Mobile Application Development
Week 4: App Design Principles

Discuss the Essential Design Principles
- What were the 11 core design principles discussed in this talk?
- What's an example in an app you use of each?

Essential Design Principles, Mike Stern, Apple Design Evangelism Manager, WWDC 2017 (59:55)
https://developer.apple.com/videos/play/wwdc2017/802/
Intro: what apps should provide
Core Design Principles (11)
- Wayfinding
    - Controls and visuals that help the user navigate quickly and successfully.
    - Users should know where they are, where they've been, and where they can go.
- Feedback
    - Brief indicators to tell the user how a process is progressing, if an action is successful or not, errors and required information.
    - Sound effects, message balloons, and animations allow users to see what they are doing and what they have done, and possibly what they should avoid in order to reach a desired outcome.
- Visibility
    - how discoverable the necessary controls and buttons are to the user
    - visibility helps guide interaction and give crucial information to the user on what can be used and for what purpose.
- Consistency
    - use UI and UX conventions that users are familiar with to reduce learning time and increase ease of use
        - UI widgets provided by Apple
        - Swipe to delete
    - Internal consistency within an app
- Mental model
    - Use models that users are already familiar with to make apps easier to figure out
    - Use associations and feedback that people are already familiar with for an app to be intuitive and easy to use.
        - Shopping cart
- Proximity
    - Controls and actions should be close to the region, content, or task that it affects
- Grouping
    - Cluster related controls with each other to establish different relevant actions that can be performed with them.
- Mapping
    - Design controls to resemble the objects and actions they affect.
- Affordances
    - The physical limits of what a user can do with an object/interface based on physical characteristics (shape, length, weight).
- Progressive Disclosure
    - Break up large tasks into smaller tasks to tackle one by one. Only make available the information and actions needed at that point.

- o 80/20 rule - 80% of the benefit comes from 20% of a controls' actions.
  - ▪ Reduce clutter and organize content by making the most commonly used functions more easily accessible, and then hide the other 80%.
  - o
- Symmetry
  - o visual and structural balance provides structure to information and helps to maintain symmetry

Much more detail provided in Apple's iOS Human Interface Guidelines
https://developer.apple.com/ios/human-interface-guidelines/

App ideas
What are some motivations behind building apps?
- New cutting-edge, creative idea
- Solve a problem better than current solutions
- Hired by a client

Common app types
- Productivity apps
  - – Use and manipulate information
  - – iWork
- Utility apps
  - – Perform a specific task
  - – Youtube, netflix
- Immersive apps
  - – Focused on delivering visually rich content
  - – games

Apps should have a well defined goal
Apps should have a well defined target user

App Design
What are we making?
- Define your app
- Features - all ideas
- User goals
- You are not the user, don't design for yourself
- The user is not everyone
- Create a few questions to ask potential users
- User characteristics = user goals
- Developer goals = app goals
- App goals describe qualities
- Feature list based on ideas and goals

Where do we start?
- Start by designing what you know

What's the right design?
- Develop multiple designs or layouts
- Critique/debate the different designs
- Create a workflow – a set of steps that completes a task
- Iterate

So that's a good look at the design process and we'll be using a very similar one this semester.

Discuss project 1