



# DESIGN

Human Computer Interaction Project  
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# Project Description

## Goals

The main goal of Eye for Design is to present users with an interactive, user-friendly and fun interface. The application would be free to download on both Apple and Android devices, and the simplicity of the app allows even novice technology users to navigate through without difficulty. The app allows users to create graphic design themes of color and font pairings at the touch of their fingers. They have the option to choose from various pre-curated palettes (based on a category) and font styles for heading and body text elements. Some additional features, such as the “random” and “custom” features, add the elements of randomization and customization, making the user experience more fun. The main target audience for this version of the app is beginner web developers / graphic designers, but in the future, more advanced versions of this app can also be made available for professional users who might want additional functionalities.

## Importance

With so many different mobile applications allowing a very basic level of graphic design (usually just color palette selection), it is very important for apps like Eye for Design to exist. This app provides functions that are more advanced than simple design theming mobile apps allow, and it is also very easy to use as there are not many steps involved. The app’s own simple branding display graphics (with mellow, non-distracting colors and dark gray text to be easier on the eyes but still provide sufficient contrast) prevent distraction from users’ main goal, which has been a downfall in some prior graphic design apps.

Another notable ability of the app is that it provides basic functions even without internet connection, making it both additionally useful and accessible. Without internet, the only function that users lose is the ability to instantly email themselves the design theme created from the summary page. However, users have the option to save themes from the summary

page, and once internet connection is regained, users can email these saved themes to themselves using the saved themes page accessible on all app pages.

All of these functionalities will come in handy for web developers and designers who want to easily piece together colors and fonts for their projects. The fact that this free app does not take up much storage space, is accessible without internet connection, and can provide multiple functions to novice and professional designers/developers, makes Eye for Design very efficient and practical.

## Functions

Eye for Design is a multi-function application that allows users to custom choose graphic design themes. Because of its easy-to-use features, even beginners can design excellent design themes with the use of various categories, color palettes, and font styles. What makes Eye for Design special is its variety of color palettes, fonts, and categories. The app itself has a very modest look, meaning there are no elaborate fonts or styles on its display, but it provides a wide range of options for the users to choose from.

Upon opening the app, users are able to select from a variety of categories, represented by emojis and explained further with text titles for beginner users. Most categories then bring users to pre-curated color palettes and font pairings to browse and select. However, the app also has a “random” category where a combination of color and font styles will be randomly recommended for the user. Another added feature is the “custom” category, where users are able to hand-select all colors and font pairings from the app’s curated library. All of these theme choices can be saved by the user by screenshotting the details, saving the designs, or emailing themselves/others a copy of pre-generated HTML and CSS code reflecting their selections if their mobile device is connected to the internet.

## Usage Scenarios

Eye for Design can be used for both educational and recreational purposes. Two scenarios where users come in contact with the interface are as follows:

-Educational purpose

Since the application is free, students can easily use it for their own benefit. They can design graphic themes of their own choosing from the various options they are offered that cater to a wide variety of project categories. With the email feature, they will also be able to receive formatted CSS code with the details of the chosen fonts and colors along with information on how to use the code. This will enrich student learning in topics of scripting and web development. Educators can also use this app to emphasize the importance of the fusion of graphic design and web design in creating effective products. Furthermore, since the app is available on both Apple and Android devices, schools are more likely able to use existing technology they have available to them instead of having to purchase new equipment in order to use the app.

-Recreational purpose

This app was specifically designed to be as simple as possible so that users with different levels of expertise could use it. This feature allows people of all ages ranging from children to elders, and even people with limited abilities to enjoy the app as well. The design process does not involve many steps, so people with limited hand mobility could still navigate through. The colors are labeled with their corresponding hex codes so as to accommodate users who may have color blindness. In addition, the “random” feature will allow the users to design a theme without them having to choose from the various options. In this way, a wide variety of users can easily use the app for recreational websites or graphic projects.

## Design Rationale

## Explanation

Eye for Design mobile application brand design was designed to be very neutral and non-distracting to users being that the user's focus should be on the options presented, not on the instructions or background functionality. For navigation, users start by choosing a category, then colors, and finally a font pairing before being brought to the summary page. This progression is outlined at the bottom of every page (closest to where users expect the menu to be for mobile devices), and users can go back steps as wanted by tapping on the appropriate step. When choosing a theme, users have twelve different options to cover a wide variety of needs; these options are displayed as emojis (something familiar to users and that provides some fun) with text underneath to provide extra explanation to ensure clarity of understanding. Once a theme is chosen, users arrive at a page displaying color palettes to choose from based on the theme selected; most themes chosen present four different corresponding color palettes, but to give users more options that might be appealing, two additional "wild card" category options are provided: random and custom. Random allows the program to randomly pick four colors from its color library, and custom allows the user to manually select four colors from the program's color library, which may be more useful for experienced users. The theme chosen also dictates what font pairings are presented in the final step where users choose a combination of heading and body text. After all options are chosen, a summary of the user's choices are displayed, including the colors and their appropriate hex codes as well as the font pairings and names. On this page, users could take a screenshot to remember their choices, save their theme on the app to view later, or they have the option to share the information via email. To make it easier for users, the email share functionality inputs the color and font choices into CSS format and provides examples for how to use the code.

## Advantages

The design of the mobile application has a handful of advantages to be noted. For one, the process users progress through is quick and efficient, consisting of only three steps with easy reversal offered at each step. This is important because the program is meant to be a quick tool for designers to use and not one that seems to be more trouble than it's worth. Menu items and

items to be selected at each level of the process are also designed to be big enough to be tapped by users without issue, which allows for an improved experience in which users do not need to be concerned with tapping the right element but instead can focus on making design decisions based on their preferences. It is also advantageous that the mobile app allows users plenty of themes to choose from as well as the option to customize their experience if they want. Another advantage to note is the format of the program being a mobile application; this allows it to be accessed via devices on the go, not requiring a computer or Internet access for the majority of the functions.

## Novelty

The novelty behind Eye for Design resides mainly in that it is a graphic design theming mobile application specifically geared toward web developers, both professional and novice level, that can be used anywhere. With a quick process, developers can choose the colors and font pairings (usually a function not provided by graphic design tools currently) they prefer and then easily share this information, automatically inserted into CSS code complete with instructions on use, via email. The application's design is also novel in that the background design is very minimalistic, and the design of the actual content is entertainingly colorful with options being displayed at a very readable and visible size.

