



# **Final Documentation Team UniteUs**

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# Meet The Team



## Hannah Arnett

Hannah Arnett is a senior in Web Programming and Design at Purdue University. Along with her major, she is completing a certificate (like a minor) in Entrepreneurship and Innovation, as well as a certificate in Entry-level Programming in Python.

Her skills involve a healthy mix of programming and designing. She is proficient in programming languages such as HTML, CSS, JavaScript, PHP, and Python. On the design and creativity side, she loves graphic design, digital marketing, and user interface/user experience design.

On team UniteUs, Hannah served as the front-end developer of the team. She was responsible for developing the web application portion of the project.



## Skyler Beld

Skyler Beld is a senior in User Experience Design at Purdue University.

As a user-centric designer, Skyler is passionate about helping people through seeds of empathy and compassion. He has the ability to analyze insights that help him put the pieces together to comprehend the root cause or potential solution to a problem. He has worked on multiple sponsored projects with clients such as Hewlett Packard Enterprise, FirstRoot, and KidsLoveFun.

On team UniteUs, Skyler served as the user experience designer and researcher of the team. He was responsible for the research and the user experience functionality portion of the project.

# Project Overview

As universities in the state of Indiana are struggling to recruit black students, Purdue University is no exception. Enrollment statistics show that each academic year, African American/black students enrolled at Purdue's West Lafayette campus make up less than 1% of the student body. Purdue has recognized this issue and has established initiatives to increase the number of black students attending the university in the coming years. Purdue has allowed our team to assist in this endeavor with the Vice Provost of the Black Cultural Center (BCC) as our client. A key issue relayed by the Vice Provost is the lack of black students accepting their offer letters. That is where our team comes in to help to learn more about this issue and create some potential solutions.

## Logistical Challenges - Constrained Access To Users

- Our team faced an uphill battle trying to get students to participate in many of the research methods that we thought the team would receive valuable insights from. This would include more interviews and concept testing participants as a way to get more input from a diverse set of black students that attend Purdue University.
- We had a lack of resources/access to getting the information we were trying to seek to better our understanding of our primary user group pain points.
- There was an inability to contact high school students who decided not to attend Purdue, since that information is held confidential.



# Learning Objectives

- **Why** are black students **choosing not** to enroll in Purdue?
- Are there **specific problems** on Purdue's campus **causing** the low black population?
- What could our team do to **solve this problem** using our skills, strengths, and abilities in our senior capstone project?

# Project Deliverables

1. Write a complete case study/documentation of the project
2. Provide and explain 3 recommendations guided by the team's research for Purdue to add, remove, or make changes to help achieve this goal
3. Create a high-fidelity prototype of a mobile app guided by the team's research with clients' input
4. Create a video presentation of the project summary and key takeaways
5. Provide all necessary equipment to complete project deliverables



# Measure of Success

## Feedback From Client

The client sees value in deliverables, with possible solution implementation.



## Problem

Do the deliverables address the problem?



## Testing

Do black students and faculty/staff approve of our solution and concepts?  
Is our solution easy to use and attractive?



# User Group

## Primary User - Black High School Seniors

High school seniors who applied and were accepted into Purdue University, but unsure if they want to accept their offer.



High School Senior

## Secondary User - Current Black Purdue Students

Students who are seeking more interaction with other black students in their community.



Current Student

# Major Pain Points

To see how we reached these conclusions, please see our student interviews [here](#).

## Difficulty **finding** resources as a black student on campus.

Students expressed struggles finding resources specifically/nonspecifically for black students available on/off-campus.



## Feeling **isolated** for being black among a predominantly white population.

Students shared concerns about the lack of black students on campus compared to other minority groups on campus.



## Struggling to **form connections** with other students on campus.

Since the black population on campus is really low, students are specifically having trouble forming connections with people within their community.



Purdue seems “**unreachable**”.

Black students face a barrier to attending high schools that don't teach STEM or high-level math/science courses. As Purdue requires these high-level courses to even be considered for admittance straight out of high school, students feel like getting in or attending Purdue is attainable.



There is a **lack of a welcoming social scene at Purdue.**



### 3 Recommendations

To see how to reach these recommendations, please see our literature review [here](#).

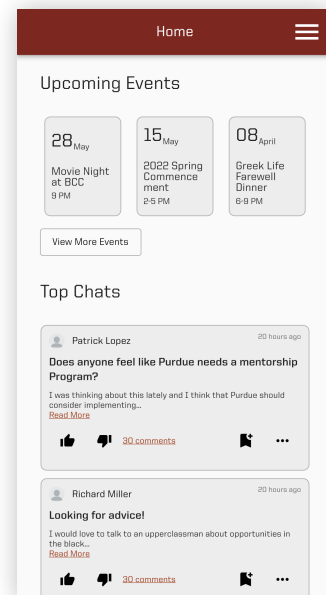
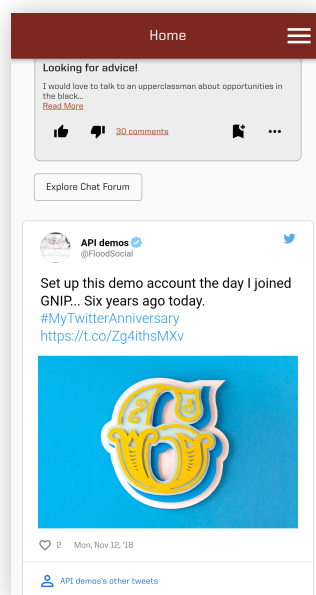
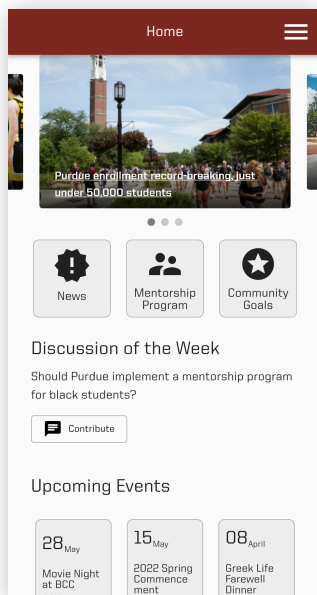
- A. Purdue should implement a mentorship program for black students.
- B. Purdue should send more ambassadors to high schools and hold more recruitment activities specifically for black high school students.
- C. The Black Cultural Center should be more involved with orientation programs like Boiler Gold Rush and Purdue's For Me with building tours and events.

# Final Prototype Design

## Homepage

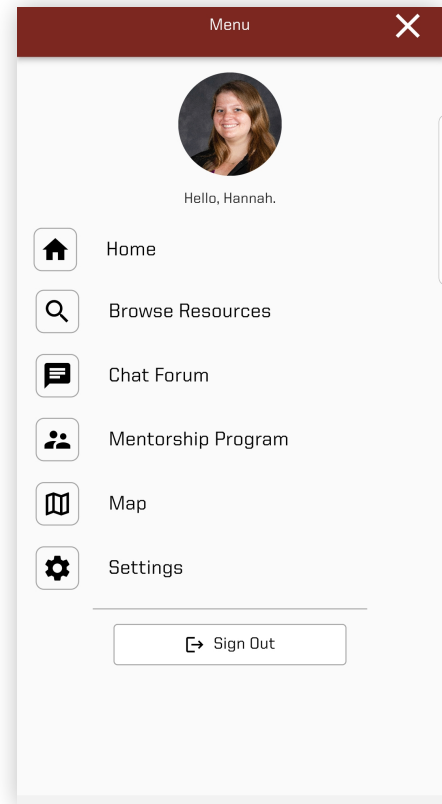
The homepage is meant to show what is upcoming or trending in the black community of Purdue's campus and surrounding areas. The homepage includes a sliding news banner, a row of navigation buttons, a "Discussion of the Week" section, upcoming events, top chats, and a Twitter feed.

- **Sliding News-Banner** - Shows local or national news articles relevant to the community. The banner will alternate news articles automatically, or users can manually swipe through the articles. Users can tap on the banner to open the current article.
- **News Button** - Users can tap on the "News" button to navigate to the News page to find and read more news articles.
- **Mentorship Program Button** - The "Mentorship Program" button will take the user to the Mentorship Program landing page.
- **Community Goals Button** - The "Community Goals" page enables the community to set goals, like fundraisers and such, and keep up-to-date on goal progress.
- **Discussion of the Week** - A weekly conversation-starting discussion piece such as a quote, question, image, etc. which encourages students to interact with one another.
- **Upcoming Events** - Three most upcoming events, plus a button to navigate to the Social page that shows all events.
- **Top Chats** - Trending chat threads with high activity at the time of app launch plus a button to navigate to the Chat Forum page.



## App Menu

The app menu functions as the main app navigation. Users will always be able to open the menu by tapping on the hamburger menu icon in the top right corner of the app. Here, the user can find the major functions the app offers. In the high-fidelity prototype, we focused on Browse Resources, Chat Forum, and Mentorship Program for prototype development.

