



California State University, Los Angeles

Team Sheroes

Members: Lorena Albarran, Ruta Antaliya, Suman Chauhan, Sushmita Dandu, Navyasree Sriramoju, Crystal Wu

Mentored by: Dr. Arun Aryal, Dalya Manatova

Prototype Base: Figma

Cybersecurity Program



Project Overview

Although demand for cybersecurity professionals is growing, organizations are struggling to find qualified applicants. In response to this shortage of cybersecurity professionals in the workforce, the IS department in the College of Business and Economics at Cal State LA is creating and building a cybersecurity program to contribute to the pipeline of qualified professionals. Its main goals include:

- a. establish a cybersecurity curriculum
- b. develop competencies
- c. meet academia and industry needs
- d. increase student outreach and engagement

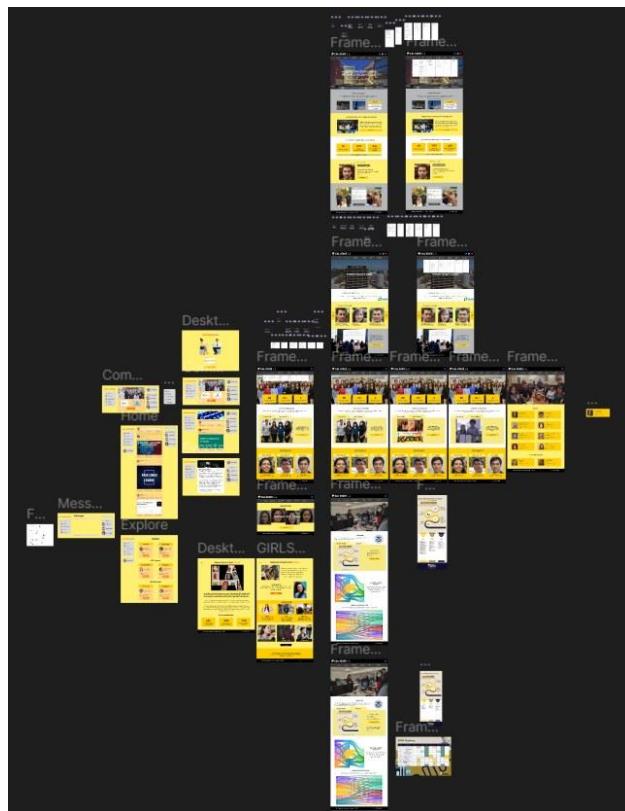
Problem: How can we develop a cybersecurity program that engages students, IS department faculty, and industry professionals?

Solution: Redesign the Cal State LA website to redefine the user experience upon landing on its home page. Navigating through the newly redesigned website should be intuitive. Students should be able to navigate to the cybersecurity page and access information related to faculty, clubs, and alumni networks.

We developed the website with a hierarchical flow such that the contents of each webpage align with the scope of what should be displayed.

Why Figma?

Figma is a free, all-in-one platform that allows us to toggle between our design file and live prototype. Design edits appear instantly in our prototype. With our prototype shareable via a link, our design team can work in sync and co-edit it anywhere with the Internet and end users can embed comments in our prototype. In essence, we can design our prototype and gather feedback in a single tool.



Using Figma, we created prototypes that turned our static design files into an interactive experience without any coding required. Compared to other collaborative web application platforms, Figma's

intuitive build allows us to connect UI elements and choose interactions when users click, hover, or press a button.

Prototype Development

Design Thinking

To design our prototype, we followed each phase of the design thinking process.

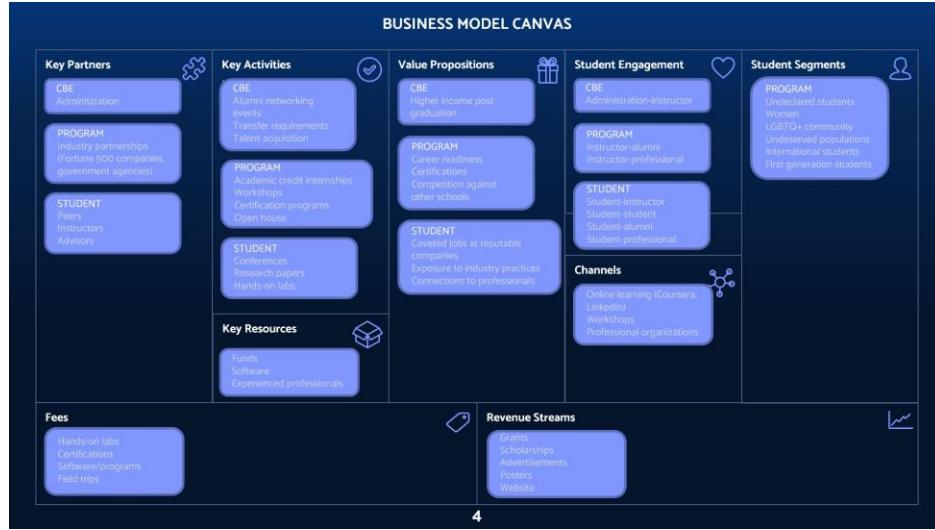
Empathy

We conducted the empathy phase by involving current students, alumni, and faculty early and often throughout our design thinking process. Two of our group members graduated from the undergraduate program recently, which gave us foresight into students' experiences pursuing an IS degree at Cal State LA. However, we also wanted to avoid this insight from adding bias to our analysis of their needs and expectations of the program. After all, the undergraduate student body composition differs from that of graduates. Assuming undergraduate and graduate students share similar sentiments would be misleading. Therefore, to ensure that we had an accurate understanding of students' needs, we approached this phase with a clean slate. This prevented us from attributing any preconceived notions to graduate students.

To begin, we created a simple map of students' end-to-end experience in higher education (shown to the right).



Then, we identified key activities and stakeholders in our business model canvas.



Framing

How could we fully understand what Cal State LA students need? Well, design thinking is often referred to as human-centered design. We embraced this human element to deliver a solution that would satisfy students' wants and needs. To achieve this, we immersed ourselves in the problem, observing extensively and speaking with students. We audited IS classes and met with students to interview them and understand their experiences on and off campus. From the unstructured interviews, we constructed a list of potential issues that could impede students' academic success or attendance. Equally important, we replicated the process alumni and faculty because they are other end users of Cal State LA website. By doing so, we put humans at the center of our design process.

We documented the challenges students, faculty, and admin face as jobs-to-be-done statements.





Research

Market Research

From our conversations with students and faculty, we realized how many variables could affect the cybersecurity program we were tasked to build. We focused on the student aspect because they can drive change in a public university environment. More specifically, we analyzed admissions data because our program is specifically designed for IS students at Cal State LA.