## Prototypes

### Low-Fidelity

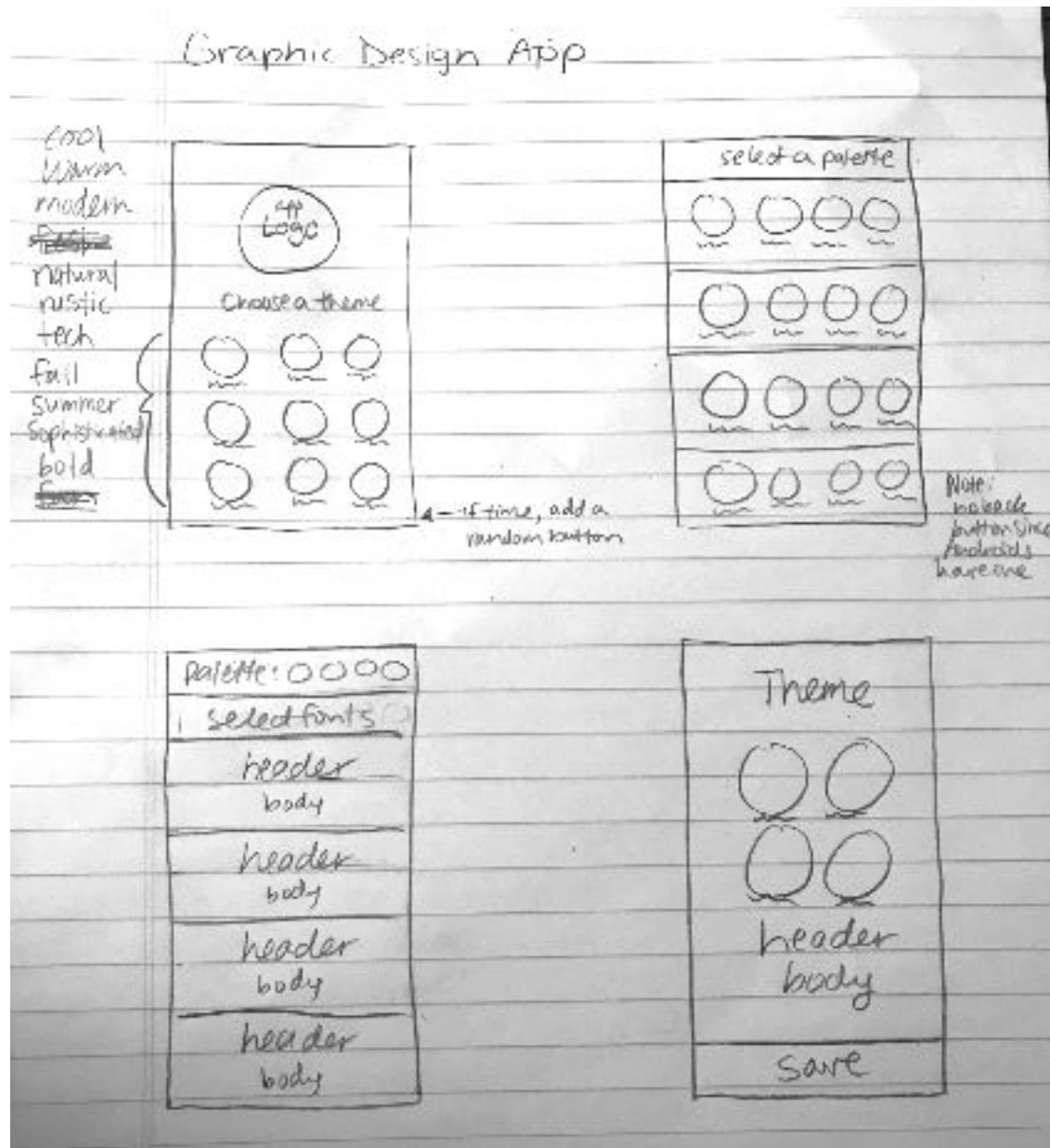


Figure 0.5: the original notebook concept drawup for the app

## High-Fidelity

**Version One:** initial mock-ups for all pages of the app (note: original plan did not include having the option to save themes for later / emailing and only provided nine categories)

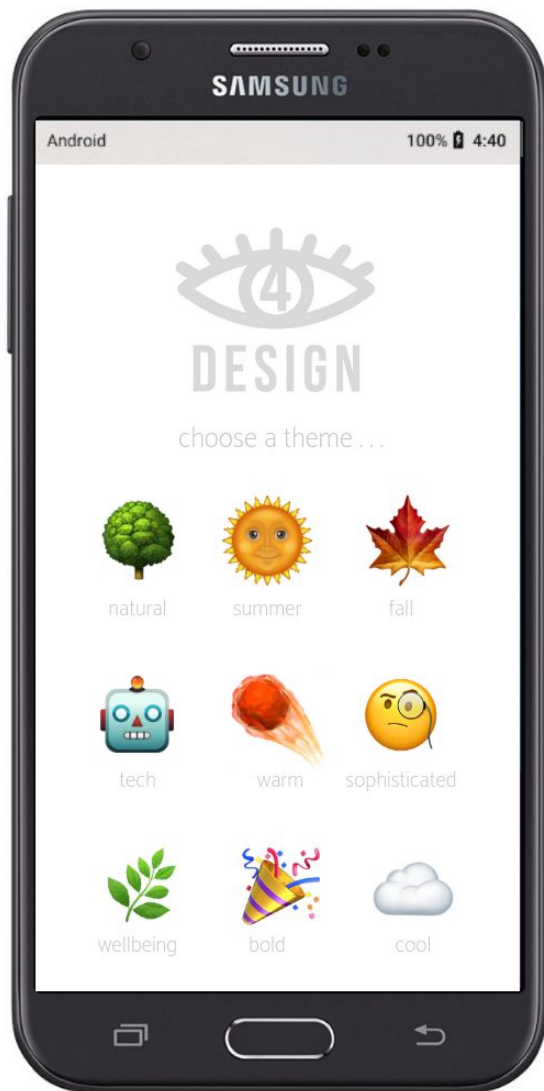


Figure 1.0:  
the graphic mockup of the app's  
landing page

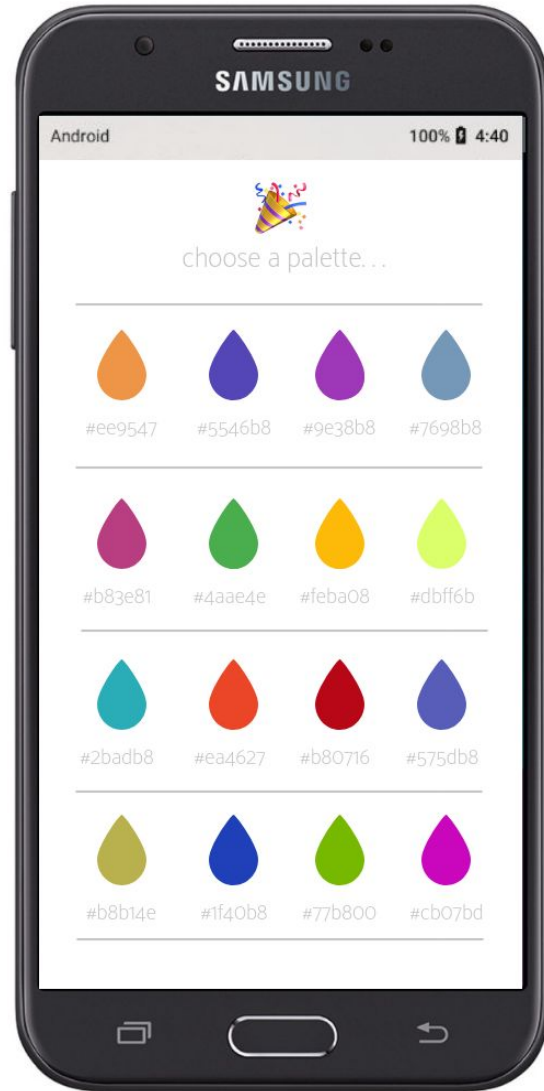


Figure 1.1:  
the graphic mockup of the app's  
palette page





Figure 1.2:  
the graphic mockup of the app's font  
page

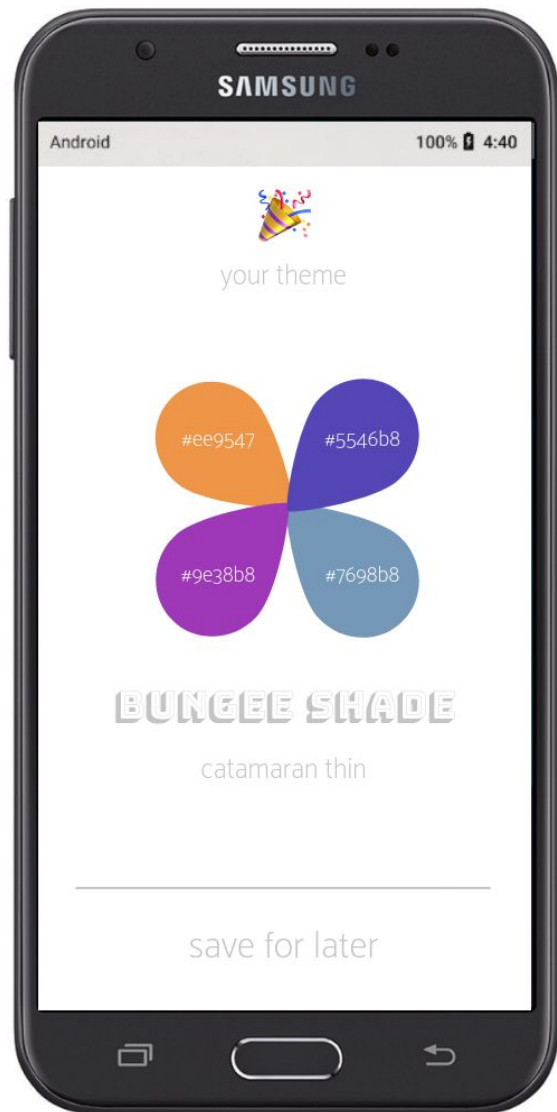


Figure 1.3:  
the graphic mockup of the app's  
summary page

**Version Two (actual prototype):** added menu, added three categories, email functionality added, no hex codes under paint drops for palette