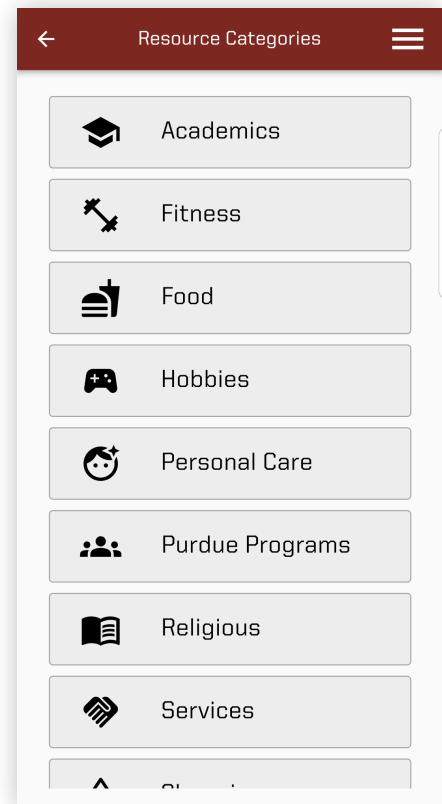


## App Menu

The browse resources page allows users to search and find all sorts of resources for the black community at Purdue and in the Lafayette/West Lafayette communities. This includes black-owned businesses, student organizations, events, programs, churches, and more. We tried to go as broad as possible to include everything that makes a community.

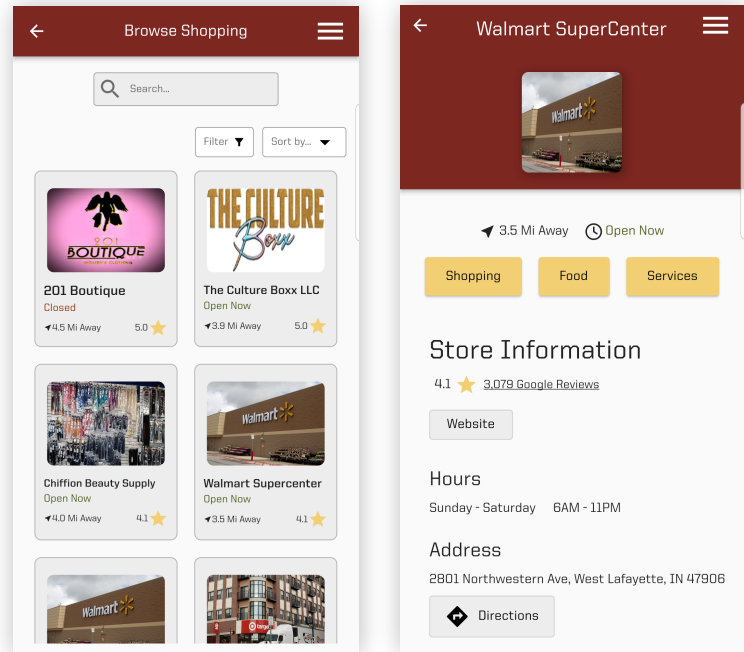
Additionally, we thought that resources often belonged to more than one category, so resources can be found in several categories and can be identified by the yellow buttons on each resource page. Examples are shown below.

In the high-fidelity prototype, we focused on the Shopping and Social categories to show examples of the functionality.



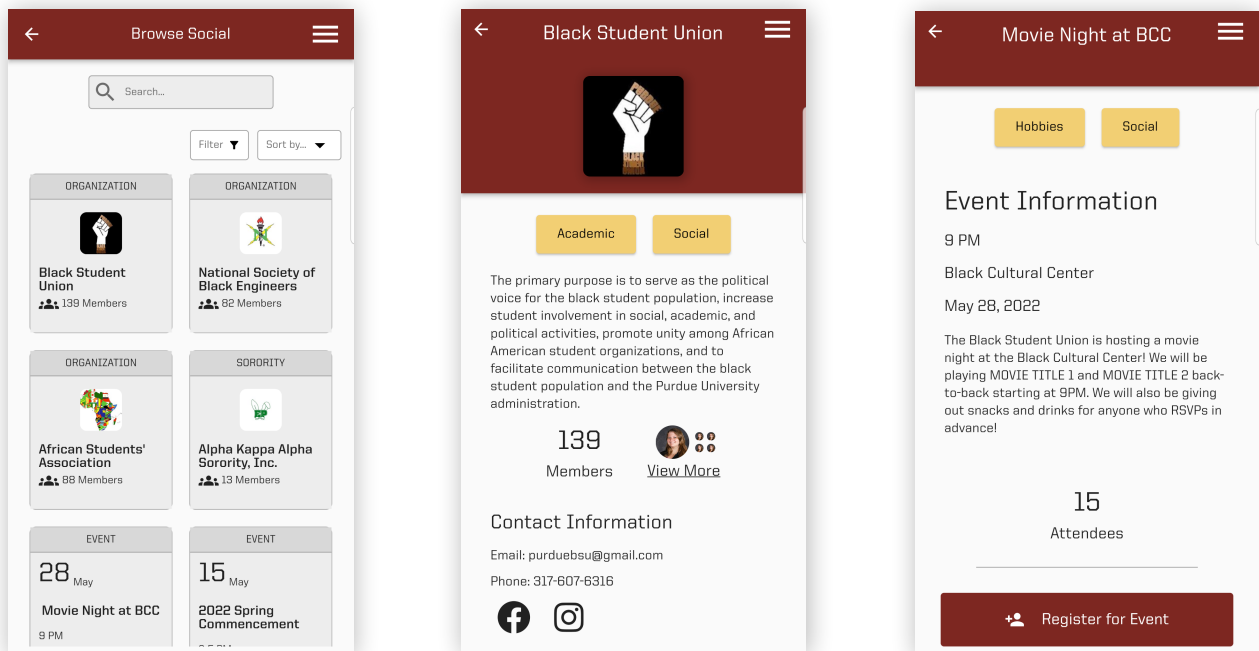
## Browse Shopping & Individual Store Information

When viewing a business, users can find important information such as the business hours, distance, reviews, phone number, and website. Here, you can see the yellow button categories assigned to the business. If the user taps on one of the categories, they are directed to the browsing page of that category.



## Browse Social & Individual Event and Organization Information

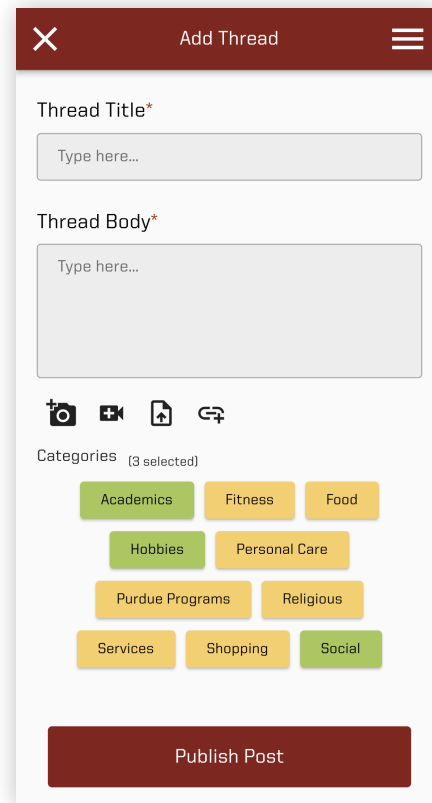
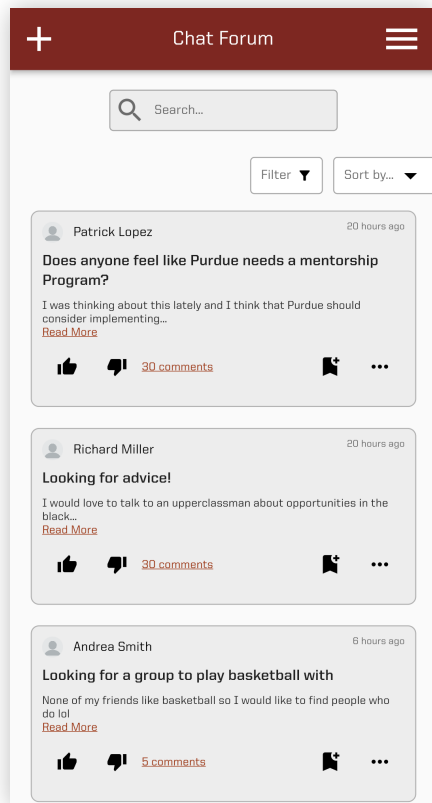
All of the Browse Social content should pull data straight from BoilerLink. Users can message the leadership board of an organization or register for an event directly through the app as if they were using the BoilerLink website.