Design Research

We also conducted structured interviews and developed a survey to discover unmet needs. The interview and survey questions were qualitative in nature. Below is a list of our interview questions for another group of graduate students in our CIS 5040 course:

- What challenges have you faced? How did you overcome them?
- Why did you decide to pursue the program at Cal State LA?
- What inspires/motivates you? Why?
- How would you define success in this program, in this university, and in life?
- Have you participated in campus activities? Why or why not?
- How could we improve your learning experience?
- What are your concerns about this course? Program? School?

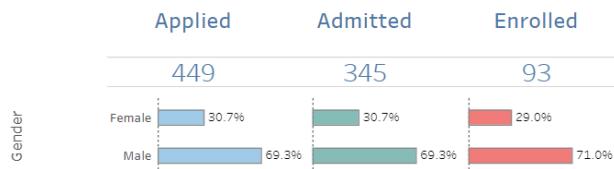
We also conducted unstructured interviews via email and Discord to understand what factors shape their educational experience at Cal State LA.

Finally, we distributed a [Qualtrics survey](#) to students in Dr. Aryal's undergrad cybersecurity course and others who may be interested in cybersecurity. We divided our survey into concepts specific to student, faculty, and program overall.

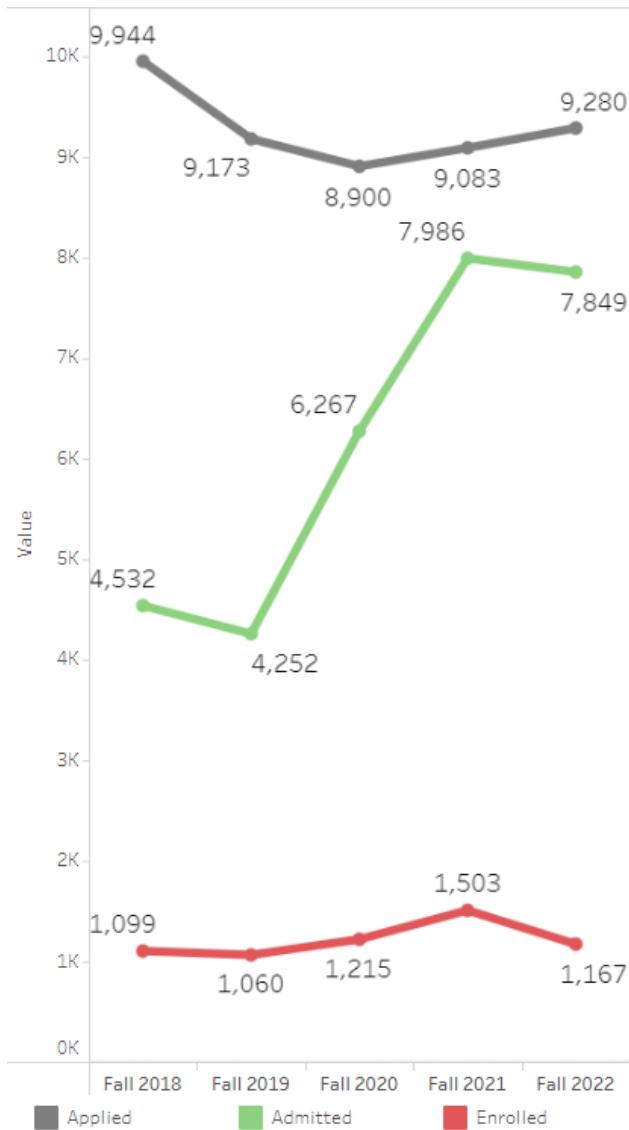
Synthesize

Our IS department has a disproportionate male to female (71%: 29%) ratio in its student population.

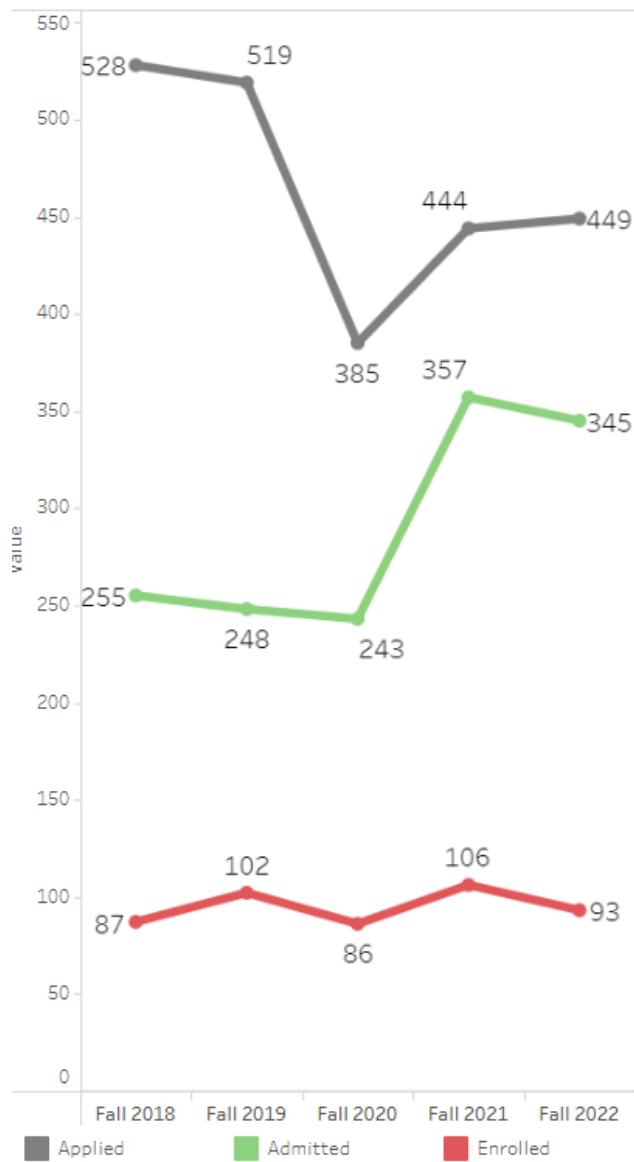
The IS department also received the lowest number of applicants among all departments in the College of Business and Economics at Cal State LA. In fact, it has experienced a four-year decline in the number of transfer students entering our program. The number of applicants that applied (gray), were admitted (green), and enrolled (red) are shown in each of the three graphs below, which were derived from the admissions data for the College of Business and Economics (left), the Information Systems Department (middle), and IS transfer students.