Figure 2.0:  
*the first implementation of the  
app's landing page*

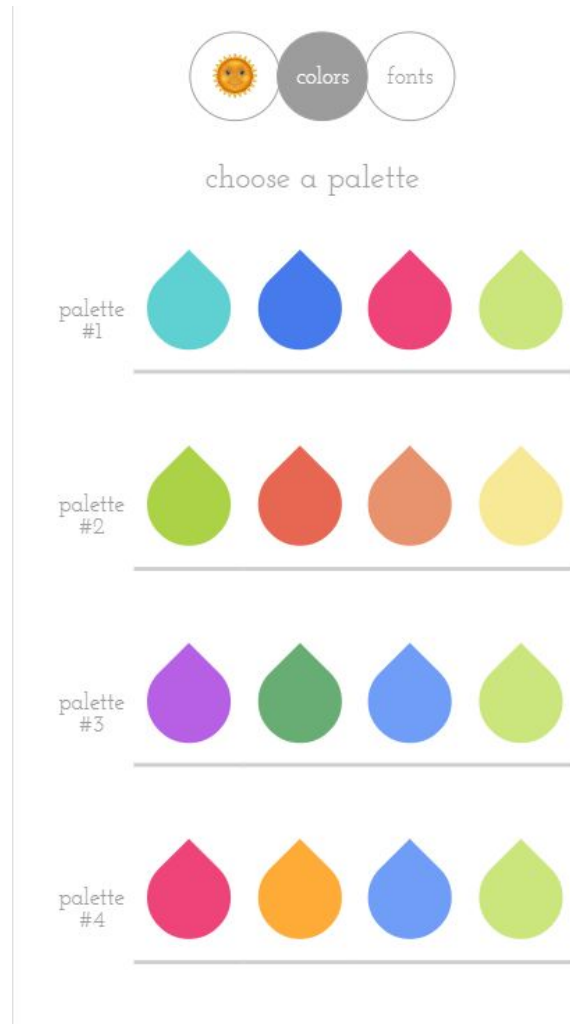


Figure 2.1:  
*the first implementation of the app's  
palette page*



Figure 2.2:  
*the first implementation of the app's  
summary page*

**Version Three (mid term prototype):** added saved themes, put menu closer to user’s finger, made drops consistent size, start new option at end, better naming of tabs

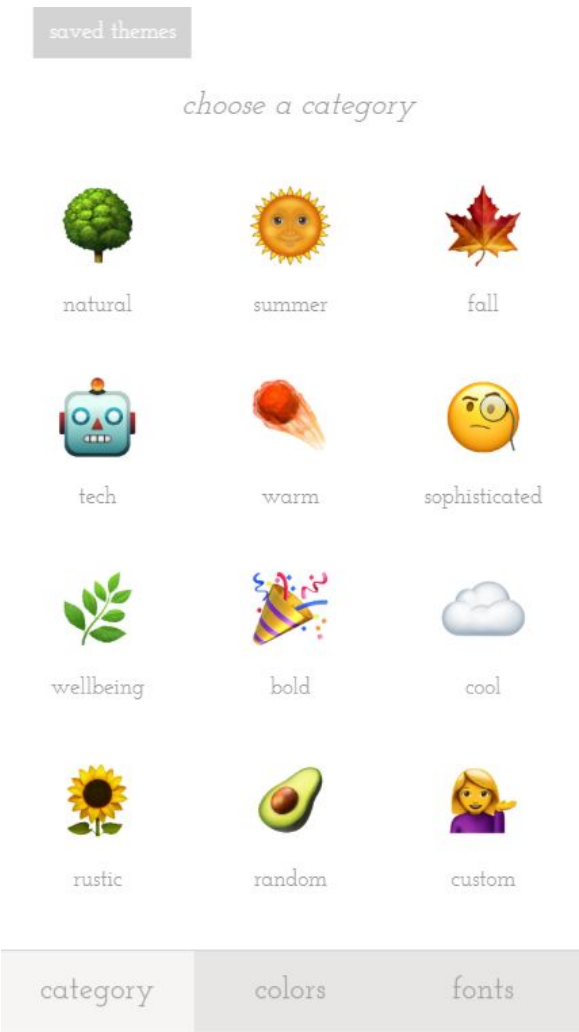


Figure 3.0:  
the second implementation of the  
app’s landing page



Figure 3.1:  
the second implementation of the  
app’s palette page



Figure 3.2:  
the second implementation of the  
app's summary page

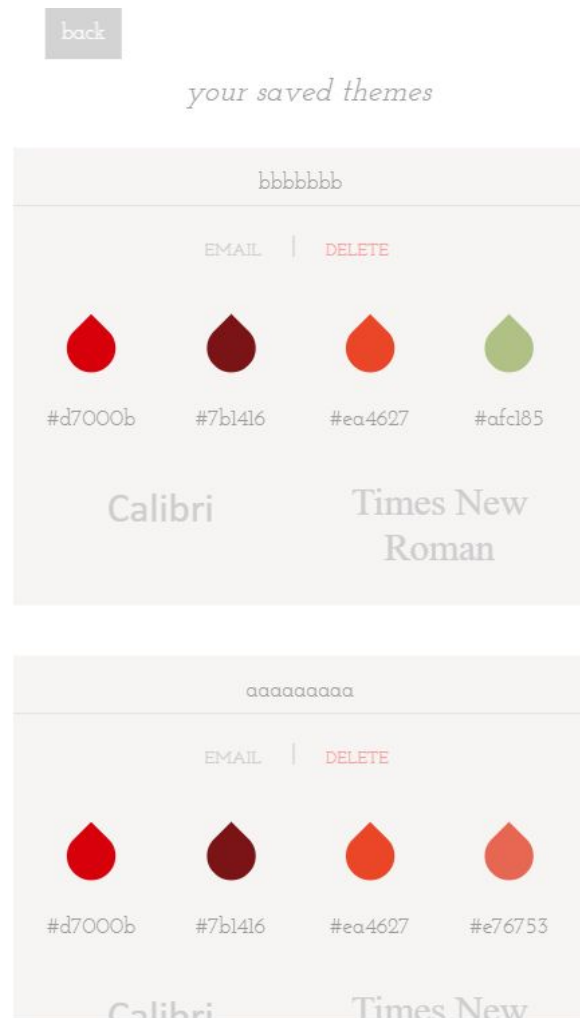


Figure 3.3:  
the first implementation of the app's  
saved themes page

**Version Four (prototype):** made user’s location/progression more obvious, added some color to help with navigation but still not detract from experience, changed fonts to look cleaner and to differentiate between titles and other text, random functionality added