# Chat Forum

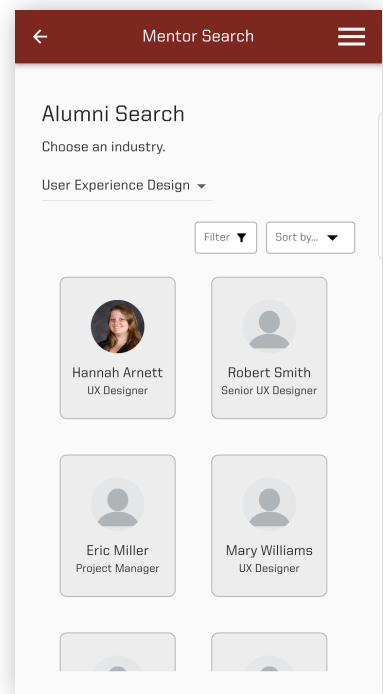
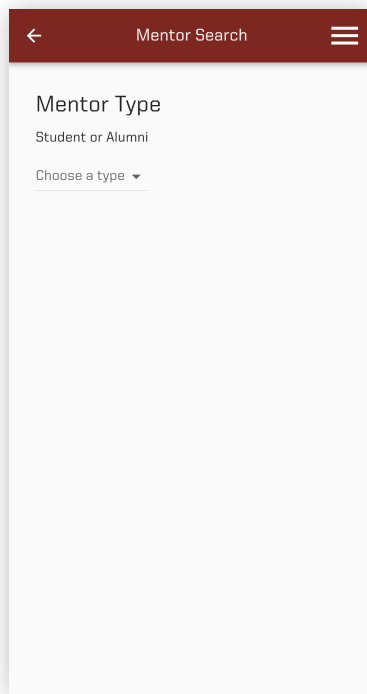
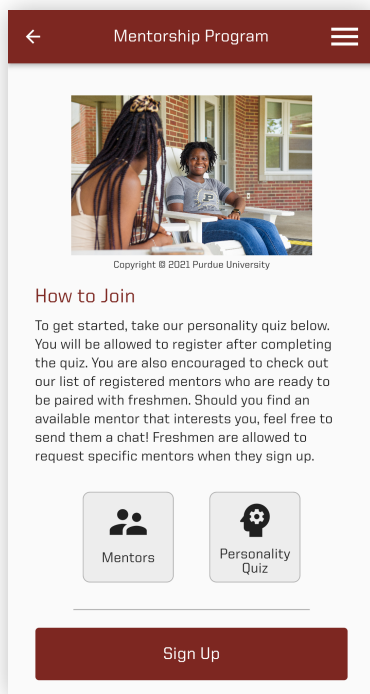
The chat forum functions as basically a catch-all for conversations within the black community at Purdue. Whether a user has a question, an announcement, or is recruiting for a group activity, they can post a chat thread here in the forum. Users can bookmark, like, dislike, and comment on chat threads. Our idea with the chat forum is that there would be someone monitoring the chat threads to keep away any strange conversations.

Users can add a chat thread by using the plus button in the top left corner of the Chat Forum page. Here, users have the ability to add attachments such as a photo, video, file, or external link. Users can also help make their threads more findable by other users by assigning categories to their thread. This is completely optional, though recommended for organizational purposes.



# Mentorship Program

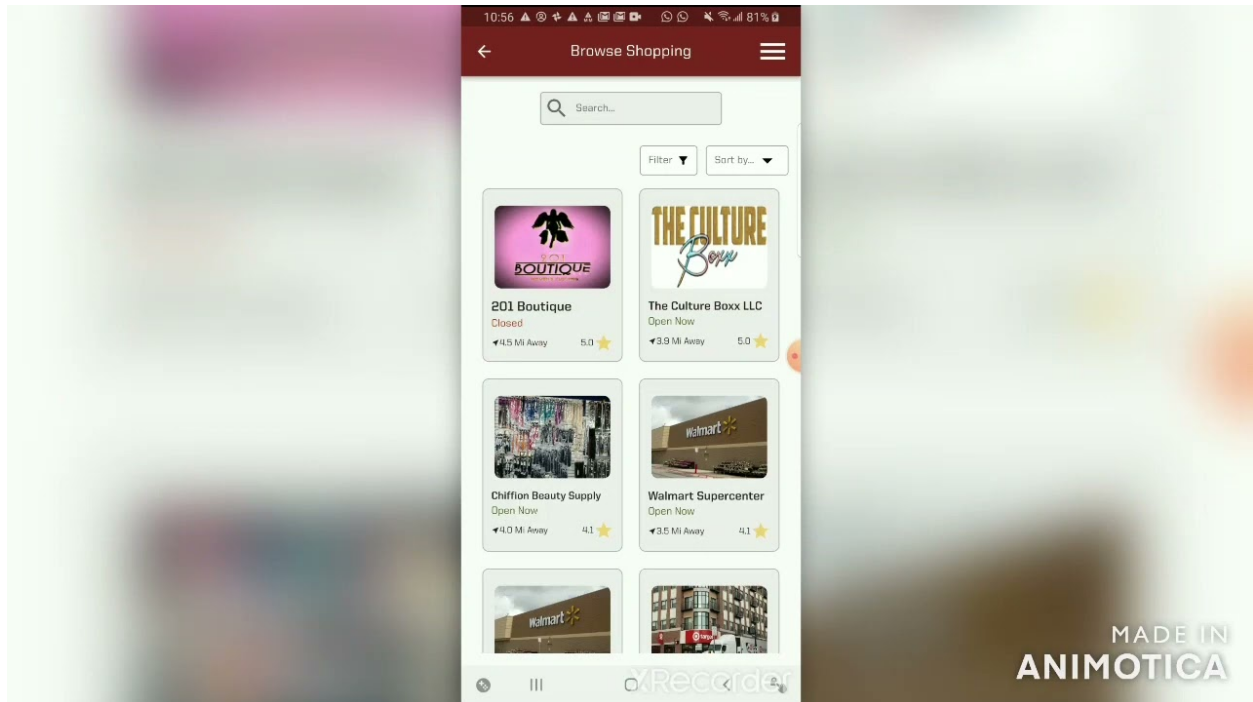
A mentorship program for black students is one of our three recommendations to Purdue that we feel will help the university enroll more black students. Freshmen can be mentored by upperclassmen or alumni based on their preferences. We had the idea that upon registering, freshmen (and mentors) will take a personality quiz that will help match them with someone that best aligns with them and their preferences. This is similar to when freshmen register for campus housing, and they fill out a form to help the university find a roommate that is compatible with them. Freshmen can also request a specific mentor when they register for the program. To do this, freshmen can find available mentors (currently without a freshmen mentee) through the "Mentors" button. Clicking the button will allow users to search through the mentor database for both upperclassmen students and alumni. With alumni, freshmen can search by the industry they belong to. With upperclassmen, freshmen can search by the major they are in. If the user clicks on a specific mentor, they can directly message them through the app.





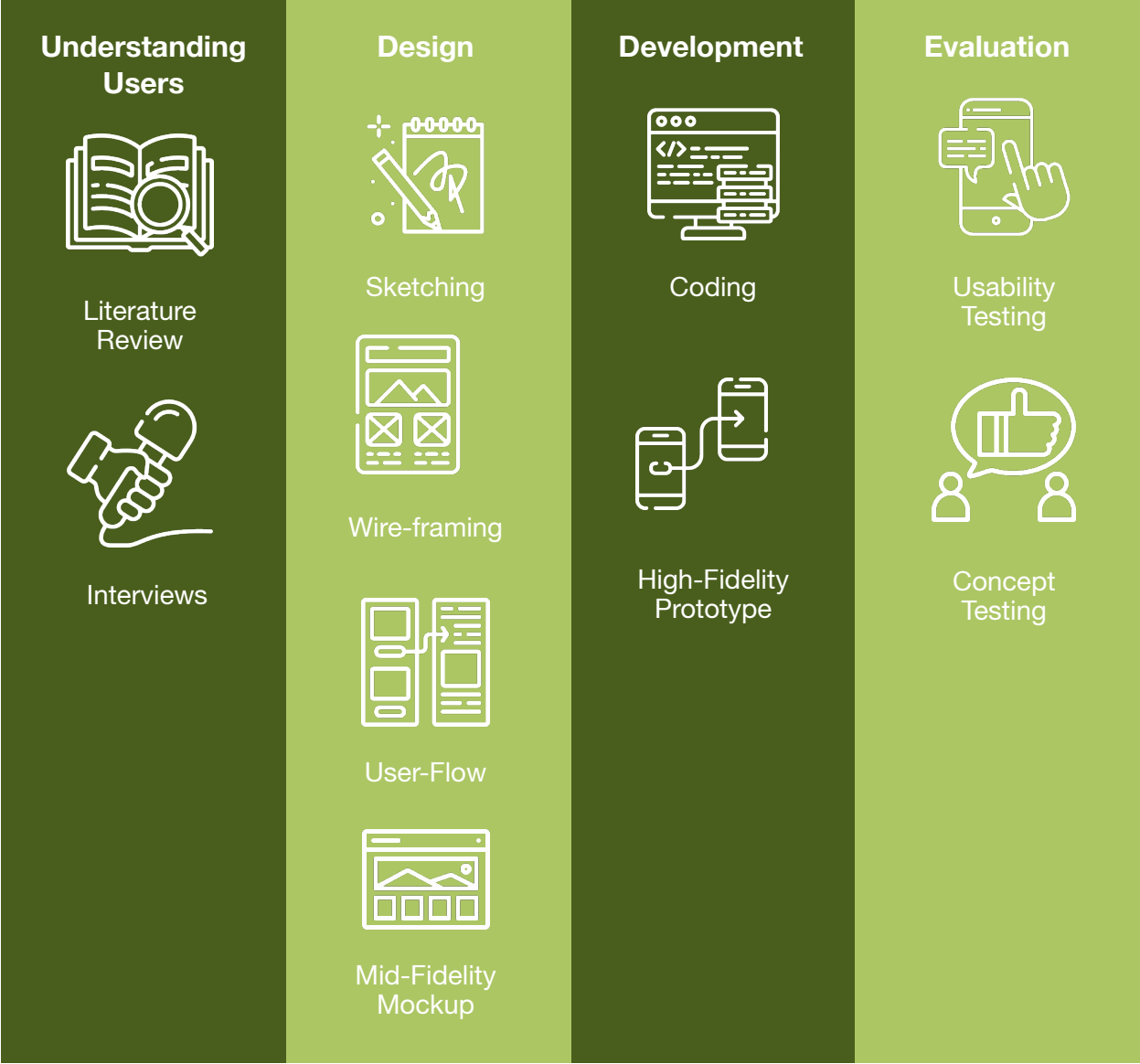
# Final Presentation with App Demonstration Video

