UI / UX

Section 2:

Designing for Touch

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BLUISH-GREEN PRODUCTIONS

MAKE GAMES | PLAY GAMES

Form Ever Follows Function

- UI must follow UX
- If you have an interface which is **easy to use**, but **looks terrible**, that’s *bad UI*
- If you have an interface which is **hard to use** but **looks great**, that’s *bad UX*

UI is important for user acquisition

UX is important for user retention

Hurdles in designing for Touch

Hurdle #1:

Screen “real estate”

Hurdle #2:

Lack of Precision

Screen Real Estate

- Space is valuable
- The user's fingers block the screen
- Buttons must be displayed on the screen
  - Take up space regardless of whether the user's fingers are over the screen

Precision

- Your fingers don’t come to a precise point (At least I hope not, because that would cause other problems)

Precision

- Touch-Screen devices typically suffer from significant input lag
- Gesture Controls can easily be interpreted incorrectly
- Games can do well on mobile despite not having precise controls

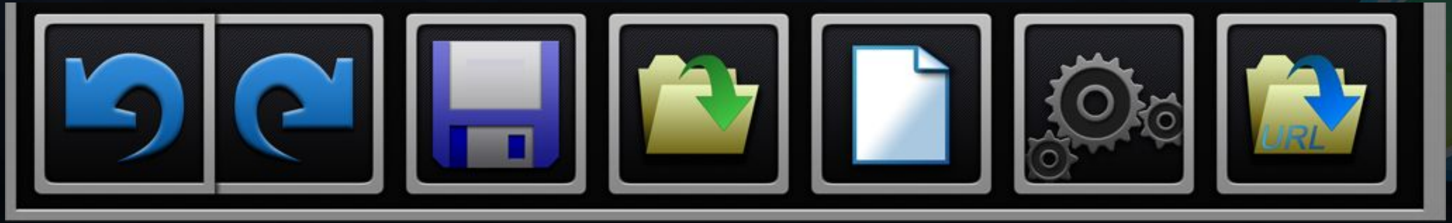
Spacing

Positive space

- *How big should this button be?*
- Apple recommends size dimension of 44 points (not pixels!)
- Text Size: 11 pt
- Make size proportional to use

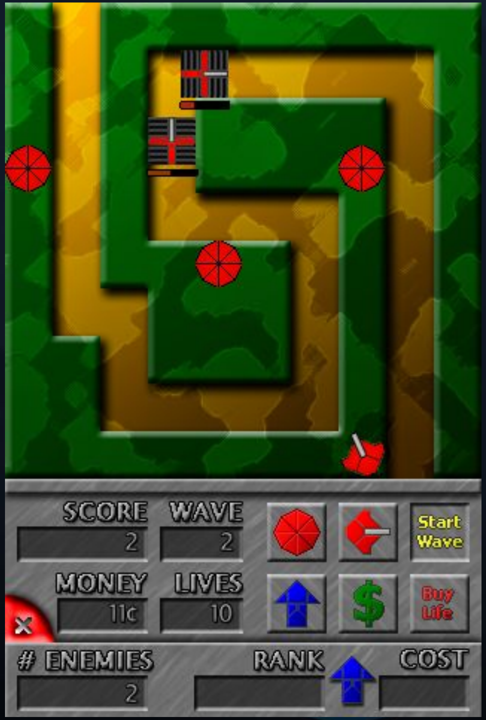
Negative space

- *How much space should there be between buttons?*
- Minimum recommended space between buttons; 8 points (unless you have really large buttons)
- Avoid having buttons "share an edge" even though it looks fancy (unless it's a D-Pad)



Buttons based on Context

- Consider; what buttons need to be on screen at any given time
    - Which ones can be made contextual?
- Don’t go overboard and hide useful functions