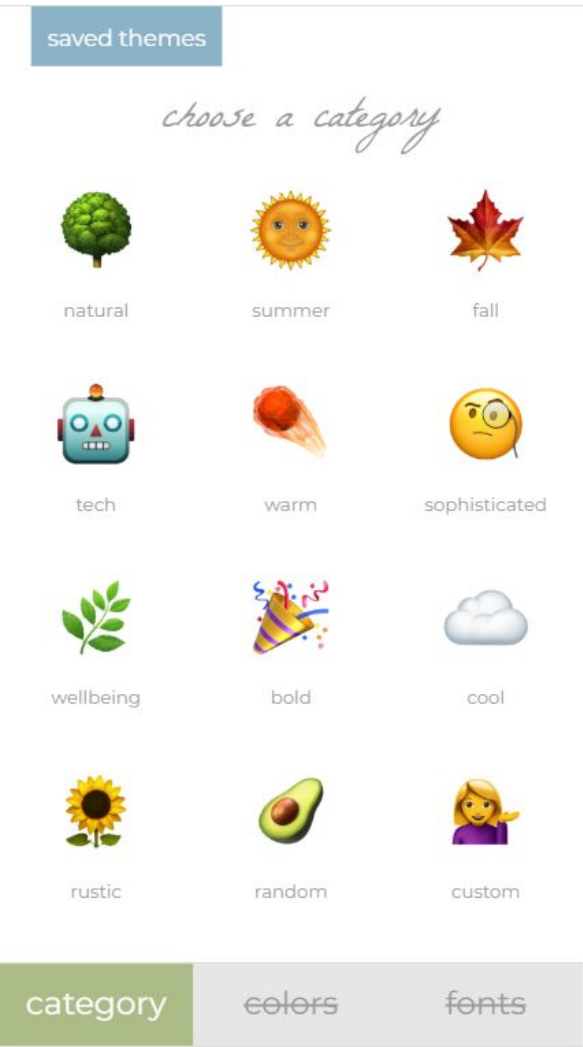


Figure 4.0:  
*the third implementation of the  
app’s landing page*



Figure 4.1:  
*the third implementation of the app’s  
palette page*

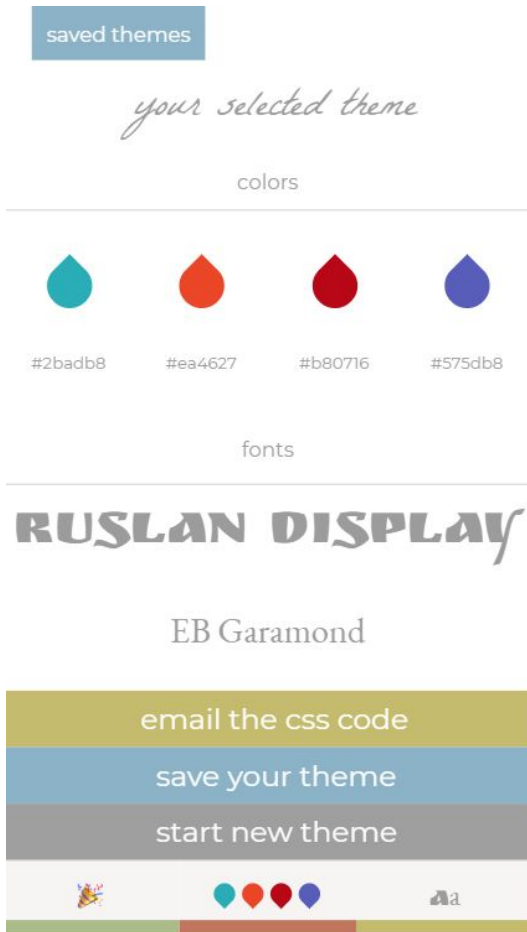


Figure 4.2:  
the third implementation of the app's  
summary page

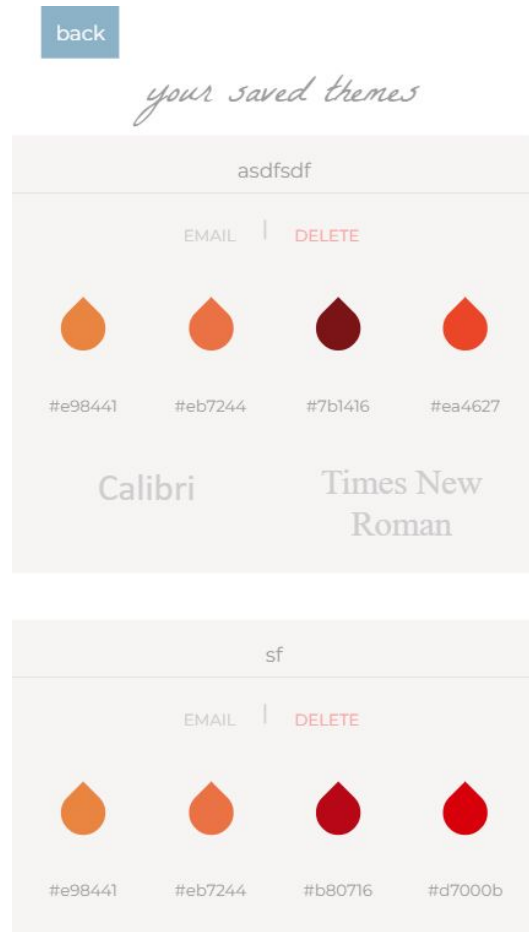


Figure 4.3:  
the second implementation of the  
app's saved themes page

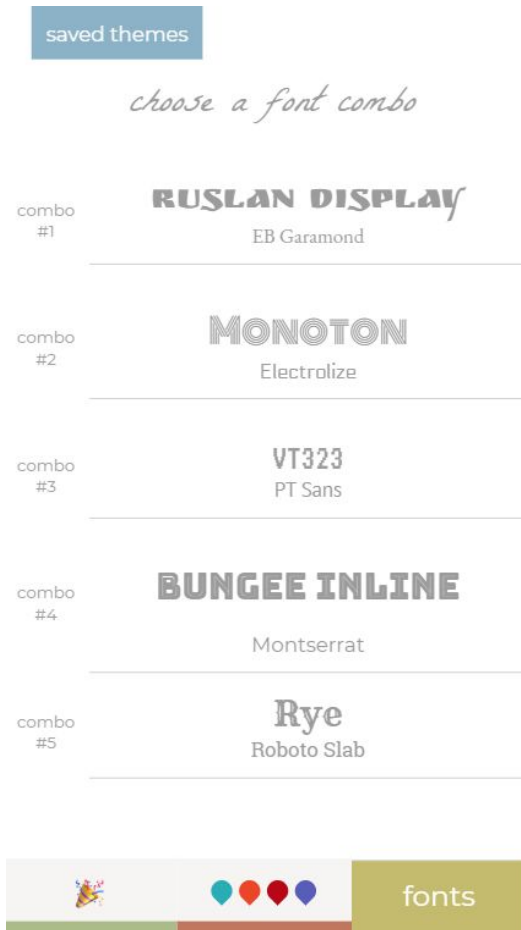


Figure 4.4:  
the first implementation of the app's  
font page

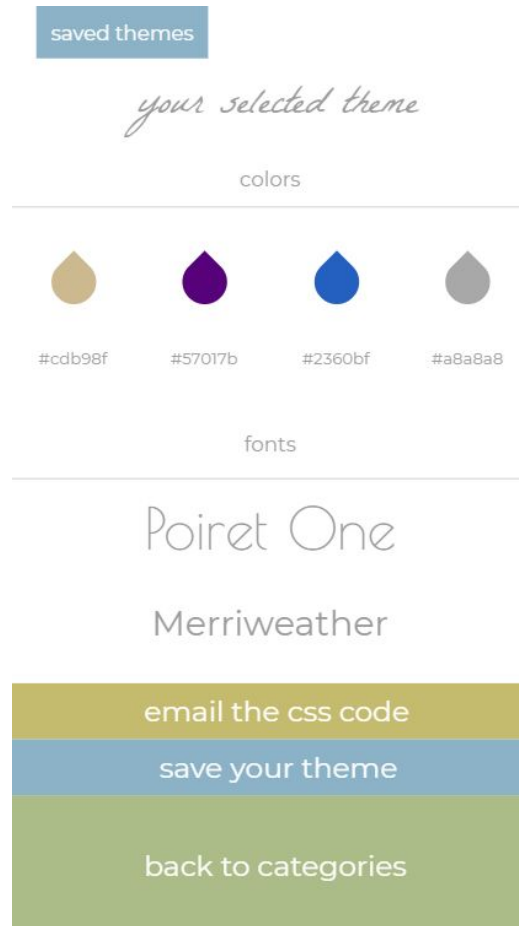


Figure 4.5:  
the first implementation of the app's  
random page



**Version Five (prototype):** custom font functionality, changed all save buttons to green for consistency, fixed some spacing, switched order of email page buttons (save, start new, email code) to better follow user desired ordering of tasks