Our final presentation video can be found on YouTube [here](#).



# Development Process Overview

Team UniteUs used various research and ideation methods to try to identify pain points surrounding why black students aren't accepting their offer letters from Purdue University. Displayed below is a chart showing the methods used in our development process.



# Understanding Users

## Activity: Interviews

### Goals

- To identify where and how Purdue has successfully attracted African-American high school seniors to apply in the past.
- To understand why current African-American students chose to enroll in Purdue after being accepted.
- What made them commit, what made them hesitant to commit, outside influences.
- To gain insight into why accepted African-American students are choosing other schools over Purdue.
- To understand the experiences of current African-American students on campus and identify the struggles they face as a student at Purdue.
- To understand what Purdue is currently doing well for African-American students and identify where Purdue can improve.

### Approach

We conducted 6 interviews with various students that we, as two students, were able to find in our various classes throughout our semester. We had significant trouble finding black students on campus who were willing to interview with us, as we lacked resources and connections. Based on information received from our client, one of the main problems lies with black students accepting their offer to the university. When interviewing our participants, we were focusing on an array of topics that a potential student could face while applying and/or attending Purdue as a way to scope down the problem because there could be a number of underlining issues preventing the growth of the black student population on campus.

### Outcome

- Most students **heard about Purdue either through personal connections** such as family or educators in grade school.

- Students had **more awareness of the university** when they were pursued by black-specific organizations while visiting campus.
- Students **struggled with finding resources** and **communicating with many offices** that are a part of the enrollment process.
- Boiler Gold Rush helped freshmen **feel more comfortable on campus** and **connect with other freshmen**.
- Black students **struggle to find others of their race** on campus.
- Black students **feel more positive** when they are around others of their own race. One student specifically expressed *“Really feels excited whenever she comes across another black person”*.
- Black students **faced implicit bias** when other non-black students asked questions or made comments that seemed directed towards their race.
- Students expressed that **having a mentor as a guide would be helpful**.
- **Students want Purdue to be more transparent** about the true numbers of diversity on campus.
- Students **felt singled out** or "put on the back burner" in classrooms because they were black.
- Black students **felt a lack of a “black communal feel”** on campus
- Black high school students could **feel like Purdue is unreachable** because of its status and reputation.

The insights from the interviews were pivotal in scoping down our problem space so we could better address the needs of black students on campus. With these takeaways, we were able to concur that a sense of community and ease of access to an array of resources such as black-specific clubs were the key pain points of the black community on Purdue’s campus.

## Activity: Literature Review

### Goal

We conducted a literature review as a way to further ideate upon the feedback we received during our interview process. We wanted to know exactly how can we

improve upon this idea of “community” and provide resources that black students expressed a need for.

## Approach

When conducting our research, we were looking at A.) what does community mean for black students on campus and how can we foster its growth of it, and B.) what are other schools with similar backgrounds (such as location and size) doing for growing their black student population? We would have liked to conduct a co-design session to further our understanding of what “community” is to black students but were unable to find enough students willing to participate. As a way to inform our designs, we conducted further secondary research in the form of a literature review.

## Outcome

During the literature review, we were able to find many resources that talk about what can be done to improve or give a sense of community between people.

- To give more context the American Friends Service Community (AFSC) was working to increase the amount of fresh produce available to black residents in a neighborhood located in New Orleans, Louisiana. A resident of Hollygrove, New Orleans stated that *“The food giveaways help us strengthen our sense of community. It’s our neighborhood. It’s an opportunity to uplift our people by feeding each other physically and communally. **These events are an expression of values like caring for each other and belonging to something bigger than ourselves.** Sharing food connects us to each other, the Black growers and farmers and the land that is vital to our survival”*(Green, 2022).
- *“A well-run mentoring program not only creates a short-term sense of community amongst its participants, **it makes possible an enhanced long-term sense of community within the organization as a whole.** It can help break down organizational silos by bringing together people from different teams, departments or geographies”*(Mentoring Programs and Community, 2019).
- *“Mentoring, at its core, guarantees young people that there is someone who cares about them, assures them they are not alone in dealing with day-to-day challenges, and makes them feel like they matter. **Research confirms that quality mentoring***

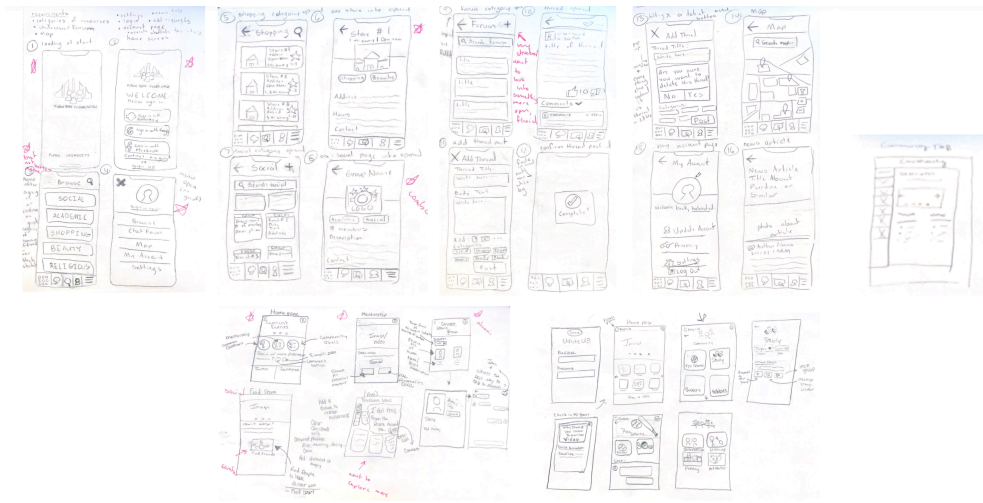
- relationships have powerful positive effects on young people in a variety of personal, academic, and professional situations. Ultimately, mentoring connects a young person to personal growth and development, and social and economic opportunity. Yet one in three young people will grow up without this critical asset***(Mentoring Impact. Connect with a Young Person | Mentor, 2022).
- ***“In the U.S., a country of people from diverse racial-ethnic and cultural backgrounds, previous research has found collectivistic values such as familism and communalism to be beneficial to immigrant and racial-ethnic minority populations, though exorbitant family demands can be stressful and less adaptive”*** (Smith et al.,2019).
  - ***“Educators and other school staff also play a crucial role in creating an environment that promotes Black student success. By using [perspective-taking to build relationships with students and developing students’ sense of belonging](#), educators can ensure that schools serve as safe, welcoming spaces that nurture Black students’ growth and achievement”*** (Strategies to Support Black Students, Teachers, and Communities In, 2021).
  - ***“A positive climate in which everyone feels safe, valued, and respected can help increase each student’s sense of belonging in school. And when all students feel like they belong, they are more engaged, more motivated, and healthier—and they achieve more”***(Social Emotional Learning - Institute of Education Sciences).
  - This resource specifically talks about instituting community-building solutions in a high school setting, stating, ***“Holding Weekly Class Meetings, Focusing on Gratitude, Work Together Toward a Shared Goal, Give Daily Shout-Outs or Compliments, Let Students Have a Voice”*** are methods to build community (National Society of High School Scholars, 2020).

## **Bringing it together**

From our interviews with current black students on campus, we can conclude that black students struggle with a variety of barriers including a lack of guidance, resources, and community on campus. Our literature review insights allowed us to craft a solution that is meant to help bring black students together at Purdue through particular initiatives. From this, we were able to start with the ideation of our solution: a mobile app prototype designed for the black community.