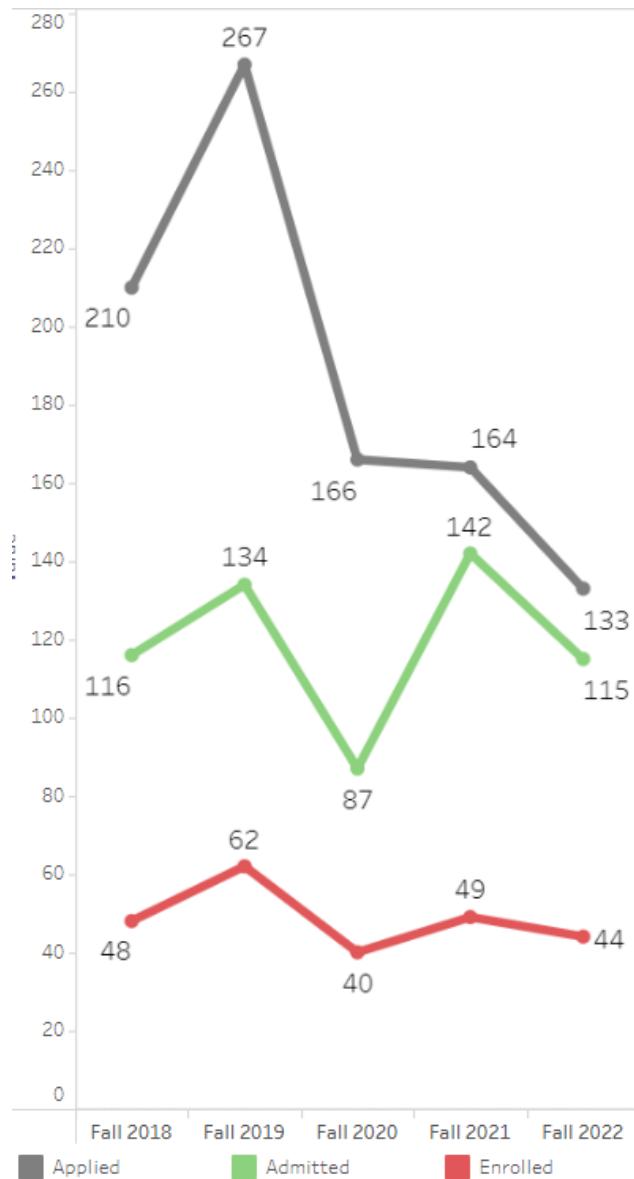
1 - Enrollment in the IS department by gender



2 - Admissions data for the College of Business and Economics



3 - Admissions data for the IS department



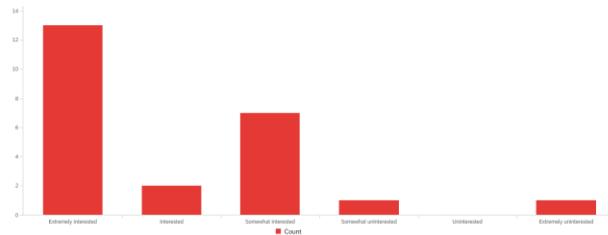
4 - Admissions data for IS transfer students

We also identified common themes from our student interviews (structured and unstructured) as areas of improvement to address when designing our prototype. The three improvement areas include:

- Resource availability
- Engagement
- Networking opportunities



We surveyed 45 students who were either in Dr. Aryal's undergrad cybersecurity course or may be interested in cybersecurity. Of the 24 respondents who completed the entire survey, more than 90% displayed some level of interest in cybersecurity certifications. In general, most students showed interest in participating in a work-study program, attending workshops or networking events, utilizing free or discounted academic licenses to new software, and presenting at a conference.



5 - Chart showing the level of interest in cybersecurity certifications

Define

Based on the insights generated from the qualitative data we collected through our research, interviews, and surveys, we developed three user personas that reflect our students at Cal State LA.

Briana Ramirez
The Transfer Student

Technical Skills

- Management: □ 50%
- Design: □ 60%
- Basic Computing: □ 95%

Need

Better academic advisement is needed to direct and inform students about the transfer process

Bio

Briana is a first-generation transfer student at Cal State LA. She was born and raised in Northeast Los Angeles. She is an undergraduate student at Cal State LA and pursuing a degree in Human Resource Management. She is determined to maximize her eligible transfer credits to complete her degree on time.

Challenges

- Navigating the transfer admission process including transfer credit requirements has been very challenging
- Finding courses that allows time flexibility

Location: Los Angeles
Age: 24
Race: Hispanic



Ideate

We brainstormed ideas that would address unmet needs or the areas of improvement we previously identified (i.e., resource availability, engagement, and networking opportunities). Some of our ideas included:

- Cal State LA website: Students and faculty expressed their belief that the Cal State LA website looks outdated and lacks an intuitive navigation system. We believe that students' experience at CSULA begins when they visit our website. Therefore, from the point that first our navigate through our site to when they step foot on campus to their graduation, we want to keep them engaged. What better way to accomplish this than to revamp the main site they visit early and often.
- Cybersecurity Program page: This page will provide career resources specific to cybersecurity and contain roadmaps for undergraduate and graduate students to help them plan their courses to meet the degree requirements. There will be interactive Sankey diagrams displaying 1) common cybersecurity-related certifications and job openings for each certification and 2)

career pathways to transition from entry-level to advanced roles. We also considered how to establish the credibility of our program via accreditations.

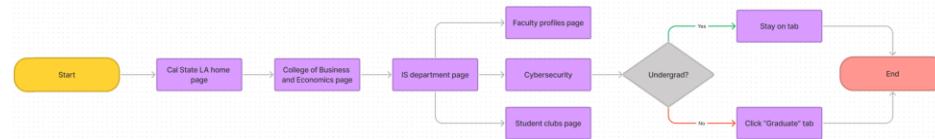
- Discord: This is the students' preferred social platform, so we will create a server for alumni and current students. This platform will allow current students to seek help regarding career opportunities, course selection, or tutoring from alumni. For instance, there are channels for every course in the undergraduate and graduate programs in which students post questions and receive help from other students or alumni. Additionally, there are channels for different cybersecurity topics where users can post and access free resources and find other students who may be interested in joining competitions. If this feature of our prototype is implemented, there should be a bot that monitors the content of each channel to detect and mitigate collusion. Admin can also assign roles to new members to distinguish students from alumni.
- Connectpals: This portal will unite alumni from Cal State LA and other local universities such as UCLA and USC. There will be a "communities" page where users have the option to choose which one(s) they want to join. Besides that, users will be invited to participate in monthly events to reconnect with Cal State LA alumni and network with others.
- Girls in Tech: The males to females ratio in the IS department is 71% to 29%. We aim to improve this discrepancy by attracting female students to our degree program. Girls in Tech is a non-profit organization that focuses on engaging, educating, and empowering women in technology. Therefore, we propose establishing a partnership with Girls in Tech to increase the number of women studying technology. We can also explore mentorship and training initiatives to get more women in STEM-related jobs. Our long-term vision for this partnership is to collaborate with other chapters (e.g., Girls in Tech x CSULA and Girls in Tech x USC) where female students from both universities host a fundraising event, compete against one another in a data analytics competition, or conduct a joint workshop.
- Mentoring app: We considered creating an on-demand tutoring mobile application targeted for Cal State LA students who need quick, affordable lessons or review sessions before an upcoming exam. Students can view tutors' qualifications based on their profiles and book an appointment with the tutor of their choice.