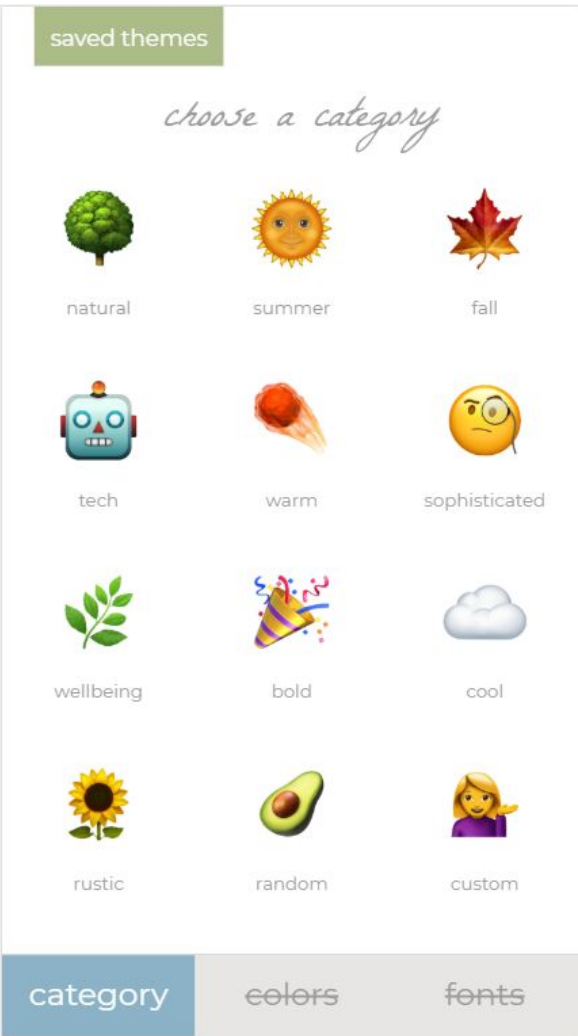


Figure 5.0:  
*the fourth implementation of the  
app's landing page*



Figure 5.1:  
*the fourth implementation of the  
app's palette page*

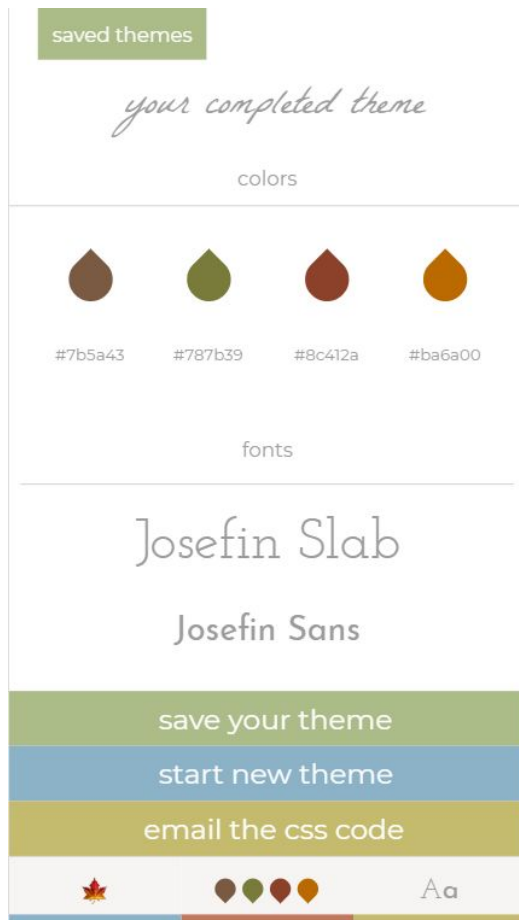


Figure 5.2:  
the fourth implementation of the  
app's summary page

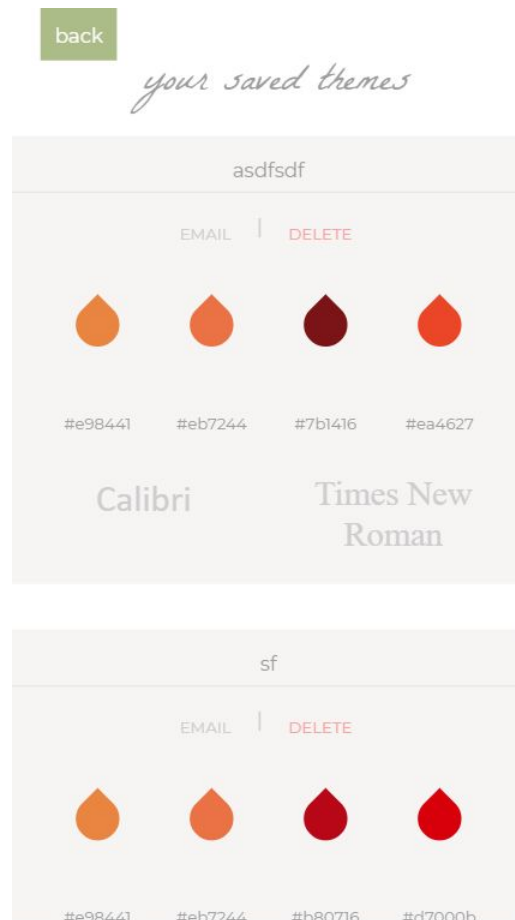


Figure 5.3:  
the third implementation of the app's  
saved themes page



Figure 5.4:  
the second implementation of the  
app's font page

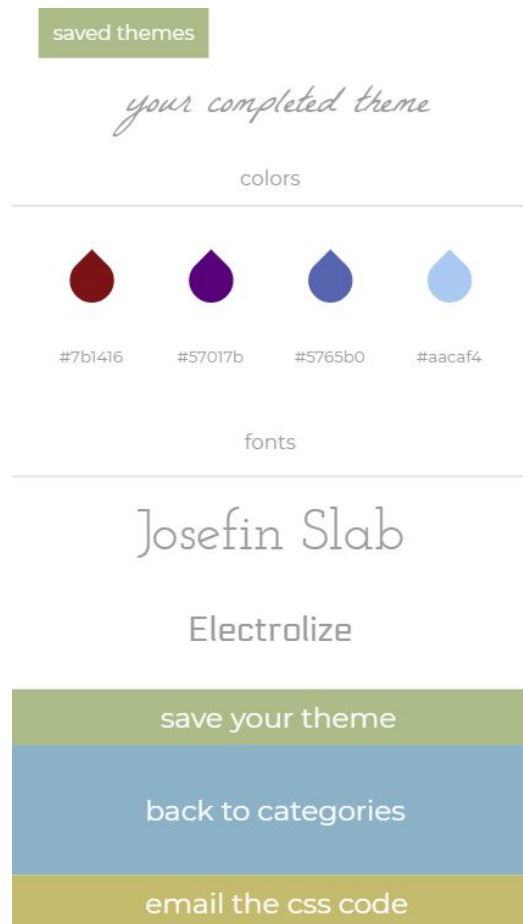


Figure 5.5:  
the second implementation of the  
app's random page

saved themes

your completed theme

colors

#e8926e

#7b625e

#bf834e

#eb8119

fonts

Passion One

Roboto Condensed

save your theme

name your theme...

SAVE

start new theme

Figure 5.6:  
saving a theme from summary page

saved themes

your completed theme

colors

#7b1416

#57017b

#5765b0

#aacaf4

fonts

Josefin Slab

Electrolize

save your theme

name your theme...