SCORE 2

WAVE 2

MONEY 11c

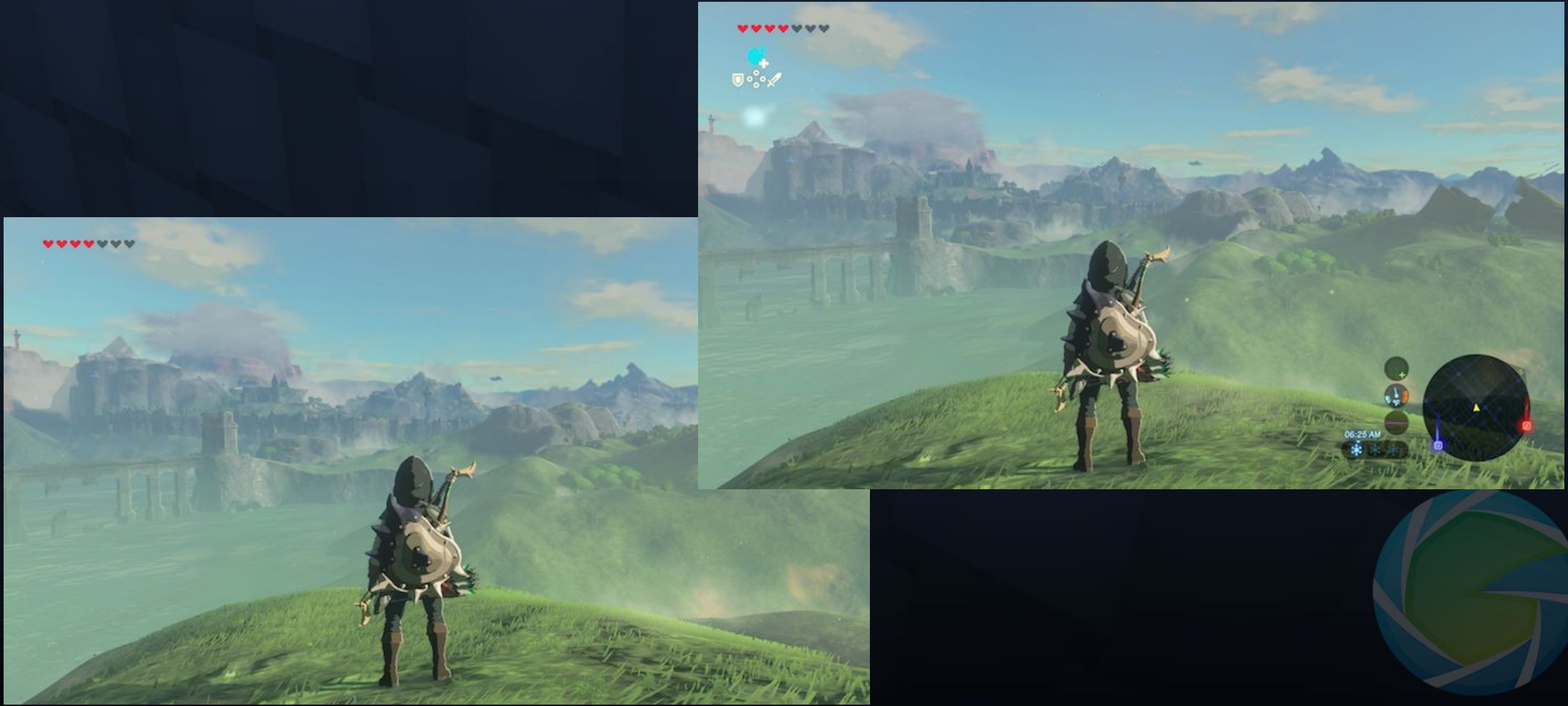
LIVES 10

ENEMIES 2

RANK

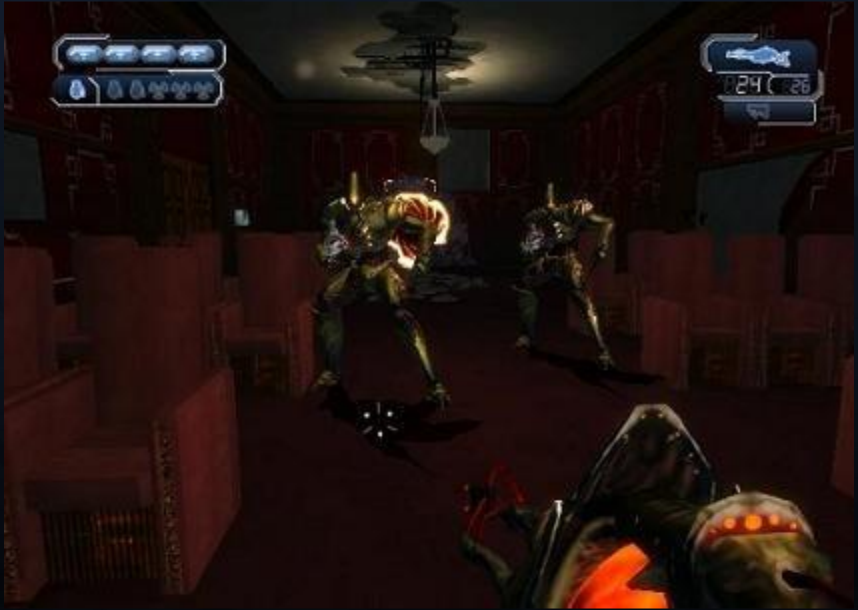
COST

“Pro” vs “Normal” HUD setting



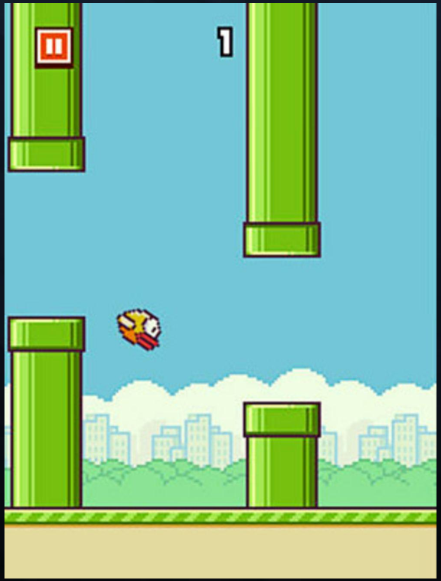
The Conduit

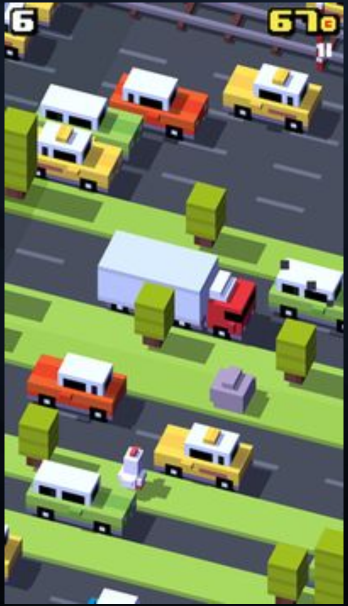