# Design

## Activity: Sketching



[Click to view our sketches in detail.](#)

## Goal

Our team used our research insights to inform our ideas for the mobile application including functionality and features that would best support community.

## Approach

Each team member sketched any ideas and concepts they had based on what we learned from our research. Our team was thinking about the questions below while sketching.

- What are ideas/initiatives that would support community-building while being in the form of a mobile application?
- What are tangible solutions that Purdue could implement to increase the number of black students?
- What is Purdue already doing that's not in the spotlight, and how can we make it easy for them to find as a resource within the application?
- What information do students want or need as a freshman?

## Outcome

After sketching out multiple concepts that could be included in the app, we came together as a team to discuss what we had and what would be implementable but would support the black community in an impactful way. We came up with these main features and concepts to include in the application based on the research we found.

- Mentorship
- Discussion of the Week
- Community Goals
- Community Resources
- Chat Forum
- News
- Upcoming Events

## Activity: User-Flow

### Goal

Our team needed to identify a flow of how the user would navigate through the app as a way to establish a framework for us to create our wireframe/lo-fidelity prototype.

### Approach

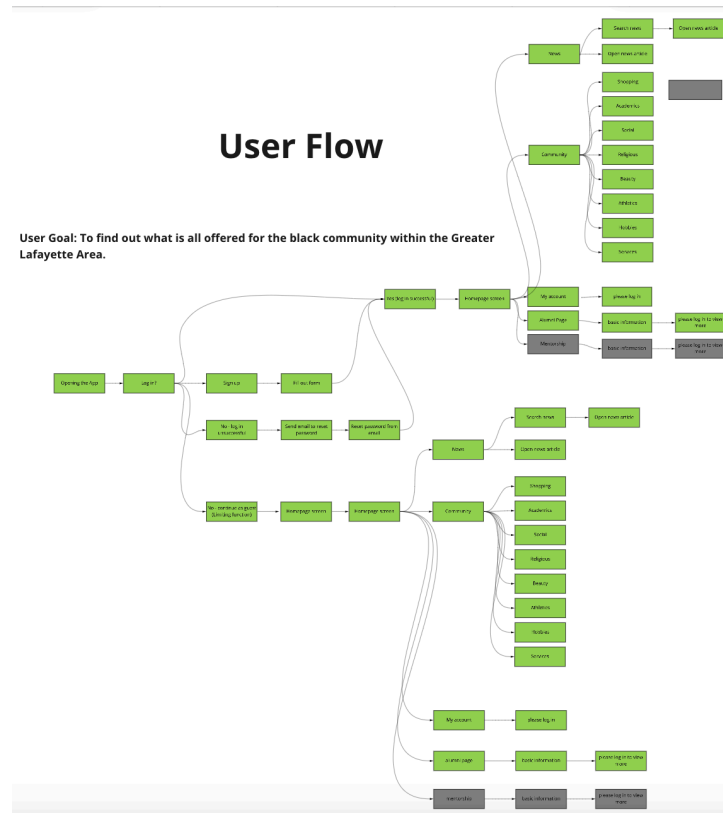
To create our user flow, we used Figma as our design tool. We were considering a few things when trying to create the navigation within the application.

- What would be the best way to connect the different screens within the wireframe/low-fidelity prototype which would make the most sense to the user?
- Were there any components that were missing that would prevent the pages from flowing intuitively?
- What would the user goal(s) be when using the app?

### Outcome

Because we create a user flow we were able to establish a map and a general understanding of how users would interact with the application.





## Activity: Wireframe/Low-fidelity Prototype

### Goal

We wanted to create a framework and layout for the mobile app that would look, interact, and incorporate aspects that would promote community and provide resources to the black population on campus.

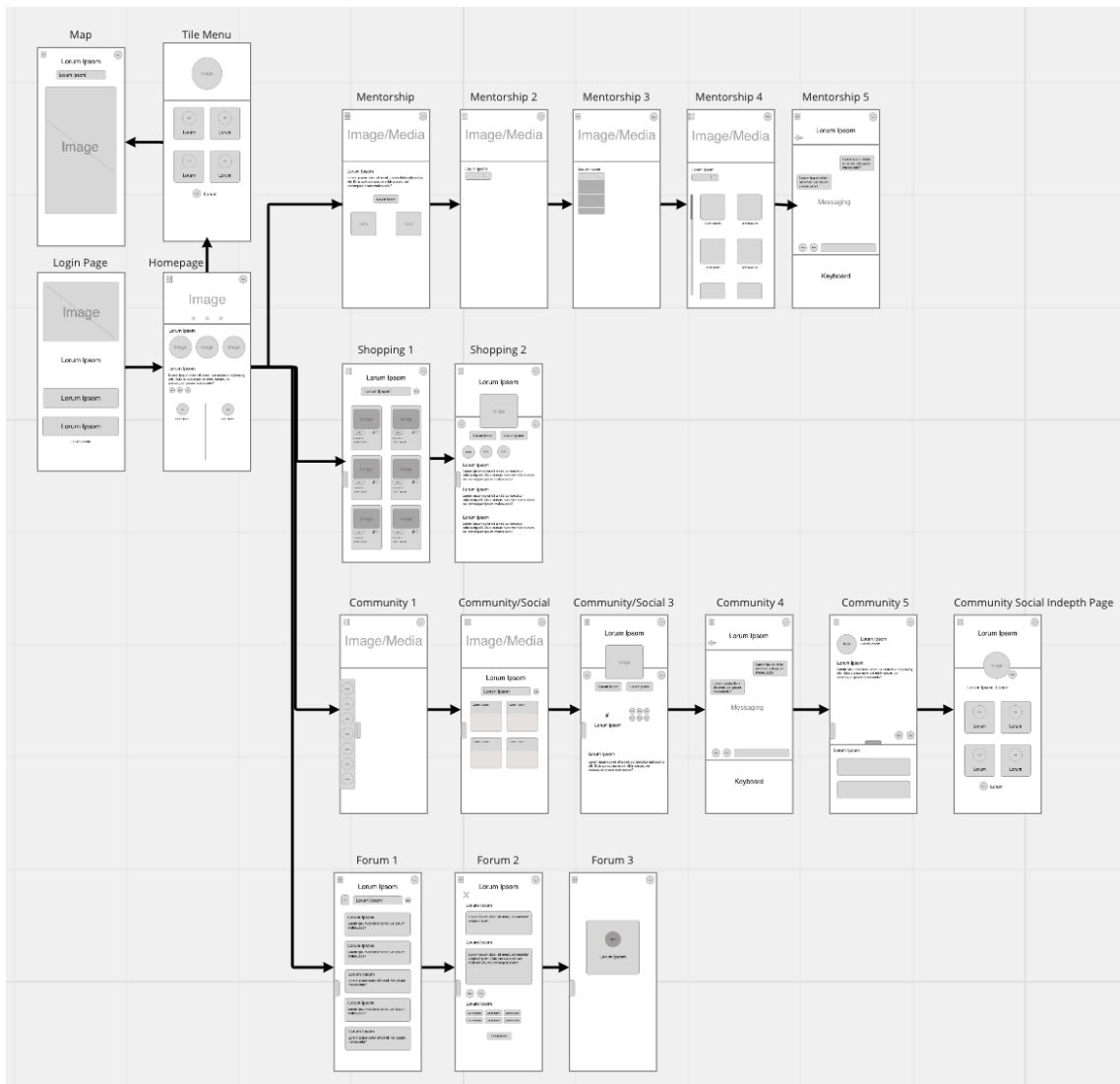
### Approach

Based on the sketches we created, we started forming mockups of our combined ideas. We used Sketch as our wireframe/low-fidelity prototyping tool. **One huge consideration that we had when building this application was how could we**

provide easy navigation and an intuitive design with all the resources and features we want to provide to the black community on Purdue's campus?

## Outcome

We were able to construct a mockup to use and ideate upon during our evaluation process. Before we started evaluating the usability and functionality of the app, we realized that the category menu on the Browse Resources page that the user would swipe right on to access the resource categories would be more effort for the user than what we intended so we decided to ideate that further in the first iteration of the mid-fidelity.



# Activity: Branding & Style Guide

## Typography

Headings	This is a large header.
Titles	This is smaller but eye-catching.
Subtitles	This is a slightly smaller heading.
Body	My body text will look like this. Lorem ipsum dolor sit amet, consectetur adipiscing elit. Sed ipsum urna, vulputate nec sagittis sit, dictum id libero aliquet, tristique diam eget, pulvinar sapien. Cras quam ipsum, euismod ac suscipit sit amet, commodo egestas orci. Mauris non nibh lorem. Cras maximus mi in ligula consectetur vestibulum.
Captions	I am small but still readable. Here is an example of a <a href="#">hyperlink</a> .