SAVE

back to categories

Figure 5.7:  
saving a theme from random page

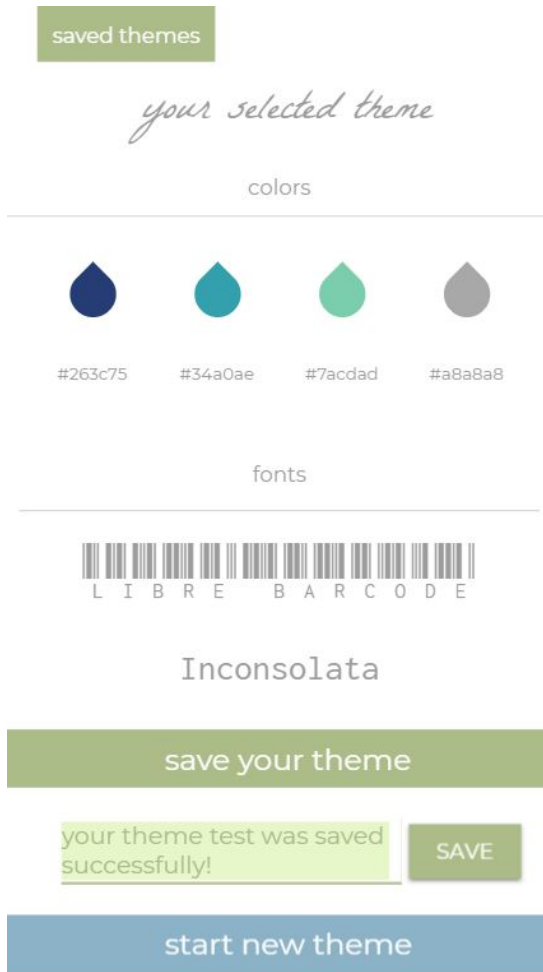


Figure 5.8:  
*saving theme user feedback*

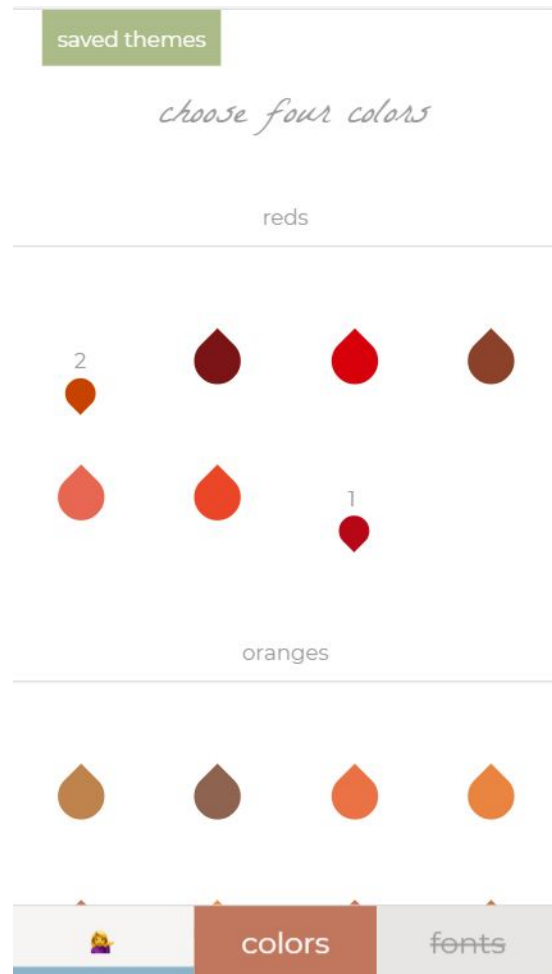


Figure 5.9:  
*custom palette page*

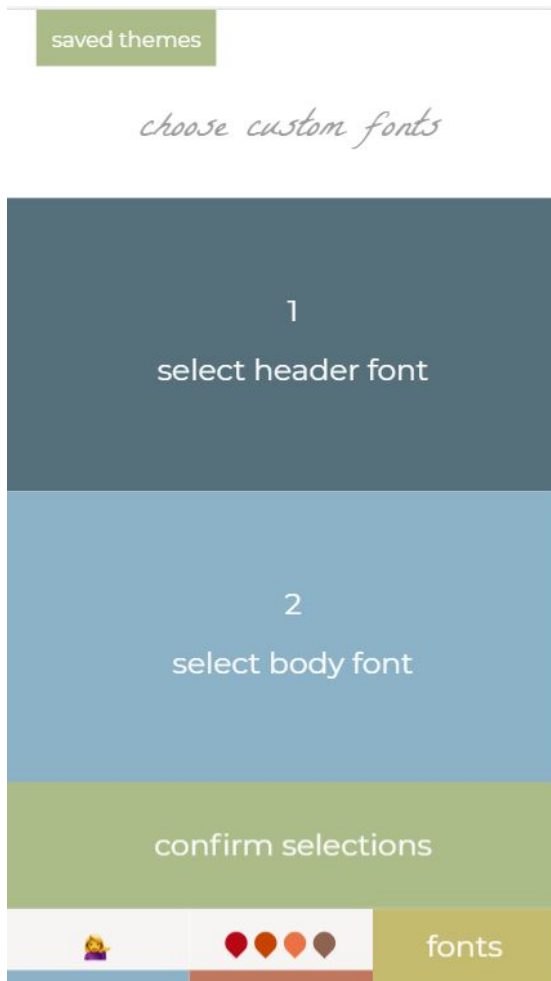


Figure 5.10:  
*custom font page start*

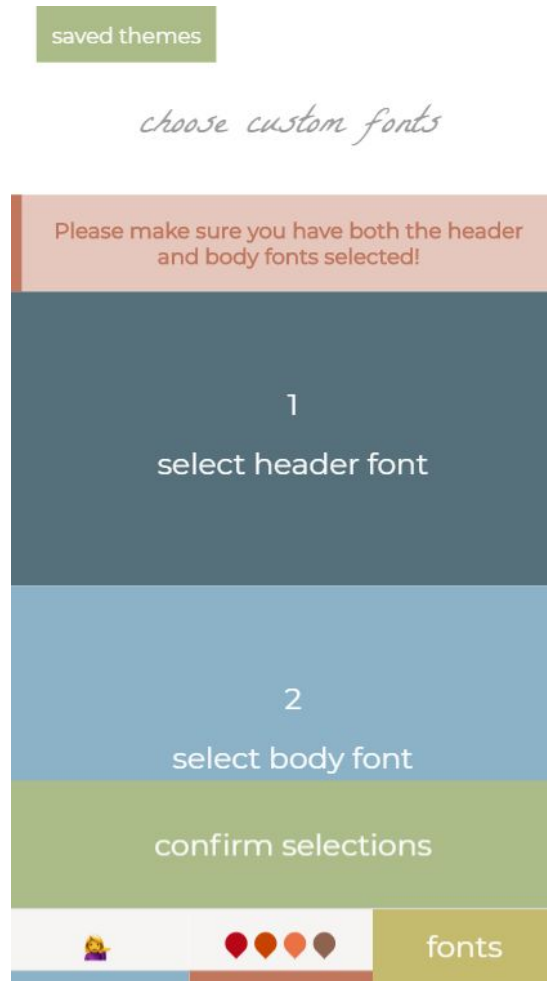


Figure 5.11:  
*custom font page error message*

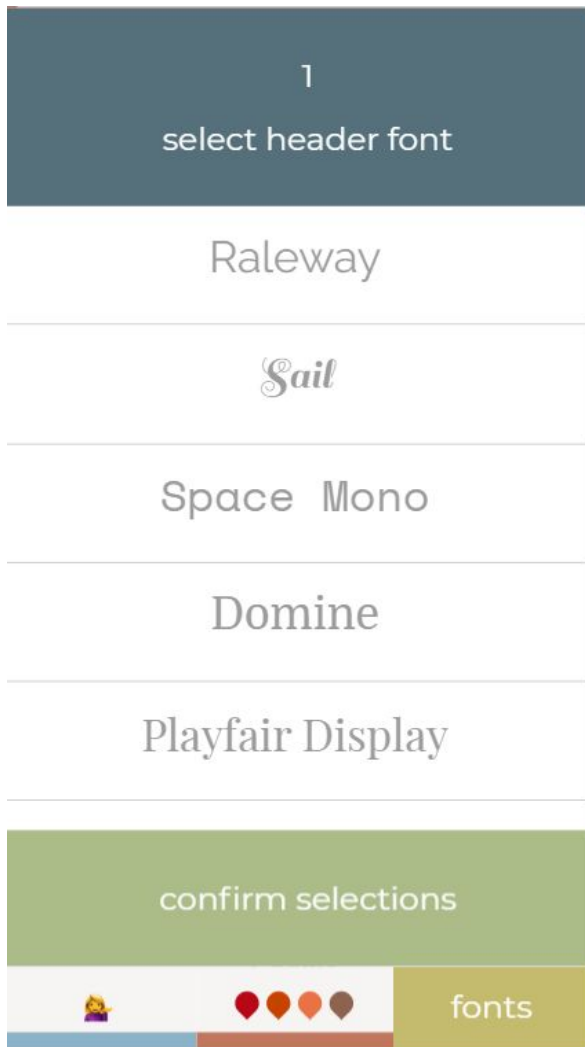


Figure 5.12:  
*custom font page select header*

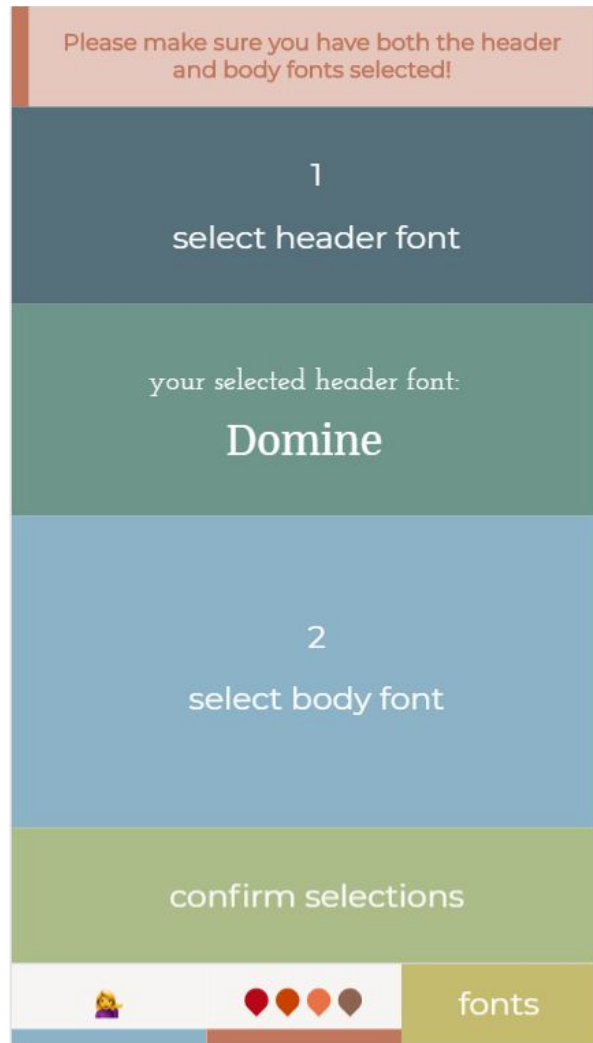


Figure 5.13:  
*custom font page header chosen*

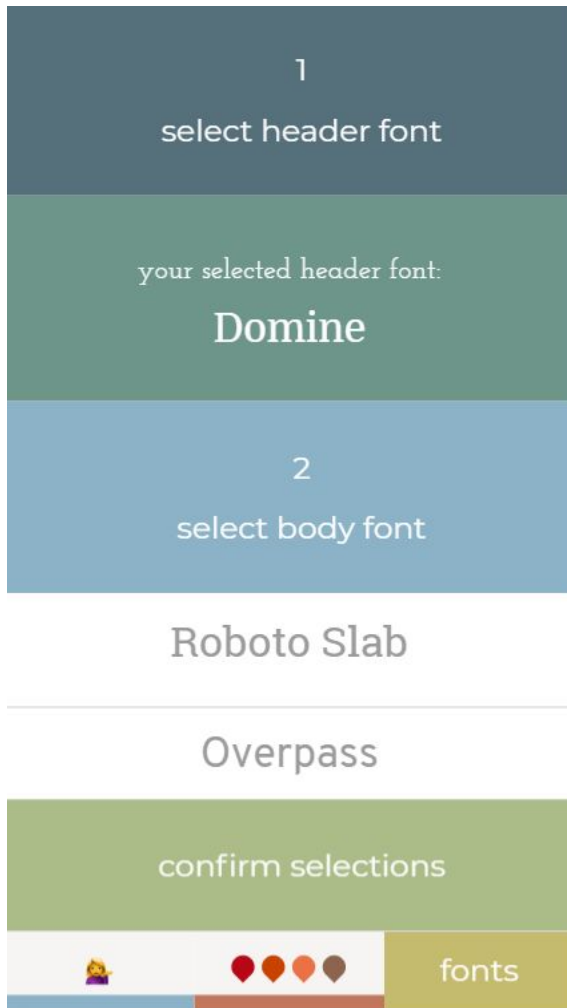


Figure 5.14:  
custom font page choose body font

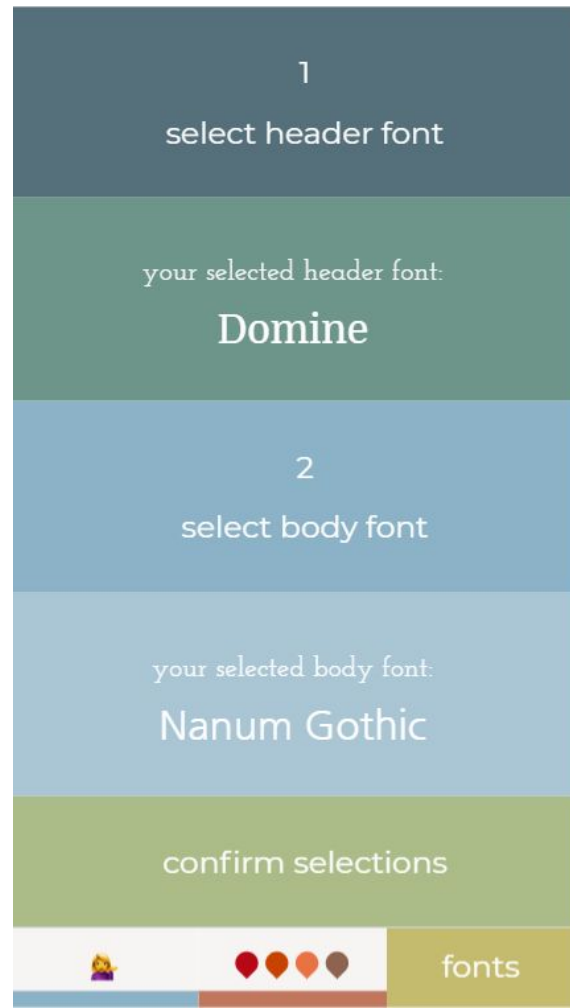


Figure 5.15:  
custom font page body font chosen



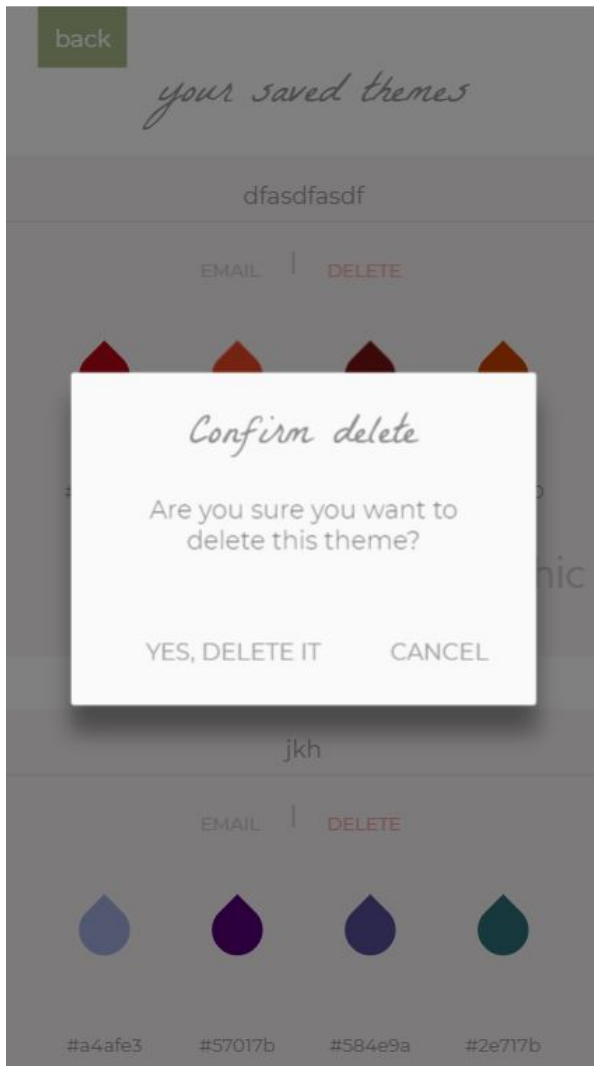


Figure 5.16:  
Confirmation for deleting a saved  
theme

LINK TO DEMO: <https://dilemma16.github.io/hucommllivedemo/index.html>

LINKS FOR EMAIL FUNCTIONALITY PROOF (only works on actual device since uses native code):

[https://drive.google.com/open?id=1B6SKsE0E8PQvwzloqL\\_-DSCuLDbay8f6](https://drive.google.com/open?id=1B6SKsE0E8PQvwzloqL_-DSCuLDbay8f6)

<https://drive.google.com/open?id=1zvXhsomVcCULuvA-TY1w92n10ylMewI5>

# Challenges

## Overview

With an interactive interface like Eye for Design, the user experience needs to be thoughtfully considered. One challenge is to accommodate to the needs of various types of users. In order to make that possible, more features need to be added. Some of these additional features could be speech to text, voice command, and color palettes even more adjusted for color-blind users, among others. In order to accomplish that, a lot of research and expertise need to come into play. Another challenge would be to constantly add new features/options to keep up with the users' desires. The app would have to be updated and adjusted to keep up with the latest trends and styles regarding colors and fonts.

Additional challenges that concern the development process are the facts that neither one of the developers has made a mobile application before and the timeline for the project is relatively short considering other course loads, etc.

## Solutions

With more research on how to cater to different types of users' needs, one of the challenges could be solved. After finding out ways to accommodate differently-abled users, the features could be implemented. Some ideas could be having symbols instead of words for dyslexic users, ease of access by having only a few buttons to press for users with limited hand agility, and voice command actions. Conducting usability testing and gathering user feedback would be helpful in continuously improving and adding to the app.

For the development-oriented challenges, the developers took extra care in selecting a mobile app development framework and found one that best utilized their past experiences. In regards to the relatively short development timeline, this strategic choice in frameworks paired with

continuous communication between developers was sufficient to alleviate this challenge.