- Let players completely reposition and adjust opacity of HUD elements

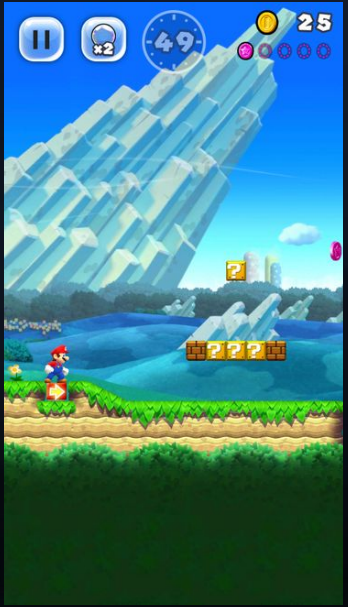


The Whole Screen is a Button

- If you only have a **single input**, consider the feasibility of making the **entire screen** a button

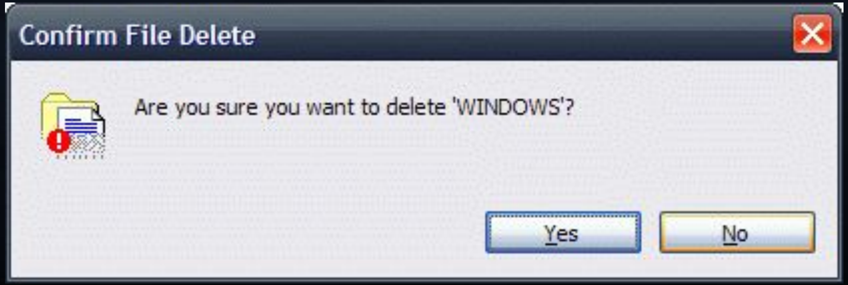






“Cursor Travel”

