HCI HW-3
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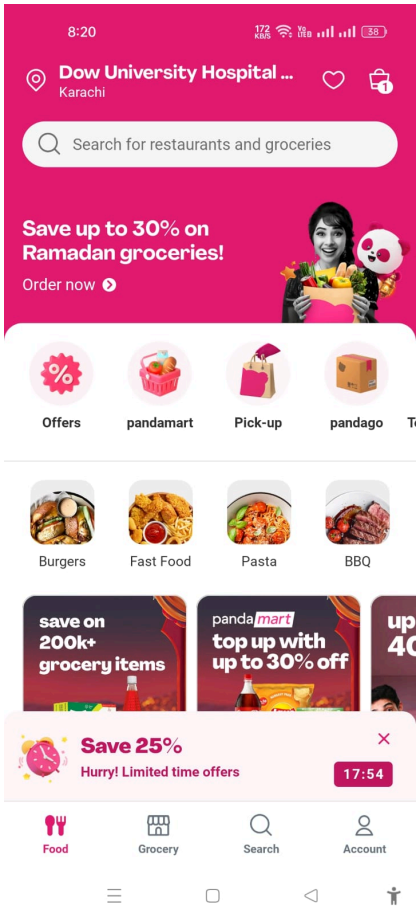
Part 1)



I have chosen the foodpanda app for this task because during Iftar time in my area there is gas load shedding which makes it difficult for my mother to prepare Iftar for us. Hence we rely on foodpanda to order food but I have faced some usability issues while using the app. **One main gulf of execution I face almost daily is the difficulty in navigating to the live support Chat option**. Whenever I need help such as changing an order or asking about a delay which occurs randomly then I have to go through 2-3 options just to find the chat feature. For the first time I found this feature by clicking on these 2-3 options on my own then I came to know that this

feature even exists. This makes it frustrating everytime when I need quick help or have a query regarding the order. A better design would be to place a direct chat button on the order tracking page or in the main menu for easy access. A user-friendly and more intuitive design would be to place a direct “Live Chat” button on the order tracking page so users can contact support instantly without searching through multiple menus. Also the app could include a floating chat icon on the home and order pages, the same like whatsapp’s chat feature which helps to have quick access to support at any time.

Another issue I have faced is a **Gulf of Evaluation regarding out-of-stock items**. Sometimes when I am ordering food and the dish which I frequently order is missing, I keep on scrolling through the whole menu and then in the end I realize that today this restaurant isn't serving this dish, So this also causes frustration especially when i am short on time. Better design idea would be to keep everything on the menu and if any item isn't available today then they should highlight it like give it a faded/shadow effect rather than discarding that whole dish and then due to which the user has to keep checking if he/she missed it.

Part 2)

Task 1: Viewing the course syllabus for weightages etc on canvas

Interaction Styles Used:

Instructing: I (user) issue direct commands by clicking on the courses option, selecting the course and then clicking on course syllabus from the left menu. This follows a proper step-by-step process where the system responds to user input.

Exploring: I (user) navigates through the interface by scanning different sections in the left-side menu to locate the course syllabus. This involves searching for relevant information without direct guidance from the system.

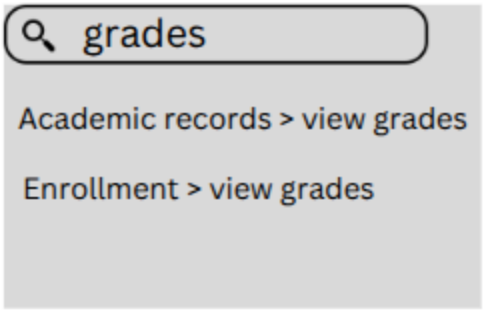
Task 2: viewing my grades on PSCS

Interaction styles used:

Instructing: I (user) am making direct commands by clicking on available options, because first I click on Academic Records to see grade related information then i click on view grades option which appears on left, for seeing grades specifically. This is a proper example of instructing as we are following a step by step process where the system is acting according to the user input.

Exploring: I (user) am navigating through the PSCS and searching for the correct path to view my grades. First I found the academic records option among multiple tiles on the homepage. After clicking on it a new page loads where I need to see the left column to find and select the view grades option. Since there are multiple menu options available I should carefully explore the interface to ensure I reach the correct section. This is a proper example of exploring, as I am not directly issuing commands but rather looking for the right path to complete my task.