When deciding which ideas to develop further, we struggled to pinpoint one. We prioritized redesigning the Cal State LA website because that is where past, current, and future students visit to access whatever resources they need. Because the Cal State LA website receives the most traffic, redesigning it became a focal point of our efforts. We wanted users to perceive the improved look as if we were delivering a new product. Only then will we be able to redefine students' experiences at Cal State LA. Thereafter, we focused on developing our other ideas (i.e., connecting students and alumni via the Discord server, encouraging women to pursue a STEM-related career, designing the cybersecurity program, etc.) as complementary pieces that would enhance the student experience, drive academic success, and prepare them for a prosperous career.

Prototype

Optimal User Experience

When designing our website, we tried to optimize the user experience by making navigation through our site easy to use for users. We wanted a simple navigation system that encourages users to explore all our website's contents. This allows them to find what they are looking more efficiently, potentially improving users' experience. To accomplish this objective, we linked our webpages together to ensure that they flowed in a logical order. Below is a logical design of our prototype.

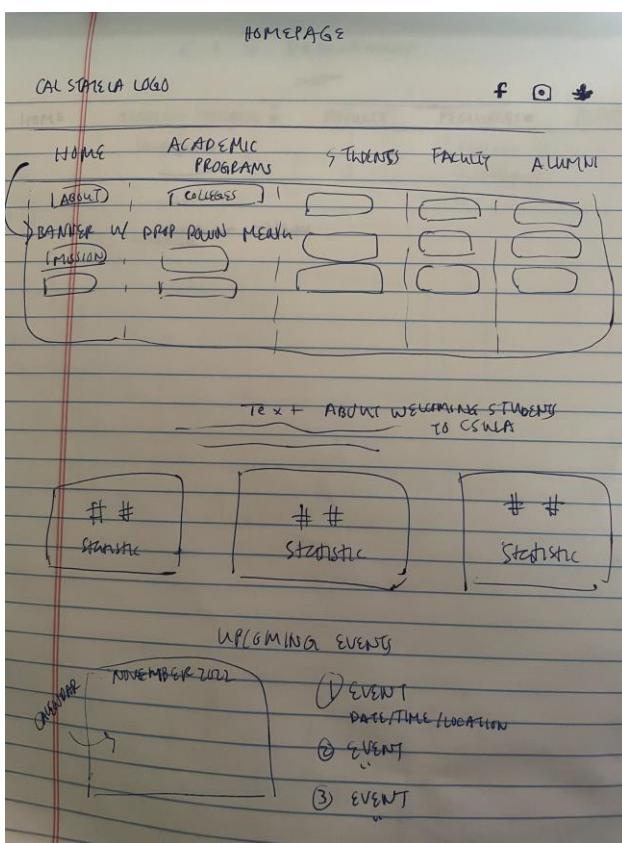
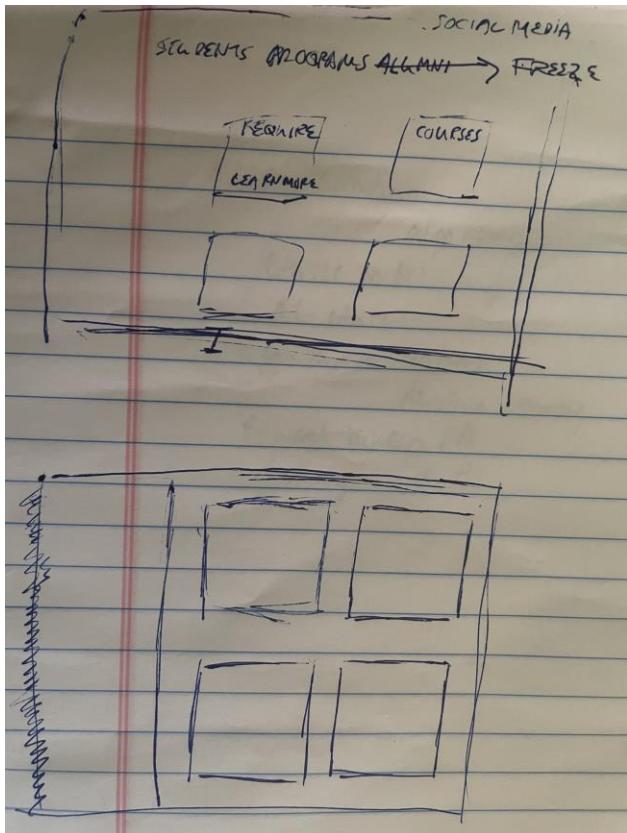


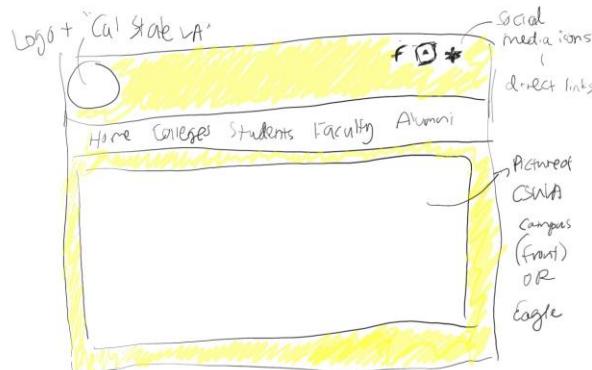
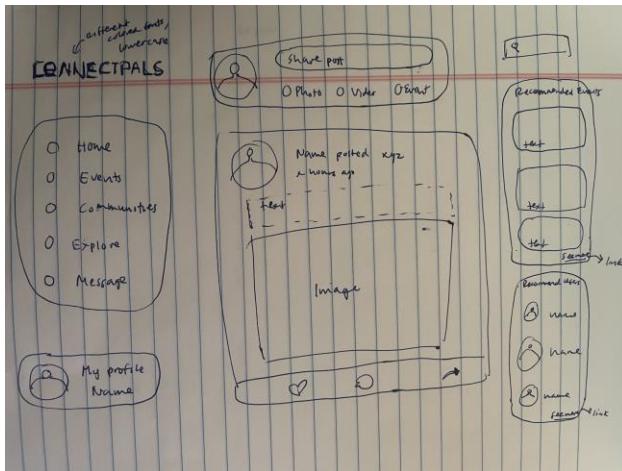
We adopted a flat structure where every page should be reachable within a click or two. As a result, the user does not have to click many pages before reaching their desired destination. We also chose this method based on our user research, which indicated students' lack of preference for content-heavy websites. Our design allows Cal State LA to communicate its values and establish a deeper connection with current and prospective students. We include headlines throughout the page and add call-to-action buttons to capture users' immediate attention. These buttons also provide more in-depth information about a specific topic that may be of user interest.