## Color Palette

Text/Accent/Other	Accent/Highlight Only	Accent/Highlight Only
#495E1C	#F2CF73	#ACC664
Text/Accent/Other	Text/Accent/Other	Primary Text
#7D2721	#823C26	#000000

\*\*\*Whatever colors we use for any UI needs to pass ALL tests on this website:

<https://webaim.org/resources/contrastchecker/>

## Icons

<https://www.iconfinder.com/search/icons?family=remixicon>


## Input Box

Incorrect Input

## Active Input

## Correct Input

## Goal

Our team wanted the mobile app to have a unique appearance that is easily identifiable, yet incorporated aspects of both the Black Cultural Center and Purdue University as a whole. We created this style guide to use during further development.

## Approach

To create our style guide, we used Figma as our design tool. We wanted to incorporate aspects of the Black Cultural Center while following the visual identity of Purdue University as a whole. The font choices and overall look and feel defined in the style guide heavily referenced the visual identity of Purdue University. The icons and the red and green color choices were selected based on the interior and exterior of the Black Cultural Center building. Particularly, the red bricks outside and the green colors throughout the inside.

## **Outcome**

Our style guide allowed us to further design the mobile app in the mid-fidelity prototype using the fonts, colors, icons, and such that were selected in the style guide.

## **Activity: Mid-Fidelity Prototype**

### **Goal**

We wanted to transition from the skeleton-like wireframe/low-fidelity prototype to a more detailed and polished mid-fidelity prototype that follows our style guide.

### **Approach**

To create our mid-fidelity prototype, we used Figma as our design tool. Before getting started with the mid-fidelity prototype, we tested the low-fidelity prototype and made changes to the app according to the results. During this transition from low to mid-fidelity, we went through several iterations of the categories menu on the Browse Resources page before settling on the menu shown in the high-fidelity prototype.

### **Outcome**

The mid-fidelity prototype paved the way for concept testing due to the in-depth level of design detail and structure. We tested the concepts of the mid-fidelity prototype and made changes to the app according to our results.

Home

Purdue enrollment record-breaking, just under 50,000 students

News Mentorship Program Community Goals

Discussion of the Week

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis cursus nunc vel nibh rutrum, vel consequat ipsum malesuada?

Contribute

FirstName LastName @univ

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Duis cursus nunc vel nibh rutrum, vel consequat ipsum malesuada #loremipsum

7:58PM • April 10, 2022

Upcoming Events

28 May Movie Night at BCC 8 PM

15 May 2022 Spring Commencement 7-9 PM

08 April Greek Life Farewell Dinner 6-9 PM

Top Chats

FirstName LastName 20 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

30 comments

FirstName LastName 20 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

29 comments

FirstName LastName 20 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

29 comments

Explore Chat Forum

Menu

Hello, Hannah.

Home

Browse Resources

Chat Forum

Mentorship Program

Map

Settings

Sign Out

Browse Resources

Academics

Athletics

Personal Care

Food

Hobbies

Religious

Services

Shopping

Social

Shopping

Search...

Filter Sort by...

Walmart Open Now 2.9 ★ 2.1 Mi Away 3.5 ★

Meijer Open Now 2.9 ★ 1 Mi Away

Walmart Open Now 2.9 ★ 1 Mi Away

Walmart Closed 2.9 ★ 1 Mi Away

Walmart Closed 2.9 ★ 1 Mi Away

Walmart Open Now 2.9 ★ 1 Mi Away

Walmart Open Now 2.9 ★ 1 Mi Away

Mentorship Program

Mentorship Program for African American Boilermakers

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Mauris sit amet lacus et arcu facilis dictum vel ut nulla. Nulla fringilla, ante non convallis pulvinar, ex ligula sollicitudin tortor, id vestibulum ligula risus in.

Mentoring

Mentorship Program for African American Boilermakers

Nullam eget hendrerit mi, nec facilisis massa. Duis at elit sagittis, tempor justo a, viverra justo. Suspendisse orci velit, sagittis eu maximus vel.

Mentors

Take Our Personality Quiz

Sign Up

Chat Forum

Search...

Filter Sort by...

FirstName LastName 8 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

3 comments

FirstName LastName 8 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

3 comments

FirstName LastName 8 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

Read More

3 comments

FirstName LastName 8 hours ago

Does anyone feel like Purdue needs a mentorship program?

Lorem ipsum dolor sit amet, consectetur adipiscing elit est...

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3 comments

Shopping

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Walmart Open Now 2.9 ★ 2.1 Mi Away 3.5 ★

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# Development

## Activity: High-Fidelity Prototype

### Goal

We wanted to transition from the image screens of the mid-fidelity prototype to a less functional yet interactive mobile app that could work on a cellphone device. We wanted to include most of the screens we designed in the mid-fidelity prototype, but with enough- but not all of the intended functionality to show as an example.

### Approach

To create our high-fidelity prototype, we used [Flutter](#), an open-source framework that supports app development, and Visual Studio Code as our code editor. We chose Flutter as our app development language because it was fast to learn, easy to use, and provides plenty of documentation and tutorials. It was also notable because it is specifically used for app development, whereas other languages and/or frameworks we looked at were not so specific to mobile app development.

The app was accessed and debugged using a physical Android device (Samsung Note 8+) that was connected to the computer throughout the coding process. Although we want the mobile app to work with both iOS and Android, the low-fidelity was developed for Android devices because we were developing the app on a PC and Flutter requires a Mac to support iOS app development.

When developing the different screens of the app, we decided to use Flutter's built-in icon library rather than the icon library selected in the style guide, because it was easier to implement into the code than a custom icon library and contained most of the same icons that we used in the mid-fidelity prototype.

The high-fidelity prototype is missing some of the screens we designed in the mid-fidelity prototype. This was because we wanted to focus our attention and time on the three major functions of the app: Browse Resources, Mentorship Program, and Chat Forum. We also wanted to avoid creating a large folder that takes an excessive amount of storage.

## Outcome

We have a partially finished a mobile app that can work on Android devices and be interacted with by users.

# Evaluation

## Activity: Usability Testing

### Goal

- To identify possible usability issues based on particular tasks and a scenario given to the participant.
- Gain feedback from participants about the overall intuitiveness of navigating through the application.
- Are text and icons size clearly understandable and or readable to the targeted user's group?

### Approach

We conducted our usability testing with three participants using the first version of our mid-fidelity prototype. This specific iteration only had a difference in menu style to access the resource categories on the main community page to our wireframe/low-fidelity prototype.

### Outcome

From our testing, we were able to concur on what design changes we would have to make, as a way to improve the experience and usability of navigating the app. We need to change these aspects.

- Not clear that the comment ability on the forum thread actually adds a message – thinks it causes another action

- Unsure about what categories are intended to be?
- Swap the attach button with a paperclip icon (add chat thread page)
- Confused by the alumni industry search... (the wording of the dropdown menu)
- The swipe-up categories menu on the resources page was often misconstrued or unidentified.
- There was confusion surrounding certain terms used in the application such as the category of “Social”.
- There was confusion around the order/layout of upcoming events on the homepage.
- Users wanted consistency with the association of words and icons as buttons.
- Because we used the term “dashboard” in the hamburger menu instead, users were confused about how to access the home page from that menu.
- The term “shopping” was vague and the users were unaware of what might be within that category.

## Activity: Concept Testing

### Goal

We conducted this evaluation method as we thought it would be the best approach to identify if the solution we came up with, meets the needs and wants of the black community.

### Approach

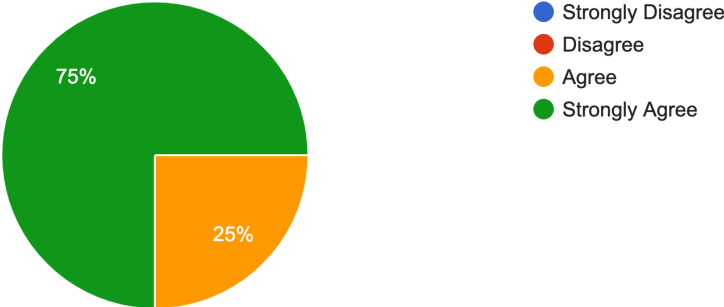
We conducted our concept testing with 7 participants. 6 of the participants were black students and 1 was a black staff member of the BCC. We started the concept testing with a scenario as a way to put the participant in the mindset of the students that we collected our research from earlier in the design process. Then we provided them with a list of considerations/pain points to think about while the application function and features were being displayed to them. We then asked each participant to fill out a survey that we created in Google forms to help us collect the feedback we were seeking to confirm our design or identify changes that we would need to make to support the overall goal of the application. To look more in-depth at our concept testing protocol click [here](#).