Alternate interaction style for this: to improve the pscs experience would be by adding a search bar that allows users to quickly find what they need instead of manually navigating through multiple menus. As of now we students have to click on Academic Records, wait for the page to load and then find and click on View Grades from the left side menu. This process can be time-consuming especially for new users who are unfamiliar with the system. If we have a search bar at top of the UI of pscs, then users could simply type keywords like "grades" or "view grades," and the system would instantly detect the keyword and display relevant options, such as "View Grades," "Grade History," or other available options matching the keyword, once the user selects the correct option they would be taken directly to the grades page without unnecessary clicks.

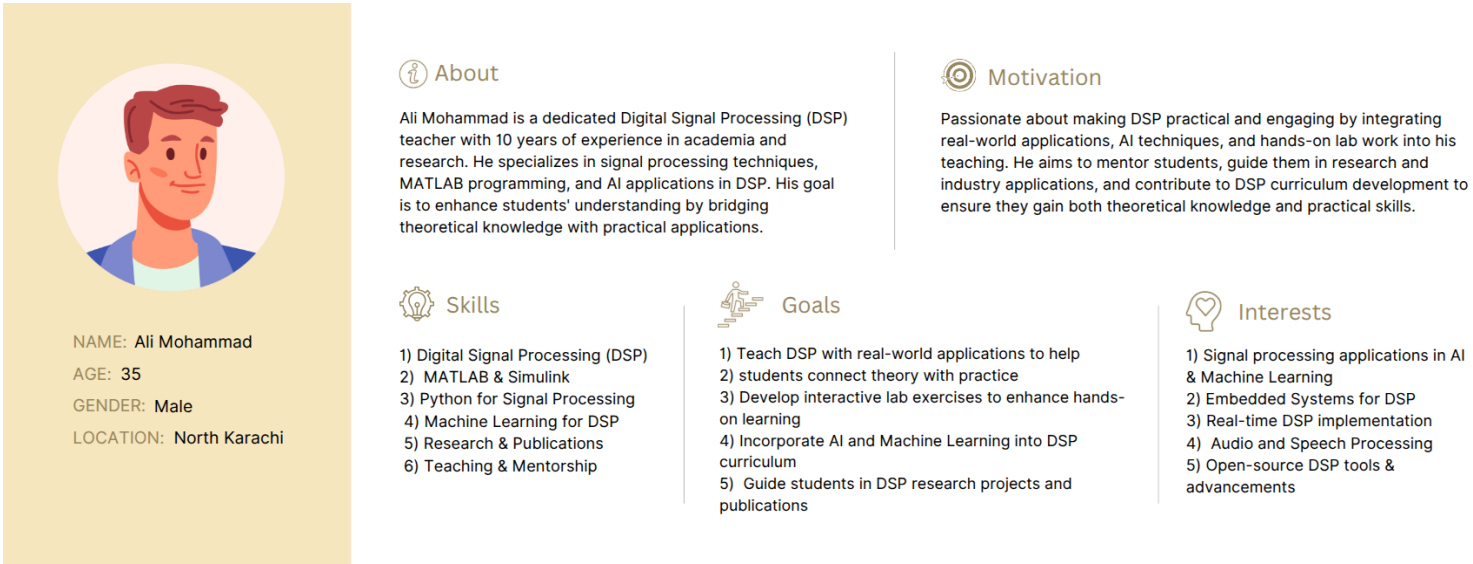


Trying to show that how that search bar would work

This above-mentioned alternate design would significantly improve the user experience by saving time and making navigation more easy and intuitive. Instead of clicking through multiple menus users could go directly to their desired page with just typing the keyword. This would also help new users as they do not know where to find their grades by providing instant suggestions instead of forcing them to explore different sections manually. Also we can realize that a search based system is a common and familiar interaction style used in almost every app that exists today because it makes it easier for students/users to get their work done.

Part 3)

User persona (made on canva) :



Two proposed interventions:

1) **Video Introduction:** One good way to introduce him to the HR team is through an interactive video introduction. This short 2-3 minute video would highlight his background, expertise in Digital Signal Processing (DSP), teaching and research interests. The video would be structured to include his career journey, passion for DSP, and how he plans to contribute to Habib University.

2) **Online web portfolio with QR Code:** Another modern approach which is used alot in recent times is to create an interactive digital profile that gives HR a comprehensive overview of his expertise. This profile would include a career timeline, video snippets of his lectures, a section for research projects, and testimonials from students or colleagues. To make access easier a QR code could be generated and shared, allowing HR members to scan and instantly view his profile.