We designed our website such that the content of each page aligns with its scope. For instance, the dropdown menu displays a list of navigation options; these options fall on one category, which is our header. When users read our headers, they should instinctively know where to navigate to locate the information they want. Likewise, our Cal State LA homepage follows the same structure. Since it is the first page user lands on, we had to communicate what it is about and aims to do. We also had to incite a positive first impression so users would feel inclined to explore the rest of our site further.

Low-fidelity prototyping

To build our prototype, we began with a low-fidelity prototype. Below shows a series of paper sketches representing the different screens or states of our website. Through low-fidelity prototyping, we translated our high-level design concepts into tangible products, so we placed less emphasis on visual appearance. This allowed us to explore and test our other ideas rapidly at low cost. Similarly, we developed static wireframes from the paper prototypes. Our wireframes were visual representations of webpages, which helped us arrange and visualize different elements. As with our paper prototypes, these wireframes did not function or look the same as our finished product, but they share similar advantages in terms of development cost and speed.





High-fidelity prototyping

Our low-fidelity prototypes shaped how we created a high-fidelity prototype using Figma. Our high-fidelity prototype resembled a fully functional website. Not only were our designs (including spacing, graphics, and other elements of the user interface) more realistic and detailed, but the interactions behaved as if users were interacting get a real product. Although we used Figma through its academic license, designing this prototype was significantly more time-consuming, especially considering that we wanted our product and all its interactive elements to resemble an actual website as much as possible.

Images of Our Prototype

 **CAL STATE LA**

ABOUT COLLEGES PROSPECTIVE STUDENTS CURRENT STUDENTS FACULTY & STAFF ALUMNI & PARTNERS



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Scholarship Award Winner
Cal State LA students continue to be honored by premier scholarship programs.
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| Dec 5, 2022 - Dec 9, 2022 PRE-FINALS DE-STRESS WEEK | Dec 12, 2022 - Dec 16, 2022 FINAL WEEK | Dec 19, 2022 - Dec 23, 2022 NO SCHOOL |
|--|---|--|

EVENTS CALENDAR

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CAL STATE LA

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Upward Mobility

#24
Regional Universities West

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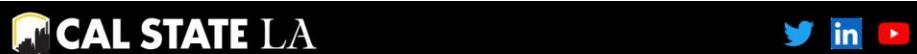
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7 - Cal State LA Home Page with Dropdown Menu

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UNDERGRADS TO **OVERACHIEVERS**

The College of Business & Economics is committed toward building your successful future.

Make your mark here.



STUDENT STORIES



JOHN PAUL CORTEZ, '22
MS INFORMATION SYSTEMS

EMILY LEE, '22
BS MANAGEMENT

MICHAEL MARTINEZ, '21
BS FINANCE, LAW, & REAL ESTATE



The College of Business & Economics hosts a variety of events each semester, including networking nights, workshops, luncheons and more.

[VIEW UPCOMING EVENTS](#)

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8 - College of Business and Economics Home Page



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CAL STATE LA

ABOUT PROGRAMS PROSPECTIVE STUDENTS CURRENT STUDENTS FACULTY & STAFF ALUMNI & PARTNERS

69
courses offered

20+
faculty members

2
upcoming events

FEATURED PROGRAMS

Since most business decisions are data-driven and security in the IS field became mature, we divided our program into two tracks: Cybersecurity and Data Analytics.

Cybersecurity **Data Analytics**

The IS department has adopted to create a new track called Cybersecurity to reflect more closely what courses it offers.

[LEARN MORE](#)

SPOTLIGHT

STUDENT

SHRIYA LUHAR, '22
MS INFORMATION SYSTEMS

FACULTY

STEVE MUNOZ
ASSISTANT PROFESSOR

ALUMNI

TIM CHANG, '18
BS INFORMATION SYSTEMS

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10 - IS Department Home Page (with cybersecurity tab selected as default settings)

CAL STATE LA

- ABOUT
- PROGRAMS
- PROSPECTIVE STUDENTS
- CURRENT STUDENTS
- FACULTY & STAFF
- ALUMNI & PARTNERS

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SPOTLIGHT

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11 - IS Department Home Page (with data analytics tab selected)

CAL STATE LA

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SPOTLIGHT

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12 - IS Department Home Page (with data analytics tab selected)

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FACULTY



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Lecturer

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The screenshot shows the homepage of the Cal State LA Information Systems website. At the top, there's a navigation bar with links for About, Programs, Prospective Students, Current Students, Faculty & Staff, and Alumni & Partners. Below the navigation is a grid of links: Mission, Cybersecurity, Undergraduate Programs, Advisement, Profiles, Values, Data Analytics, Graduate Programs, Scholarships, Connectpals, Certificates, Student Clubs, Give, and Connectpals. The main content area features a large photo of a diverse group of students and faculty. Overlaid on the photo are three yellow boxes containing statistics: "69 courses offered", "20+ faculty members", and "2 upcoming events".

FEATURED PROGRAMS

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Cybersecurity

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SPOTLIGHT

STUDENT



SHRIYA LUHAR, '22
MS INFORMATION SYSTEMS

FACULTY



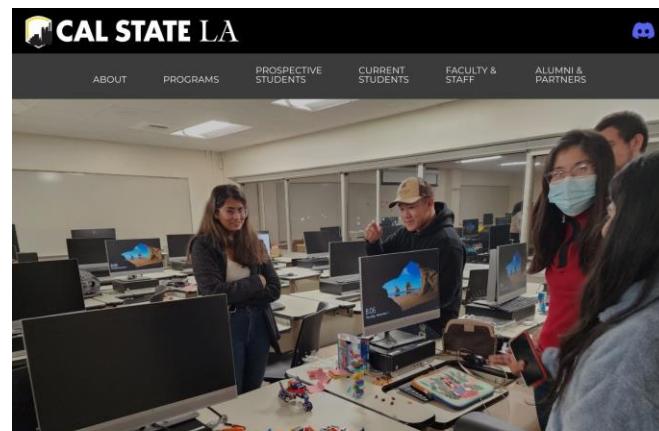
STEVE MUNOZ
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ALUMNI



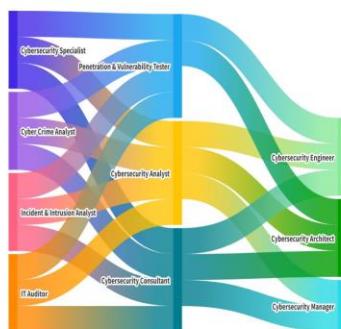
TIM CHANG, '18
BS INFORMATION SYSTEMS

14 - IS Department Home Page with Dropdown Menu



WELCOME

As a reflection of our excellence, our program is designated as a CAE in Cyber Defense Education (CAE-CD) through 2028.