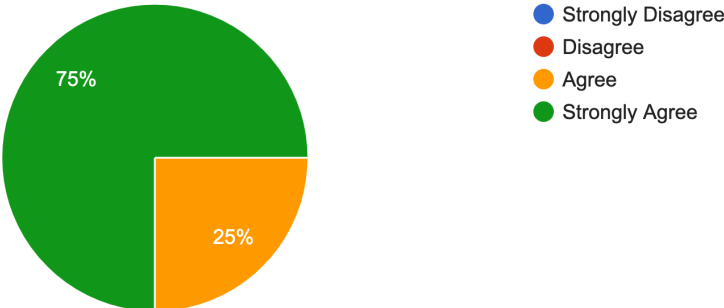
# Outcome

After completing concept testing with our 7 participants we received feedback responses from 4 of the participants in our Google form. The overall feedback relayed;

Do you think the functions in the app would support the African American community on Purdue's campus?  
4 responses



Did you feel like you were able to navigate through easily and understand what was going on?  
4 responses



## General Feedback

- *"This app has so much potential for Black students at Purdue and for Black youth considering attending Purdue!"*
- *"I think this is a brilliant idea and a great way to bring the black community together in a sophisticated manner while having all the resources available, especially for students who don't know what's going on on-campus specifically freshman's."*
- *"The only feedback I have is to make sure you consider universal design concepts that will make the app easy to use for those who may have visual and or tactile limitations. For instance, could they speak into the app if they hand problems with fine motor skills, etc..."*
- *"I think it looks really good. I would though change the part were it said beauty to personal care just so that it includes men."*
- *"How would you go about supporting the black COMMUNITY on Purdue's campus? Ideas? Suggestions?"*
- *"I think I go about supporting the black community on Purdue's campus by involving myself in black ran organizations such as the black student union as well as the Africans student association and by working at the black cultural center on campus but as a student who is curious about these opportunities and resources they were easily accessible for me to get to know more about"*
- *"I would support the Black community by telling as many students as I can about the possibility of this app and have them encourage upper administration to give it serious consideration".*
- *"Creating spaces for just them to feel comfortable"*
- *"I would be a mentor for this".*

From the insights collected during our concept testing, the changes listed below are what was implemented during the development of the high-fidelity mostly functioning prototype.

- Left out the "Sign Up" button on the login screen because we would rather have Purdue sort out the account details if they are to finish the app.
- Changed the order of the Twitter feed on the homepage to the bottom because we felt that the Upcoming Events and Top Chats sections were more important for the user to see first.
- Changed word phrases such as "athletics" to "fitness" and "beauty" to "personal care" to be more inclusive, and to give a better idea to the user of what could be within that category page.
- Added the "Purdue Programs" category to the resources page to include Purdue-specific programs that can be relevant to the black community on campus.

## Benefits

### Team UniteUs

Team UniteUs learned various skills from working with one another to complete these deliverables. As a team of two students, we were heavily reliant on one another, and from this, we exercised many of our interpersonal skills including communication, dependability, flexibility, teamwork, listening, and conflict management. We also learned new technical skills such as mobile app development, a new coding framework (Flutter), and prototyping. Tools that we used for the first time were Sketch, Android Studio, and iCloud Pages. We also used tools such as Figma, Miro, Visual Studio Code, and Adobe Illustrator.

### Client & Affiliates

For this project, our client was Renee Thomas of the Division of Diversity and Inclusion of Purdue University. We also worked closely with faculty and staff at the Black Cultural Center throughout the development process. Our deliverables benefit the above-mentioned because we are providing concepts that can be built upon to meet the needs of black students at Purdue University. As fellow students, we were able to hear directly from the students and collect insights into their current situation on campus. We were also able to receive direct feedback from these students on our mobile app prototypes, which were full of positive comments and excitement.

# Appendix

## Important Links

Miro - [https://miro.com/app/board/o9J\\_lJbb1I=?invite\\_link\\_id=369857642330](https://miro.com/app/board/o9J_lJbb1I=?invite_link_id=369857642330)

Figma - <https://www.figma.com/file/y2QuToI8DHNCWHEXhcBytg/UniteUs-Case-Study>

## Interview Protocol

### Potential Participants

- African American Students
- Purdue Students
- High School Students
- Deans of Colleges
- Diversity Clubs
- Minority Students

### Goals

- To identify where and how Purdue has successfully attracted African-American high school seniors to apply in the past.
- To understand why current African-American students chose to enroll in Purdue after being accepted.
- What made them commit, what made them hesitant to commit. Outside influences.
- To gain insight into why accepted African-American students are choosing other schools over Purdue.
- To understand the experiences of current African-American students on campus and identify the struggles they face as a student at Purdue.
- To understand what Purdue is doing well for African-American students currently and identify where Purdue can improve.

### Screening Questions

- Where are you from?

- Do you identify as African-American?
- What year are you?
- What major are you in?
- Do you live on campus or off-campus?

## Questions

- How and where did you learn about Purdue?
- What inspired you to apply to Purdue?
- Are there things you wish you knew about Purdue, or struggled with, after applying and accepting your offer?
- What do you think Purdue could have done better during this entire process?
- How was your experience first starting on campus as a freshman?
- Did you feel like resources were easily accessible to help you feel prepared?
- What helped you feel welcome on campus?
- How have your experiences been as a student on campus?
- If you could give advice to an African American senior in high school applying to colleges this fall, what would you want them to know specifically about Purdue?
- How do you feel about Purdue's lack of African American students? Do you feel that there is a racial issue here on campus?
- If you could change one thing about Purdue, pertaining to the diversity and inclusion of minority groups on campus, what would it be?
- Do you feel connected to the student body and faculty here at Purdue?
- LAST QUESTION: Would you be willing to help us in this process of enrolling more African American students on campus?

## Concept Testing Protocol

### Objectives

- To validate or invalidate particular concepts that we found during our research.
- Understand the meaning of community to this specific minority group on Purdue's campus.
- To obtain feedback for ways to improve on the design that meets the needs of the users.

### Introduction

I would like to thank you for letting my partner and I take the time out of your day to concept test our design. You may be asking what is concept testing and what will I be

doing? We are conducting a concept to test to gauge if our design supports the insights we found during our research process. During this session, I will be asking you to listen to our hero story that we created and go through our mid-fidelity mockups. After allowing you to go through our mockups we will have to answer some questions through a google survey concerning our overall design. Please let me know if you have any questions, and to let you know that we are not testing you but the design concepts we created.

Story/Scenario

Picture, that you're an African American individual, just finishing up high school. You have been accepted into Purdue University but are unsure if you want to accept your offer?

### Parameters

- You are considering Purdue as your school because a family member/friend and or teacher spoke highly of the education they received during their time at Purdue.
- You are struggling with Purdue's enrollment process such as financial aid, class registration, etc.. and you wish you knew someone that has already gone through this process before.
- You remember on a school visit that you didn't see a lot of other African American peers on campus and that was something that worried you.

Show Mid-Fi Concepts

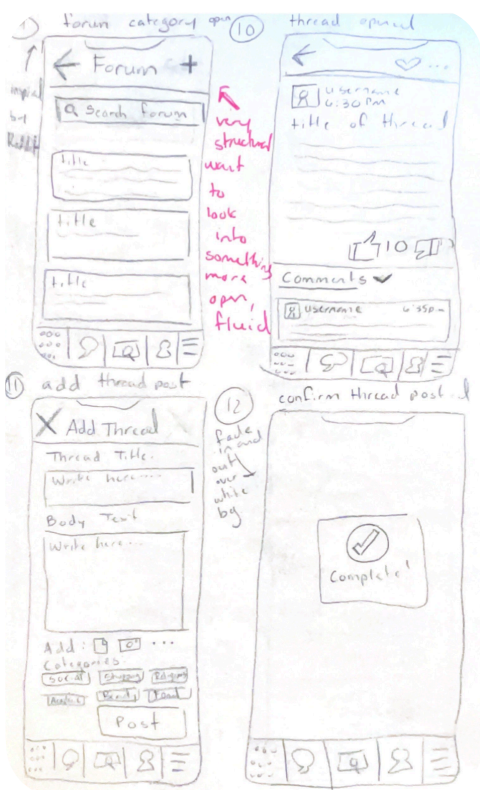
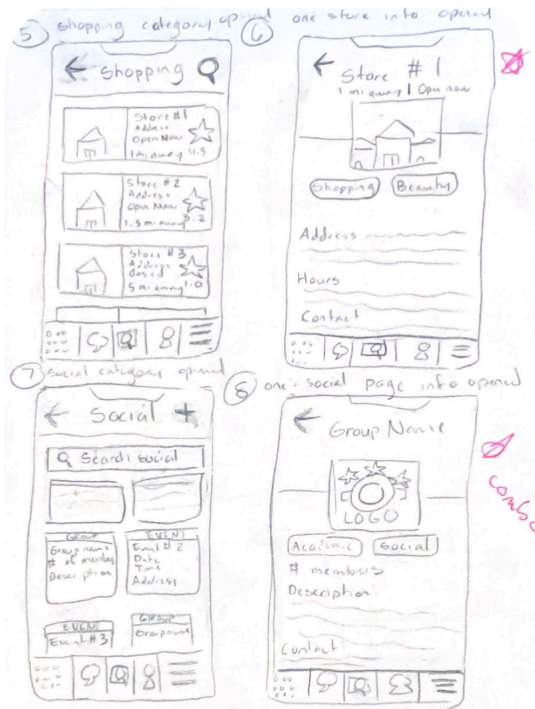
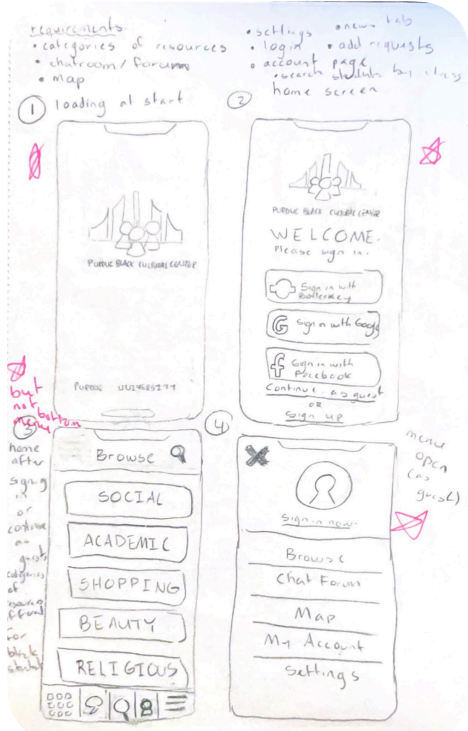
Question

Provide this QR code or Link after the prototype is shown.