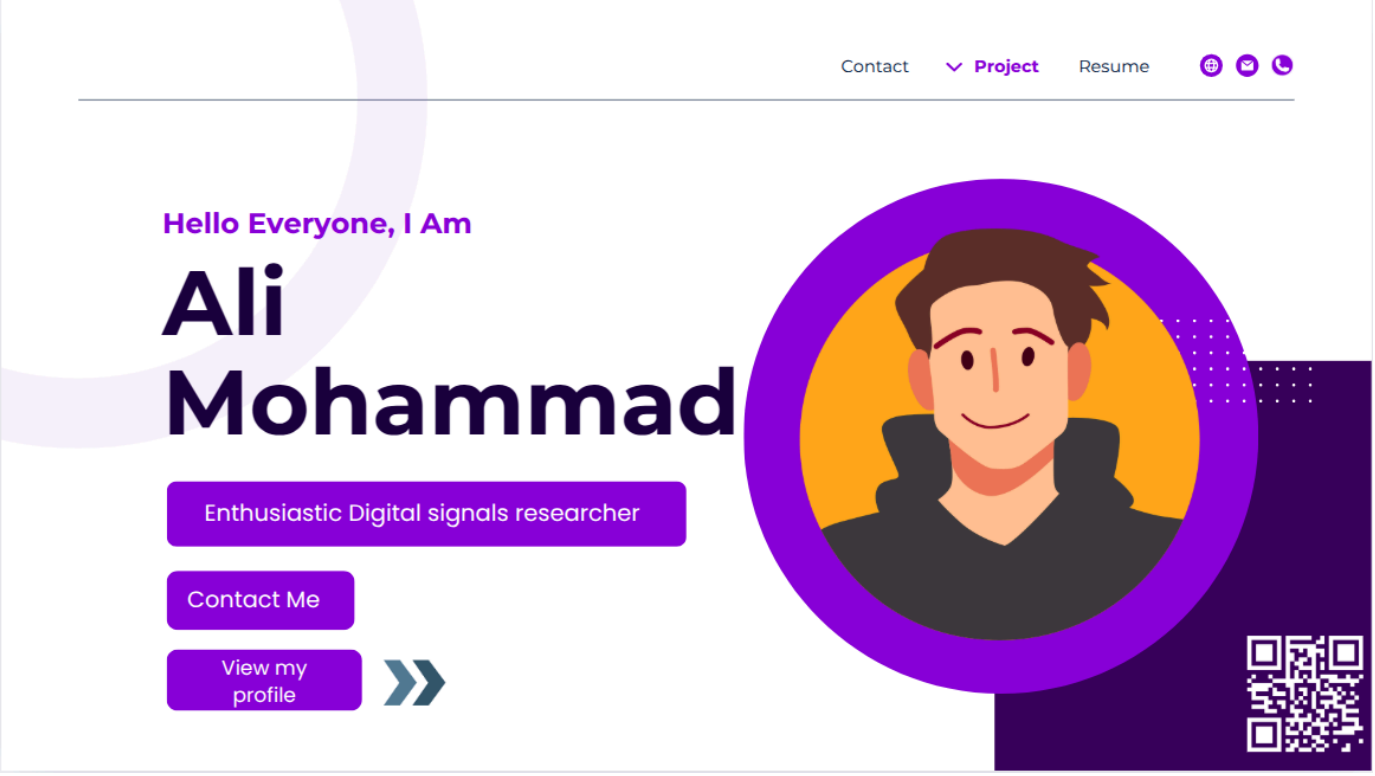
Out of the two proposed interventions the Interactive digital profile with QR Code is the best choice for prototyping because it is easier to create, more accessible, and provides detailed information in an engaging way. Unlike a video introduction, which requires scripting, recording, and editing, the digital profile can be quickly designed using Canva, Figma, or WordPress without any technical skills. It allows HR to explore Ali Mohammad's background, teaching philosophy, and research work at their own pace. Additionally, the QR code feature makes it easy to share, so HR can instantly access his profile on any device. This method is also flexible and easy to update, ensuring that any new achievements or changes can be added without re-recording or editing a video. Since the goal is to introduce Ali Mohammad efficiently, the interactive digital profile provides a professional and detailed introduction in a simple, visually appealing format, making it the best option for prototyping.

Online web portfolio prototype made on **canva**:

The first page would be as a welcome screen displaying his name, a brief introduction and buttons such as “View My Profile” and “Contact Me.” A QR code is also attached which would allow HR members to scan and instantly access the portfolio on their devices. By clicking on the "View My Profile" button or using the arrows beside it HR will be directed to the next page where detailed sections about his projects, research, teaching, and work experience will be displayed. Each section is designed as a clickable button so that users can interactively see his achievements. This portfolio would be available as online link which HR can access anytime and from any device.