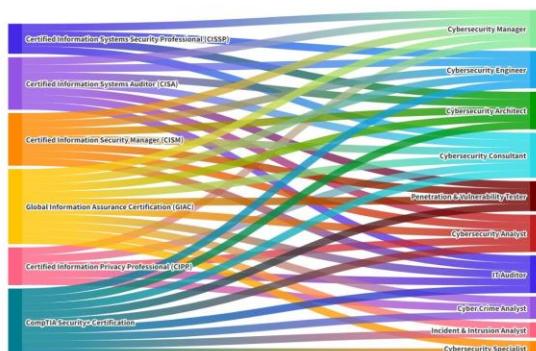


EXPLORE CAREER PATHWAY

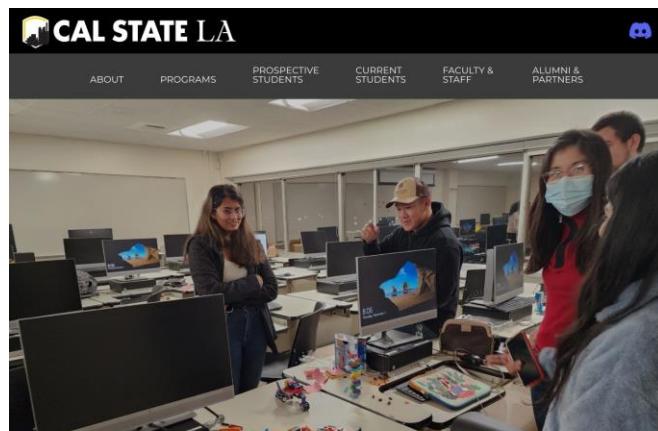
This tool shows key jobs within cybersecurity and common transition opportunities between them.

JOB AND CERTIFICATION

See how a certification and job title relates to each other.



15 - Cybersecurity Program Page (with undergraduate tab selected as default settings)



WELCOME

Our program is designated as a CAE in Cyber Defense Education (CAE-CD) through 2028. As a **stem-designated** program, we combine cybersecurity principles with relevant statistical and programming techniques.



Undergraduate



[Click here to view full track](#)

Graduate

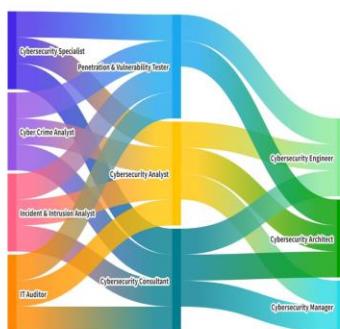
Featured courses:

- Data Protection >
- Compliance & Legal >
- Pen Testing & Vulnerability >

[SEE MORE COURSES](#)

The following roadmap serves as an example. Students should consult with their advisor for their degree plans.

[Sample Roadmap](#)

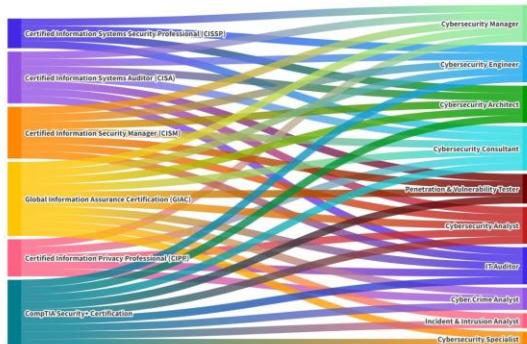


EXPLORE CAREER PATHWAY

This tool shows key jobs within cybersecurity and common transition opportunities between them.

JOB AND CERTIFICATION

See how a certification and job title relates to each other.



16 - Cybersecurity Program Page (with graduate tab selected)

CIS: CYBERSECURITY TRACK

REQUIREMENTS FOR THE DEGREE:
60 TOTAL UNITS OF UPPER DIVISION COURSES.

STEP 2
Take required
courses (15 units).

STEP 4
Take (3)
capstone units.

STEP 1
Must complete
CIS 3010 with
a "B" or higher.

STEP 3
Choose your
electives (18
units)
concurrently with
your required
courses.



CORE
(27 UNITS)

- **BUS 3050** - Business Communications
- **ECON 3060** - Statistics for Business Analysis and Decision Making
- **MGMT 3080** - Business Responsibilities in Society
- **CIS 3010** - Management Information Systems
- **CIS 3050** - Database Design and Development
- **CIS 3060** - Systems Analysis and Design
- **CIS 4100** - Hardware and Software Architecture
- **CIS 4840** - Communications Systems
- **CIS 4900** - Capstone: Information Systems



REQUIRED
(15 UNITS)

- **CIS 4370** - Security Risk Management and Internal Controls
- **CIS 4380** - Computer Forensics and Investigations
- **CIS 4730** - Network Security Essentials and Practice
- **CIS 4880** - Information Security
- **CIS 3850** - Systems and Network Administration



ELECTIVE
(18 UNITS)

- Ethical Hacking
- Intrusion Detection Systems
- Web Application Security
- Cryptography
- Emerging Issues in Information Security and Assurance
- Information Security for FinTech

CIS: CYBERSECURITY TRACK

REQUIREMENTS FOR THE DEGREE:
30 TOTAL UNITS OF 5000-LEVEL COURSES.

STEP 2
Take required
courses (6 units).

STEP 4
Take (3)
capstone units.

STEP 1
Must complete
CIS 5040 with
a "B" or higher.

STEP 3
Choose your
electives (15
units)
concurrently with
your required
courses.



CORE
(9 UNITS)

- CIS 5040 – Information Systems
- CIS 5850 – Communication and Information Services
- CIS 5900 - Capstone: Information Systems



REQUIRED
(6 UNITS)

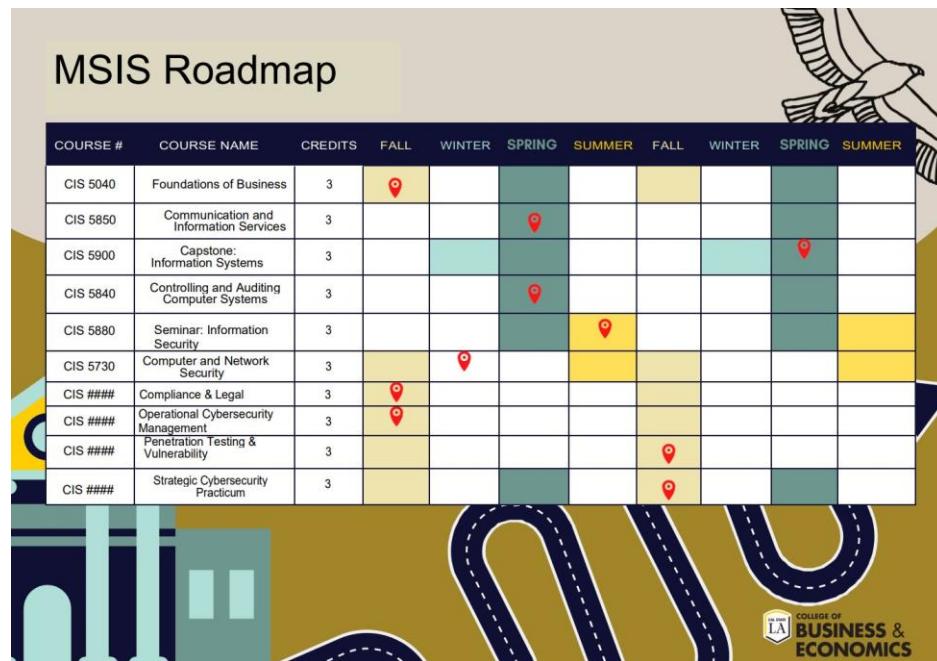
- CIS 5840 – Controlling and Auditing Computer Systems
- CIS 5880 – Seminar: Information Security