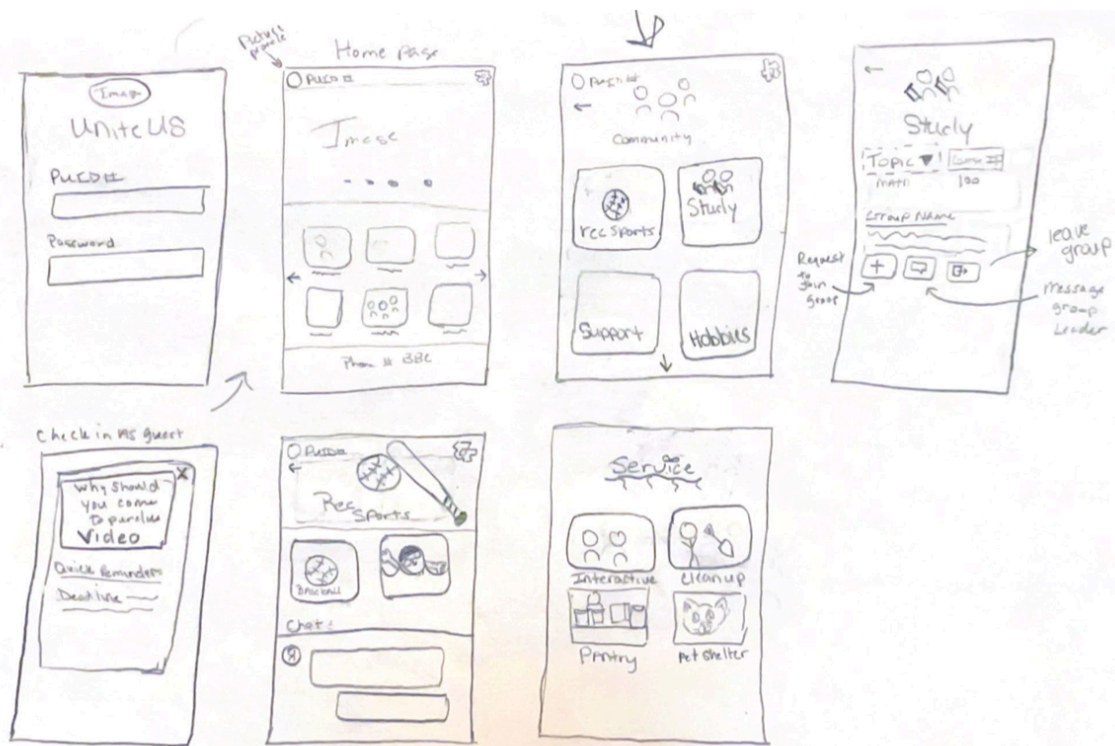
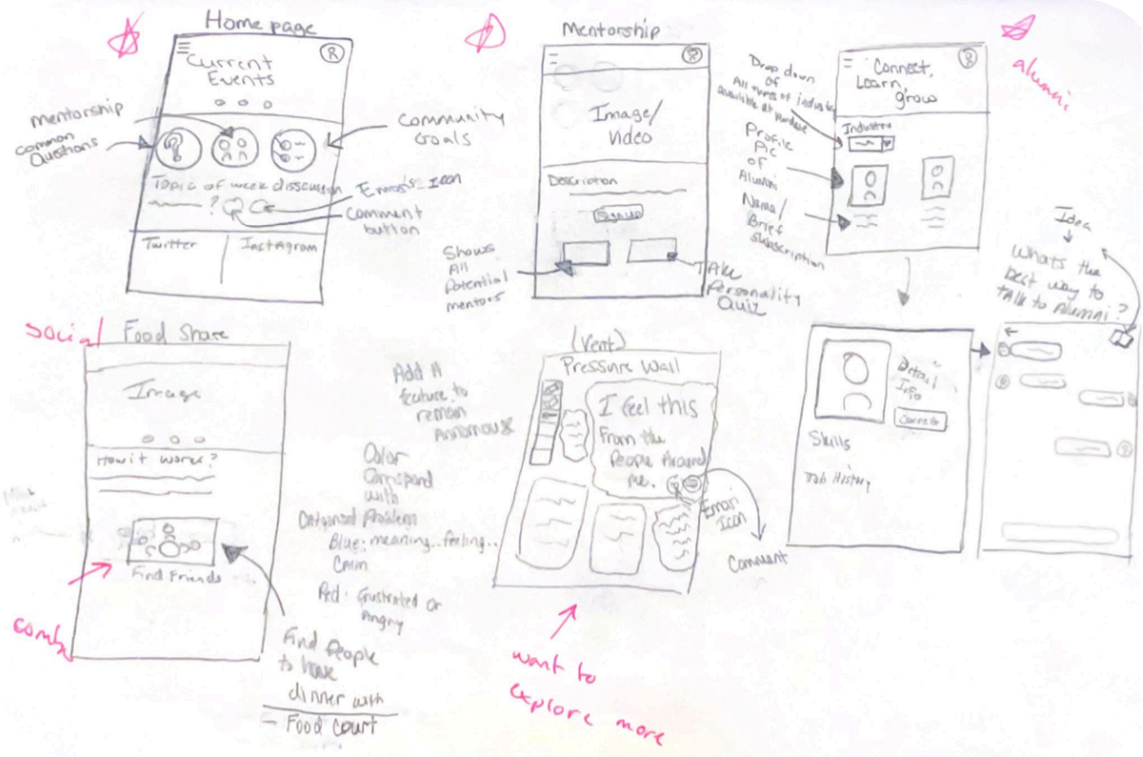
<https://forms.gle/79dhzxQ1mtp1TQAh8>



# Sketches









# References

- Flaticon. (n.d.-b). Free Icons and Stickers - Millions of resources to download. Retrieved April 30, 2022, from <https://www.flaticon.com/>
- Green, D. D. (2022, April 11). *Building sustainable and equitable Black communities*. American Friends Service Committee. Retrieved April 29, 2022, from <https://www.afsc.org/blogs/news-and-commentary/building-sustainable-and-equitable-black-communities>
- Mentoring Impact. Connect with a Young Person | Mentor. (2022, February 9). MENTOR. <https://www.mentoring.org/mentoring-impact/>
- Mentoring Programs and Community. (2019, December 19). ART OF MENTORING. Retrieved April 30, 2022, from <https://artofmentoring.net/mentoring-programs-and-community/#:~:text=A%20well%20Drun%20mentoring%20program%20not%20only%20creates%20a%20short,different%20teams%2C%20departments%20or%20geographies>
- National Society of High School Scholars. (2020, January 11). 5 Strategies for Building Community in the Classroom | National Society of High School Scholars. 5 STRATEGIES FOR BUILDING COMMUNITY IN THE CLASSROOM. Retrieved April 30, 2022, from <https://www.nshss.org/blog/5-strategies-for-building-community-in-the-classroom/>
- Rel Northwest. (n.d.). *Social Emotional Learning - Institute of Education Sciences*. Shifting the Current School Climate sense of Belonging and Social and Emotion Learning. Retrieved April 30, 2022, from <https://ies.ed.gov/ncee/edlabs/regions/northwest/pdf/social-emotional-learning.pdf>
- 6 Ways To Grow Your Social Community | Likeable. (n.d.). Likeable.com. Retrieved April 30, 2022, from <https://likeable.com/blog/2012/6-ways-to-grow-your-social-community/>
- Smith, E. P., Witherspoon, D. P., Bhargava, S., & Bermudez, J. M. (2019). Cultural Values and Behavior Among African American and European American Children. *Journal of child and family studies*, 28, 1236–1249. <https://doi.org/10.1007/s10826-019-01367-y>
- Strategies to Support Black Students, Teachers, and Communities in. (2021, February 2). Education Northwest. Retrieved April 30, 2022, from <https://educationnorthwest.org/news/strategies-support-black-students-teachers-and-communities-schools>