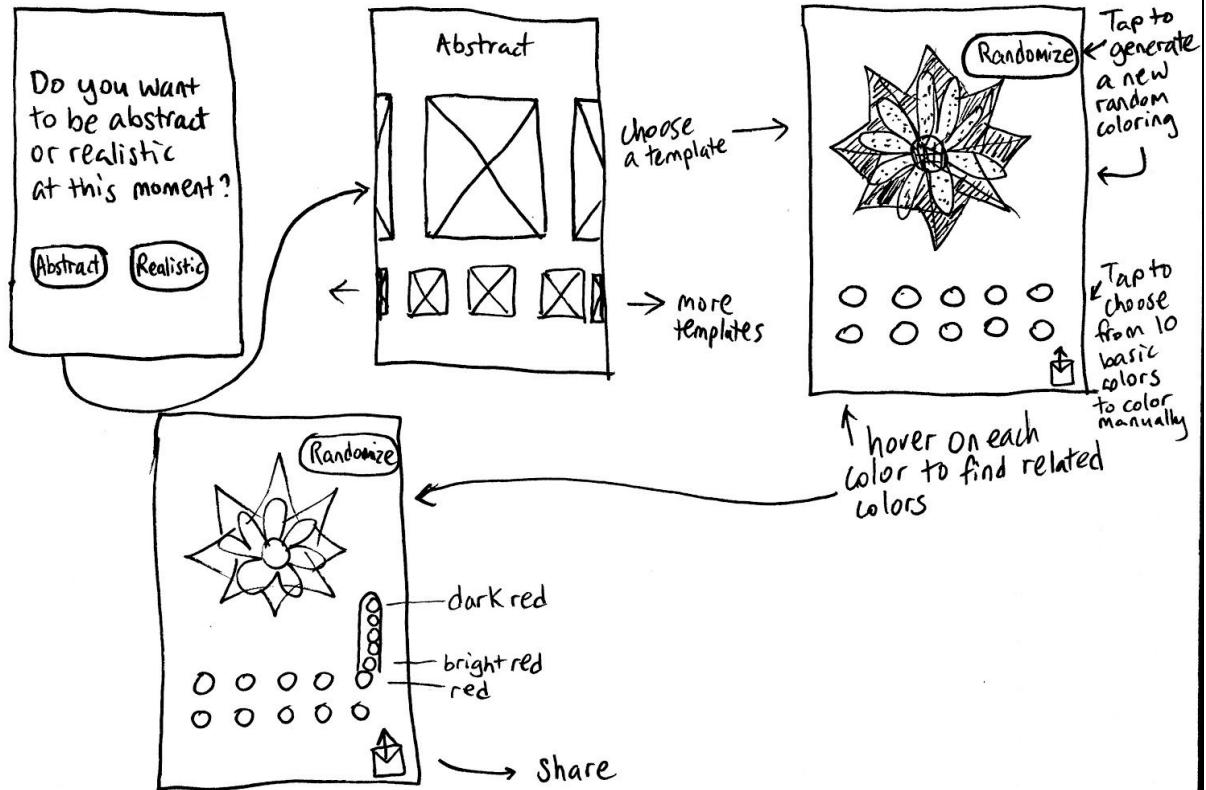
Sketch #3



Animate - Pick from a list of characters using the menu at the upper left, specific animatable scenes for that character appear at the bottom, press play to see the animation!