ELECTIVE
(15 UNITS)

- Data Protection
- Compliance & Legal
- Operational Cybersecurity Management
- Penetration Testing & Vulnerability
- Network Security
- Strategic Cybersecurity Practicum

18 - Graduate Program Roadmap



19 - Graduate Program Course Selection Guide

The screenshot shows the homepage of the Cal State LA website. The top navigation bar includes links for ABOUT, PROGRAMS, PROSPECTIVE STUDENTS, CURRENT STUDENTS, FACULTY & STAFF, and ALUMNI & PARTNERS. A large yellow 'WELCOME!' banner features four female portraits and the text 'GIRLS IN TECH CSULA'. Below this is a yellow 'LEARN MORE' button. At the bottom, there is contact information: '5151 State University Drive, Los Angeles, CA 90032' and a phone number '(323) 343-3901'.

20 - Student Clubs page (focus on Girls in Tech)



Welcome to Girls in Tech CSULA



We're here for you—literally. Come to our events and make a new friends, find your next job (or hire), and give and receive support. Join us in our mission to build a diverse and inclusive tech workforce, and grow in your career too.

EDUCATION COMMUNITY EXPERIENCES

Tech Need Us

And we need each other. We're a group of people in Cal State LA - from newbies to experts - who are committed to supporting women in tech right here where we live.



[JOIN NOW!](#)

Reasons to Join



Support
Connect with others who encourage and help you to become your best self



Tools
Excel through constant learning from our carefully crafted workshops, conferences and training



Mentoring
Learned from experienced members who share what they've learned along the way



[WATCH 2022 CONFERENCE CLIP](#)



[LISTEN TO PODCASTS](#)



[VIEW JOB POSTINGS](#)

[Learn More](#)

"

No matter who you are or how you are, what you believe, or what phase of life you're in, tech needs you.
And we welcome you.

[←](#) **About Girls in Tech CSULA**



It can feel lonely to be a woman in tech. We started this student club with the vision of creating a community of like-minded women who could support and encourage one another right here in Cal State LA

Plus, we are part of a larger community of more than 70,000 people around the world. So, when you join our chapter, you get the best of both.

Imagine interacting with people from different backgrounds who share your desire to see tech evolve — and also participating in a workshop with people you can meet for lunch. That's what we provide through our local chapter of Girls in Tech.

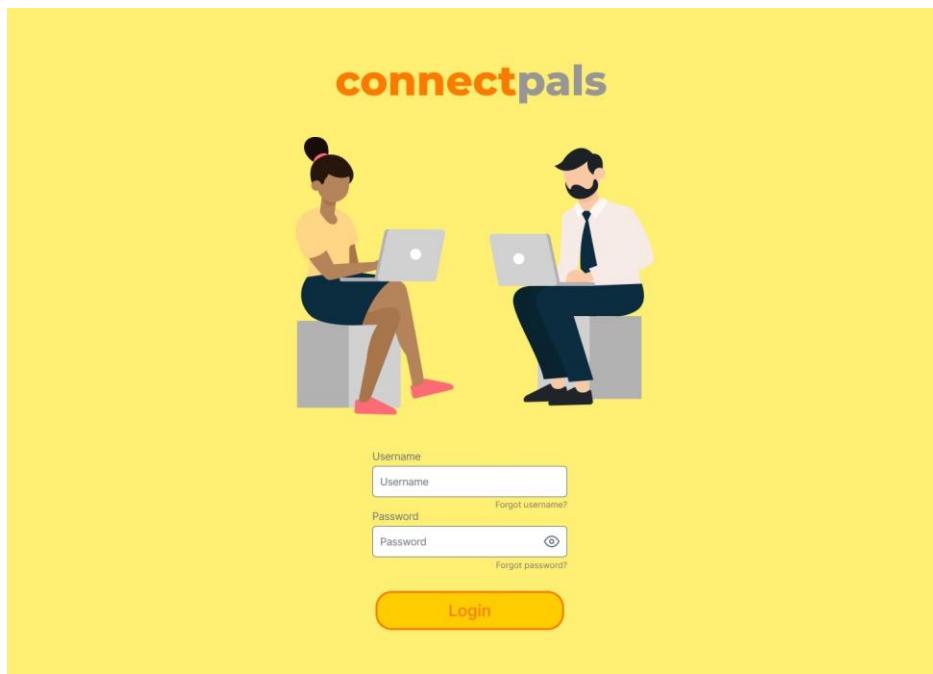
Our Accomplishments

4K+
entrepreneurs funded,
mentored and supported
through AMPLIFY

49K
participants in our
Hackathon series, solving
local and global problems

75K
participants in our coding,
design and startup
Bootcamps

5151 State University Drive, Los Angeles, CA 90032 📞 (323) 343-3901



23 - Login to connectpals (alumni networking portal)

A screenshot of the connectpals Communities page. The background is yellow. At the top left is the 'connectpals' logo. To its right is a navigation menu with icons and text: Home, Events, Communities (which is highlighted in red), Explore, and Messages. The main content area features a group photo of six diverse individuals. Below the photo are two community icons: 'Data Analytics' (with a green leaf icon) and 'CyberSecurity' (with a green circular icon). An orange 'Join' button is centered between the icons. To the right of the main content is a sidebar titled 'Recommended Alumni' with four profiles: Janice Blair, Kristine Lin, Khaled Salah, and Javier Gomez, each with a small profile picture and name.

24 - Communities Page for connectpals

The screenshot shows a social media-style interface for a 'Cybersecurity' community on connectpals. The left sidebar includes links for Home, Events, Communities (highlighted), Explore, and Messages. The main content area features a banner with the word 'Cybersecurity' and various icons. Below the banner is a post from 'Shannon Parson' sharing a link to 'CISSP Certification Training'. The post has options to Like, Comment, or Repost. To the right, there's a sidebar titled 'Community Members' listing Janice Blair, Kristine Lin, Khaled Salah, and Javier Gomez, each with a small profile picture.