## Platform

### Software

For software, five different resources are being used for development: a web browser, a text editor, the Node.js command line interface, Android, and the Ionic Cordova framework. The web browser (Chrome being most used) is used for testing basic functionality of the application during development locally, which allows for faster debugging. To write the code, a simple text editor, Atom, is used. The Node.js command line interface is what is used to run commands that modify and run the program. Due to project constraints of money, time and available devices, only Android development is occurring, which uses the SDK 26 and the Build Tools versions 24 and 27. Ionic and Cordova, cross-platform mobile application frameworks, are being used to speed up and support development.

### Hardware

To test the app on something other than a web browser device emulator, the developers sometimes have access to Android phones and a tablet, but this usage is limited. Other than these, the only hardware used during development includes two Windows laptops.

## Implementation Plan

## Responsibilities

Emma - home page, palette page, custom functionality

Enjila - font page, summary page, random functionality

Both - send email with html/css information to insert after summary page, saved themes

## Timeline

SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
	<u>October 1st:</u> High-Level Design Document due by 11:55 PM  <u>October 25th:</u> Midterm Presentation due by 11:55 PM		<u>December 2nd:</u> Final Submission by 11:55 PM
Work on design document	Work on Midterm Presentation ( <i>partial prototype</i> )	Finish product	
1, 2, 3, 4	5, 6	7, 8	Refinements

In-Progress    ~~Done~~    Need to Do

To Do:

- ~~1. Get computer environments set up~~
  - ~~○ Ionic cordova installed~~  
<https://ionicframework.com/docs/intro/installation/>
  - ~~○ Github repository~~ <https://github.com/dileMMA16/hucomm>
    - ~~■ <https://stackoverflow.com/questions/47755083/how-to-commit-push-ionic-3-blank-to-my-github-repository>~~

- ~~○ Similar IDE — Atom?~~
- ~~○ Android — same SDK, Build tools, etc.~~
  - ~~■ SDK = 26?~~
  - ~~■ Build tools = 24.0.0 and 27.0.0~~
- ~~○ Using cordova-android 6.3.0~~

## ~~2. Conduct Research~~

- ~~○ Themes~~
- ~~○ Color Palettes~~
  - ~~■ //Make graphics for end theme summary page for each~~
  - ~~■ Make graphics for paint drops for each color~~
    - ~~● Check html if can do first~~
- ~~○ Font Pairings~~

## ~~3. Edit SASS file~~

- ~~○ Add colors~~
- ~~○ Add fonts~~
- ~~○ Other customizations?~~

## ~~4. Create homepage~~

- ~~○ Add random generator~~
- ~~○ Add custom generator~~
  - ~~■ Function addColor(idfordiv) = add color to palette array, change appearance of idfordiv and add current length of palette array to display, if size of palette array is four, go to next page and send variables~~
  - ~~■ For color page — ordered by and sectioned off by color category — “blue” “cream” “green”~~

## ~~5. Create palette page functionality for each theme~~

## ~~6. Create functionality that grabs fonts for populating font page based on the palette chosen~~

## ~~7. Saved themes page — options to delete and email~~

## ~~8. Make theme summary page~~

- ~~○ Note: instead of flower looking palette layout, do just four teardrops with hex codes underneath~~

## ~~9. Make icon breadcrumbs to show progress at top of each page~~

~~10. Add functionality to theme summary page that allows user to have option for user to email the css/html code they need to implement it~~

- ~~○ Google font import lines for html~~
- ~~○ Css color variables (need to add color names in comments)~~
- ~~○ Example snippet of how to use it?~~

~~11. Add-ons~~

- ~~○ Make app thumbnail~~
- ~~○ See if canva has api to export to?~~

~~12. Misc. To Do~~

- ~~○ Change names of image files~~
- ~~○ Add in color categories = "blue" "cream" "green"~~

Curated Selections:

Sophisticated

Raleway	Roboto slab
<i>Sail</i>	Overpass
Space Mono	Nanum gothic
Domine	inconsolata
Playfair Display	Source sans pro

Cool

<b>Abril Fatface</b>	Courier New
<i>Cookie</i>	Calibri
Poiret One	Garamond
Cabin Sketch	Nanum gothic
<b>Vast Shadow</b>	Courier New
Merriweather	Montserrat

Warm

<b>Righteous</b>	Roboto
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<b>Passion One</b>	Roboto Condensed
Special Elite	Open sans
<b>HANALEI FILL</b>	Karla
Averia Libre	Montserrat
BUNGEE OUTLINE	Electrolize

#### Natural


<i>Pacifico</i>	Overpass
Alegreya	Garamond
<i>Sacramento</i>	Calibri
IM FELL ENGLISH SC	Montserrat
Londrina Outline	Courier New

#### Rustic

Inconsolata	inconsolata
Bitter	Pt Sans
Oswald	EB Garamond
Fredericka the Great	Montserrat
McGRIM	Courier New
BARRIO	Calibri



## Tech

Roboto Mono	Roboto condensed
Kosugi Maru	Pt Sans
	inconsolata
Ubuntu Mono	Nanum gothic
Zilla Slab Highlight	Courier New
MONOFETT	Electrolize
Roboto Light	Droid Serif

## Wellbeing

<b>Archivo Black</b>	Karla
<i>Oleo Script</i>	Overpass
<b><i>Shrikhand</i></b>	Open sans
<i>Lily Script One</i>	Montserrat
Molengo	Calibri

## Fall

Arvo	Lato
Josefin Slab	Josefin sans
Lustria	Roboto Condensed
Nixie One	Nanum gothic

WALTER TURNCOAT	Kreon
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#### Summer

<b>Baloo Tammudo</b>	Calibri
<i>Lobster</i>	Garamond
<b>Fugaz One</b>	Pt Sans
<b>FRIJOLE</b>	Karla
Ovo	Muil

#### Bold

<b>RUSLAN DISPLAY</b>	Garamond
MONOTON	Electrolize
VT323	Pt Sans
<b>BUNGEE INLINE</b>	Montserrat
Rye	Roboto slab

rustic

#bf834e

#7b536e

#55707b

#6c7b4c

#c5bde1

#c5be8b

#5765b0

#c9beb5

#e3a83e

#848b8c

#524c7b

#7b6a72

#d9b1b0

#8e6350

#9a82ae

#45547b

tech

#236c75

#34a0ae

#7acdad

#a8a8a8

#040f7b

#eb7244

#6dbdc9

#b958c0

#7ab2b9

#d5ef9a

#fdbc73

#e98441

#678997

#a275a5

#cd745f

#f3bbaa

## natural

#baa994

#968663

#5d667b

#617b66

#7b6156

#e3d6cc

#848b8c

#c9beb5

#918696

#7b6972

#727b63

#d3af86

#b79533

#39457b

#8cae87

#7b6e58

sophisticated

#ee9547

#d3725b

#afc185

#80a9b0

#6683d0

#82bdd3

#3e427d

#baa994

#cd7746

#594446

#bca67f

#a16c6a

#c29a50

#e3d6cc

#33377b

#61808f

cool

#64c8c6

#5c7b69

#6c818f

#74ab86

#121f7b

#a4afe3

#745a7b

#2e717b

#67697b

#477aed

#57017b

#584e9a

#7a3a7b

#589a1f

#157b5c

#7baefb

warm

#d9a42e

#e76753

#ba6a00

#7b4600

#e8926e

#7b625e

#bf834e

#eb8119

#f8e997

#bfb06b

#d6a149

#7b403b

#c94300

#7b1416

#d7000b

#ffb822



fall

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#617b62

#7b5a43

#6f467b

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#787b39

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#b7866d

#ab6141

#8c412a

#d9a42e

#7b615b

#7b4600

#ba6a00

#cdb98f

## summer

#60dId3

#7bI877

#acd247

#e76753

#ff9aac

#477aed

#e8926e

#f8e997

#83d780

#2360bf

#ef447a

#ffab37

#b760e6

#68ad74

#6f9df8

#cae67c

## wellbeing

#caeff4

#aacaf4

#cdaad2

#dfdIef

#6Ic277

#6f7fbe

#499259

#60b5cI

#ffb4a

#acd247

#ee9547

#4d687b

#78787b

#7b5650

#eId9d3

#647a7b

**bold**

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#9e38b8

#7698b8

#b83e81

#4aae4e

#feba08

#dbff6b

#2badb8

#ea4627

#b80716

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