## Ty Feng's Sketches

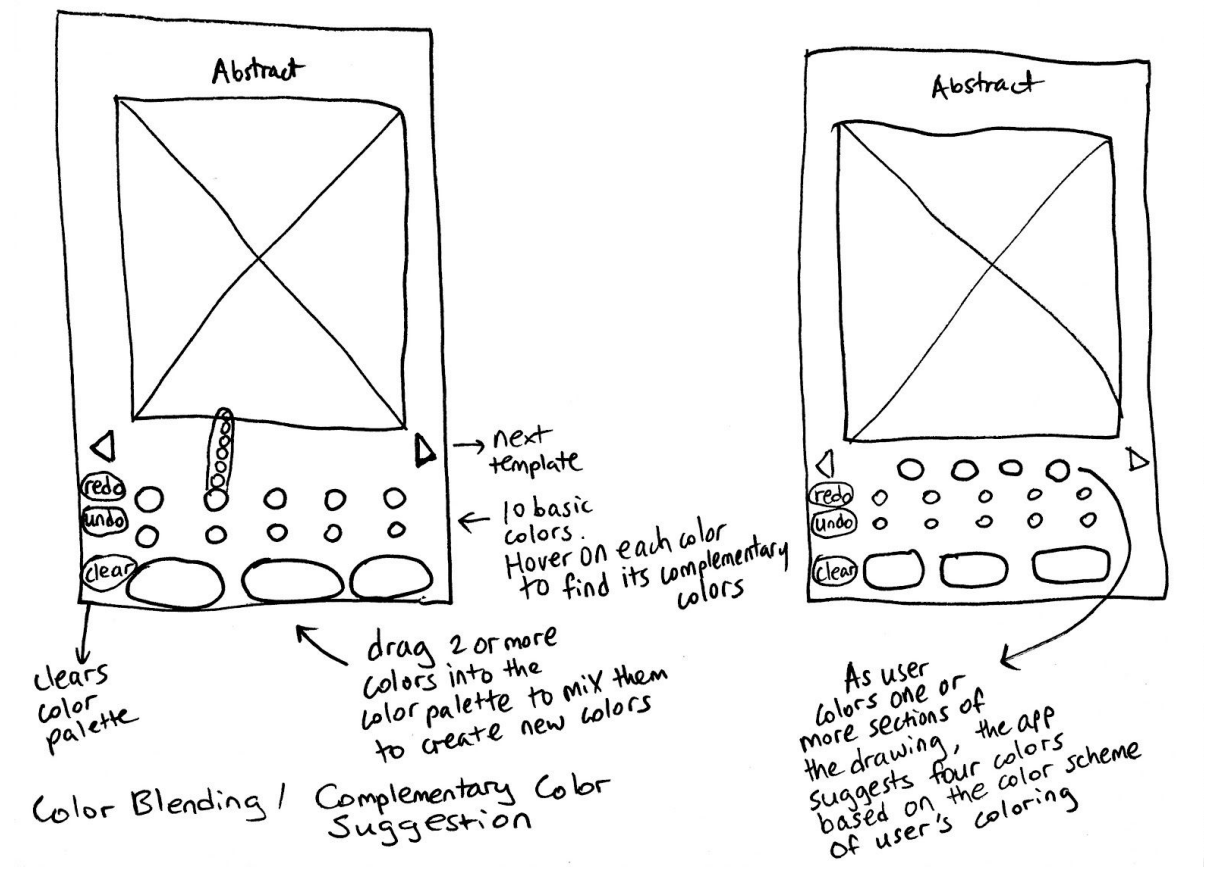
Sketch #1



## Stochastic Coloring

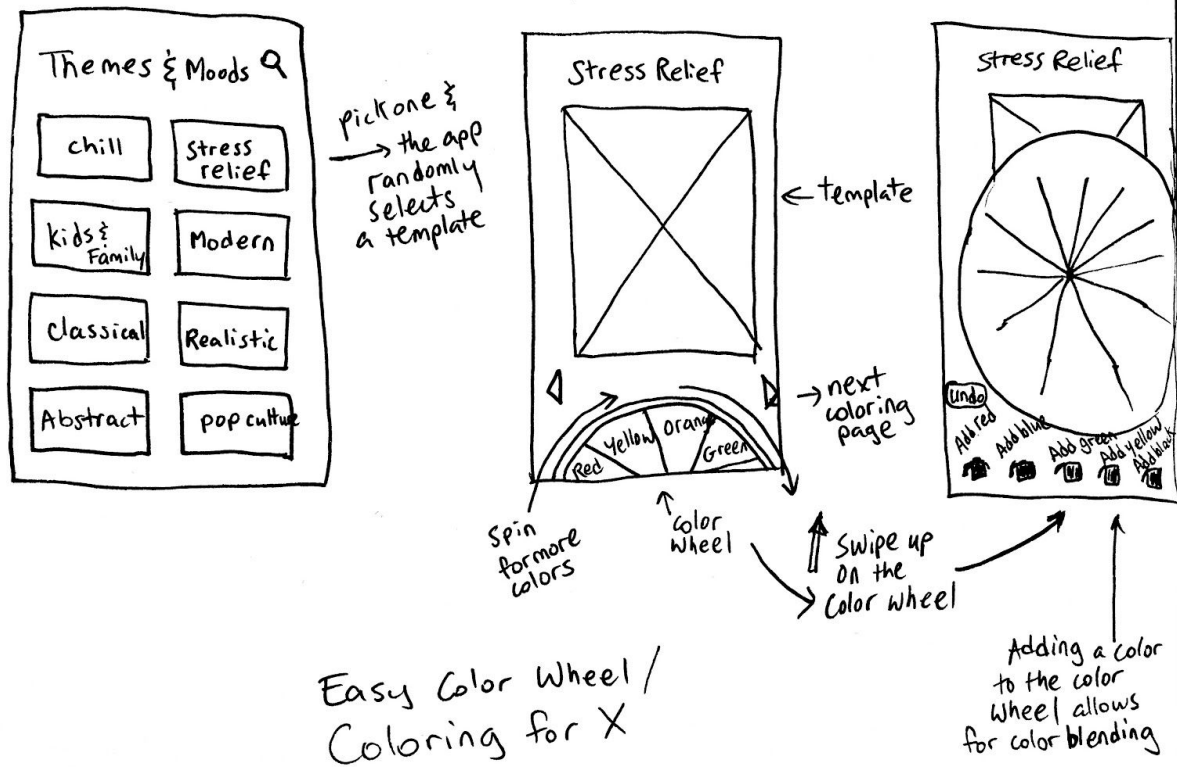
Stochastic Coloring - After user colors a few initial sections of the drawing, the app randomly chooses colors that provide nice contrast and/or balance to the colors users chose and fill up the rest of the drawing. Clicking "randomize" again would generate a new color combination and fill up the drawing with those random colors. Hovering on one of the ten basic colors would show related supplementary colors of the same color family.

Sketch #2



Complementary Color Suggestion - Templates are randomly generated. Users can skip however many templates as they like to find the template they want. Ten basic colors are also provided, but hovering on each of the colors shows the complementary colors of each basic color (eg. hovering on yellow would find blue). Dragging two or more colors into the color palette would allow users to blend colors. As users color one or more sections of the drawing, the app suggests four colors based on the color scheme in user's coloring.

## Sketch #3



Coloring for X - Coloring can be a fun and relaxing activity that suits many occasions, and different themes would suit best for different moods. Coloring for X allows users to choose the theme of the template to color based on their moods, occasions, or the type of art they prefer. After choosing a theme, users can choose colors from a color wheel that is designed to make color blending easier.