25 - Cybersecurity community on connectpals

The screenshot shows the 'Events' page on connectpals. The left sidebar has links for Home, Events (highlighted), Communities, Explore, and Messages. The main content area features an event titled 'CTF Competition' hosted by 'CSULA Cybersecurity Club' on 'January 29' at '8PM PST'. It describes the competition as a networking and collaborative event where contestants solve security-related tasks. A message at the bottom encourages participants to look forward to the event. To the right, there's a sidebar titled 'Attendees' listing Kristine Lin, Khaled Salah, and Javier Gomez.

26 - Events page for connectpals

connectpals

Home Events Communities Explore Messages

Janice Blair

Shannon Parson posted 8 hr

FREE YOUTUBE VIDEOS ON ETHICAL HACKING!

ETHICAL HACKING IN 12 HOURS FULL COURSE

Like Comment Repost

Rafael Jordan posted 9 hr

I am giving away 100 free Linux courses.

CODE: FREECYBER

FREE LINUX COURSE

Like Comment Repost

Dawn Ortiz posted 1 day

"Advanced-SQL-Injection-Cheatsheet: A cheat sheet that contains advanced queries for SQL Injection of all types."

kleiton0x00/Advanced-SQL-Injection-...

A cheat sheet that contains advanced queries for SQL Injection of all types.

1 Contributor 0 Issues 1k Stars 404 Forks

Like Comment Repost

connectpals

Explore

Tory Thant
Cyber Security Analyst @ Google
California State University, Los Angeles
CONNECT

Douglas Owen
Network Security Analyst @ Boeing
California State University, Los Angeles
CONNECT

Janice Blair

USC Alumni

Cassandra Evans
Cyber Security Intern @ Netflix
University of Southern California
CONNECT

Chad Waters
Network Engineer @ Lockheed Martin
University of Southern California
CONNECT

UCLA Alumni

Joshua Banks
Chief Information Officer @ Apple
University of California, Los Angeles
CONNECT

Anita Murphy
Information Security Officer @ Meta
University of California, Los Angeles
CONNECT

28 - Explore Page for connectpals

connectpals

Messages

To: Type the name of a person or group

Recent

- Kristine Lin
- Khaled Salah
- Javier Gomez

Type a message. @name

29 - Messages Page for connectpals

Click to view our [prototype](#)

Validate

We sought feedback from current students and alumni to determine how well our prototype satisfied students' unmet needs. We only discussed our low-fidelity prototype with Dr. Aryal and later sought design approval of our high-fidelity prototype from users.

From the feedback we received for our high-fidelity prototype, we successfully addressed the areas of improvement identified earlier in our design thinking process. We created a more engaging website that provides networking opportunities and resources for students. Additionally, we sought feedback from professional web developers to improve our web application prototype. We attached snippets of their comments below.

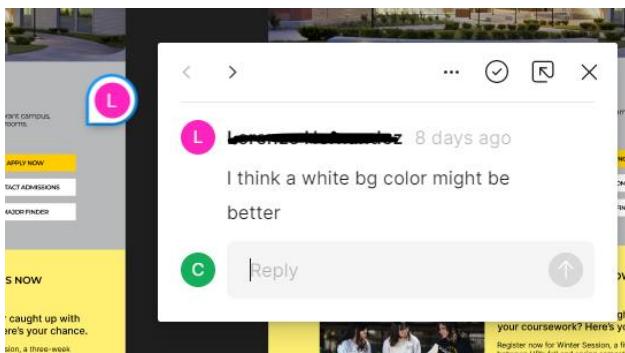
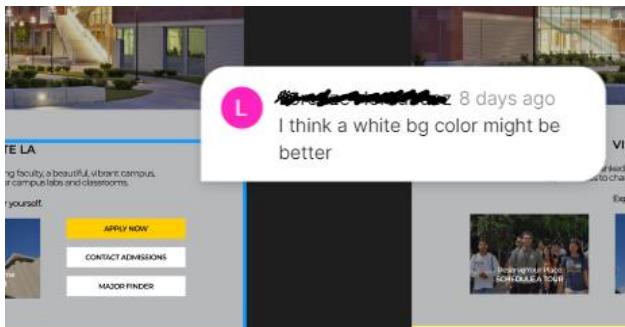
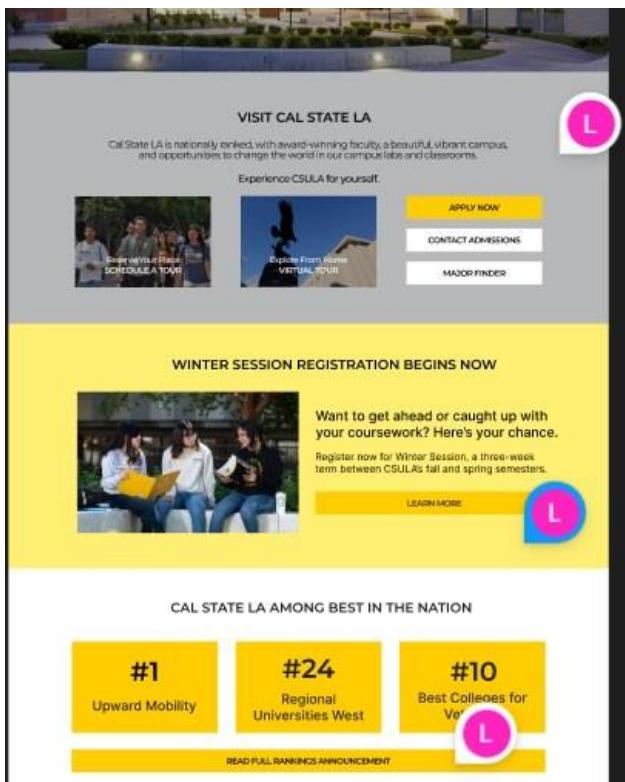
[REDACTED] Hernandez 8 days ago
a bit too large. almost all elements on this page have no border radius, so i'd keep that consistent across

[REDACTED] Hernandez 8 days ago
too yellow for me haha

[REDACTED] Hernandez 8 days ago
hard to tell this is a cta

[REDACTED] Hernandez 8 days ago
not feeling this color and needing more contrast between button and bg color

Below we show that users can embed comments in our prototype. We can also respond to their comments. As mentioned previously, this feature facilitates collaboration with users; we can seek and clarify user feedback to ensure their requirements are met.



Reflection

Conducting each phase of the design thinking process challenged us to think differently than what we were accustomed to. For example, most of us had never brainstormed ideas so freely within a short period of time; we realized that we built a habit of analyzing the feasibility of our proposed solutions. While this

might be result in a viable product, it also hinders our ability to brainstorm unique, unexplored ideas that are innovative and lead to a viable product desired by users.

Another challenge we faced was the lack of diversity among group members. We shared similar ideas and hardly provided constructive feedback to other ideas. As a result, this also limited the ingenuity of our prototype. Furthermore, with a relatively large group, we struggled to coordinate team meetings and receive fair contributions from all members. Nonetheless, we tried to overcome these obstacles by messaging one another through Microsoft Teams and WhatsApp.