20CYS202 - User Interface Design
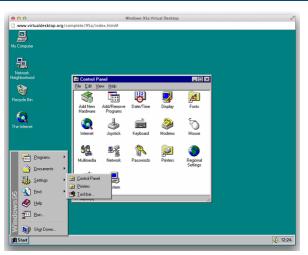
Ramaguru Radhakrishnan
Assistant Professor

CO1 - Understand the basics of World Wide Web
Unit - 1 / Lecture - 1 / Class - 1 to 3

September 19, 2022

Figure: Windows 11 - Command Line Interface

Figure: Windows 1.0 (1985)

Figure: Mac OS System 7 (1991)

Figure: Windows 95

Figure: Mac OS 8.6 (1999)
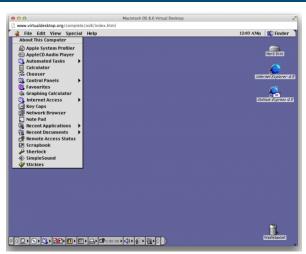
Most commonly User Interfaces today can be classified as

- Graphical user interfaces (GUIs)
- Voice-controlled interfaces (VUIs)
- Gesture-based interfaces

Figure: Amazon Alexa - VUI

Figure: Oculus Touch - Gesture

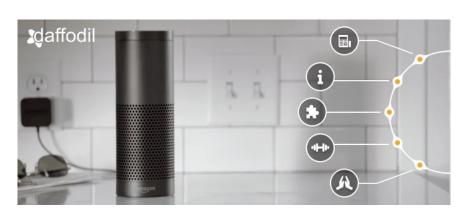UI design is an iterative process involving close liaisons between users and designers. The 3 core activities in this process are

- **User analysis:** Understand what the users will do with the system
- **System prototyping:** Develop a series of prototypes for experiment
- **Interface evaluation:** Experiment with these prototypes with users

- Limited Short-term Memory
- Individuals (users) make mistakes
- Every individual is different
- Individuals (users) have different interaction styles/preferences

- **User familiarity:** Use terms and concepts familiar to the user
- **Consistency:** Comparable operations should be activated in the same way. Commands and menus should have the same format, etc.
- **Minimal surprise:** If a command operates in a known way, the user should be able to predict the operation of comparable commands
- **Recoverability:** mechanisms that allow user to recover from errors
- **Feedback:** Provide the user with visual and auditory feedback, maintaining two-way communication
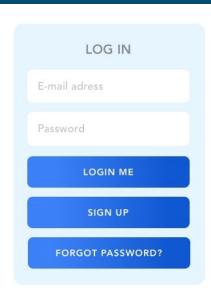- **Diversity:** appropriate facilities for different types of users

- Strive for consistency
- Enable frequent users to use shortcuts
- Offer informative feedback
- Design dialogue to yield closure
- Offer simple error handling
- Permit easy reversal of actions
- Support internal locus of control
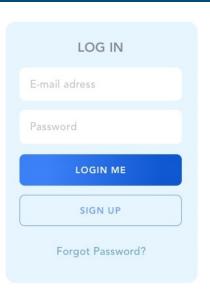- Reduce short-term memory load

- Direct manipulation
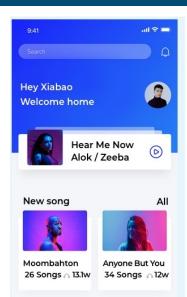- Menu selection
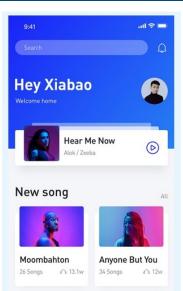- Form fill-in
- Command language
- Natural language

E-mail

me@domain.com
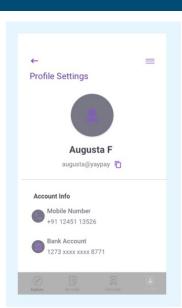
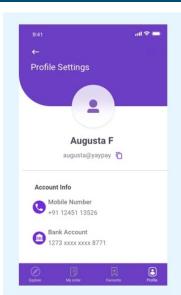Password

****

Error!

E-mail
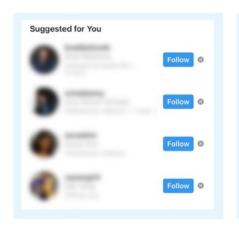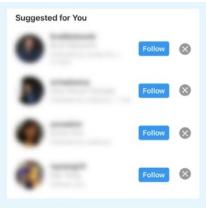
me@domain.com

Password

****

Password incorrect. If you don't remember your
password, reset it
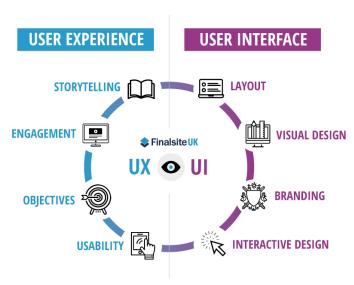
Thanks to multiple sources, authors and text book presentations.