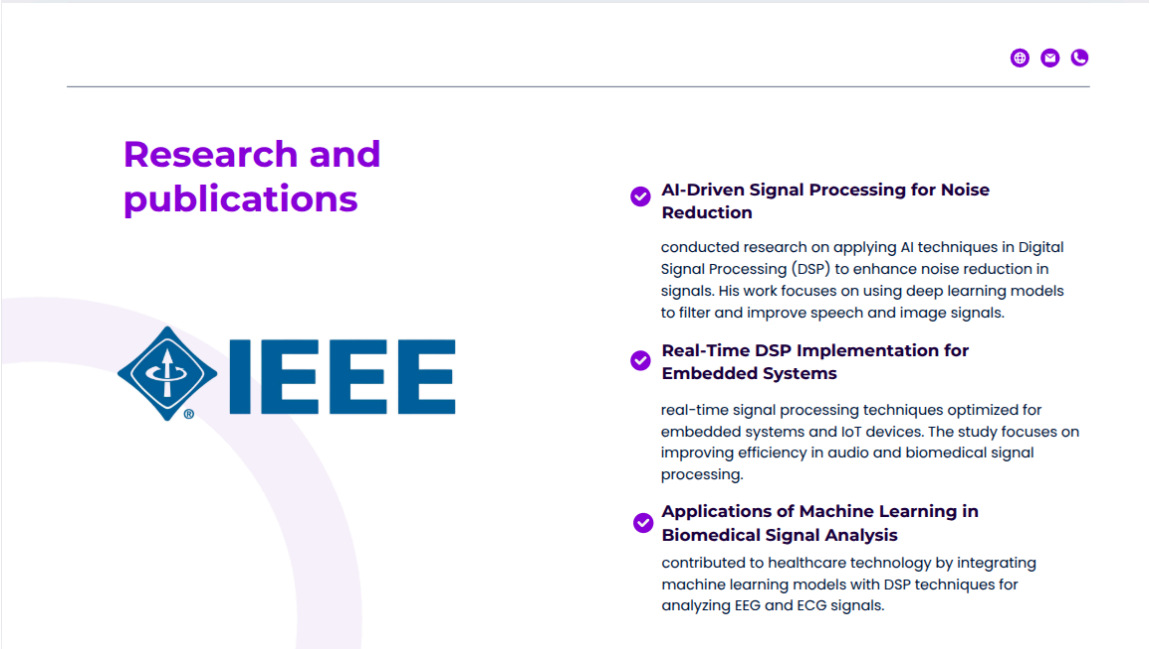
This is possible HR journey through the portfolio:
QR Code / online Link → welcome Page (ali mohammad’s name, intro, and buttons)→ Clicked "View My Profile" → go to detailed sections (research, teaching, Work Experience, Projects) →clicks on a specific section (e.g., "research and publications") → view detailed content →clicks "Contact Me" (if Hr is interested)

Page 1)



Page 2)

Page 3 (inside this the topics being shown on right side are also clickable buttons which would guide users to respective links, for example in this it would guide to the research paper on IEEE xplore website)



Page 4)

Projects and innovations

AI-Based Noise Reduction for Speech Signals

Developed an AI-powered real-time noise reduction system for speech signals. The project involved designing a deep learning model that filters out unwanted noise while preserving speech clarity, improving applications like voice assistants, hearing aids, and telecommunications.

Embedded DSP System for Biomedical Signal Processing

Built a real-time biomedical signal processing system for analyzing EEG and ECG signals. The system was designed for low-power wearable health monitoring devices, detecting anomalies in heart and brain activity.

Smart Audio Equalizer using Digital Filters

Designed a smart audio equalizer that automatically adjusts frequency response based on ambient noise and user preferences. This system improves sound quality in headphones, home theaters, and car audio systems.

Page 5)

Teaching & mentorship

Digital Signal Processing Instructor

been a DSP faculty member, teaching undergraduate and graduate courses on signal processing my teaching style focuses on interactive learning, real-world applications, and hands-on MATLAB-based labs.

- Institutions: FAST-NUCES, Stanford University (Guest Lecturer)

Student Research Mentorship

As a faculty mentor, Ali Mohammad has guided undergraduate and master's students in research projects related to AI in DSP, biomedical signal analysis, and audio signal processing. Supervised 6+ research projects in DSP and AI

Industry & Academic Collaborations

worked on collaborative DSP research with universities and industry partners to develop innovative signal processing techniques for real-world applications.