- How far does your finger need to “travel” on screen between consecutive inputs?
- In general, you want to keep this to a minimum
- UNLESS; You are opening a Confirmation Prompt



Confirm File Delete

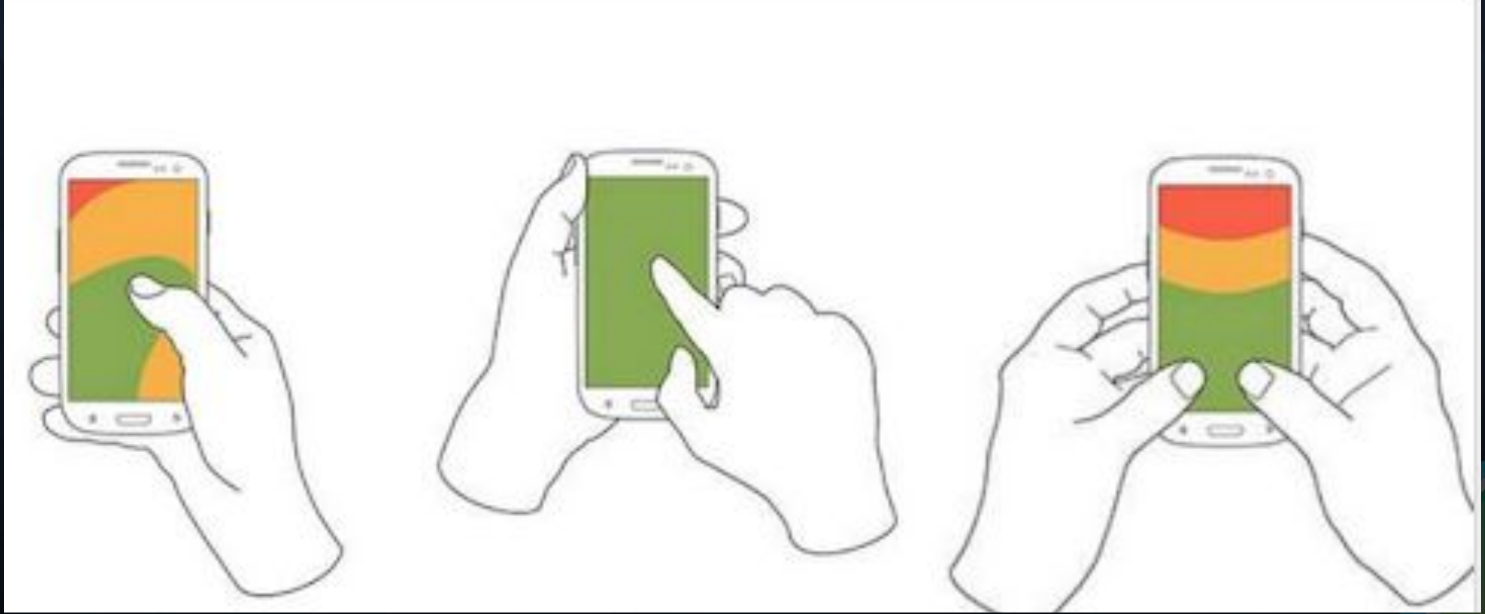
Are you sure you want to delete 'WINDOWS'?

Screen Orientation

Reachability

- That’s a 2-hand device for sure

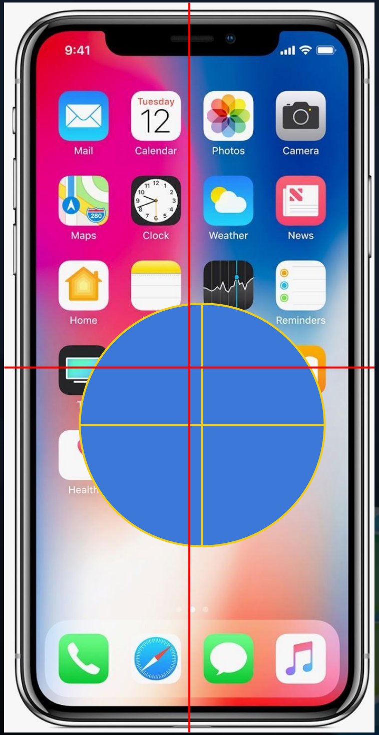
“Obsolete and Incorrect”



The “Circle of Comfort”

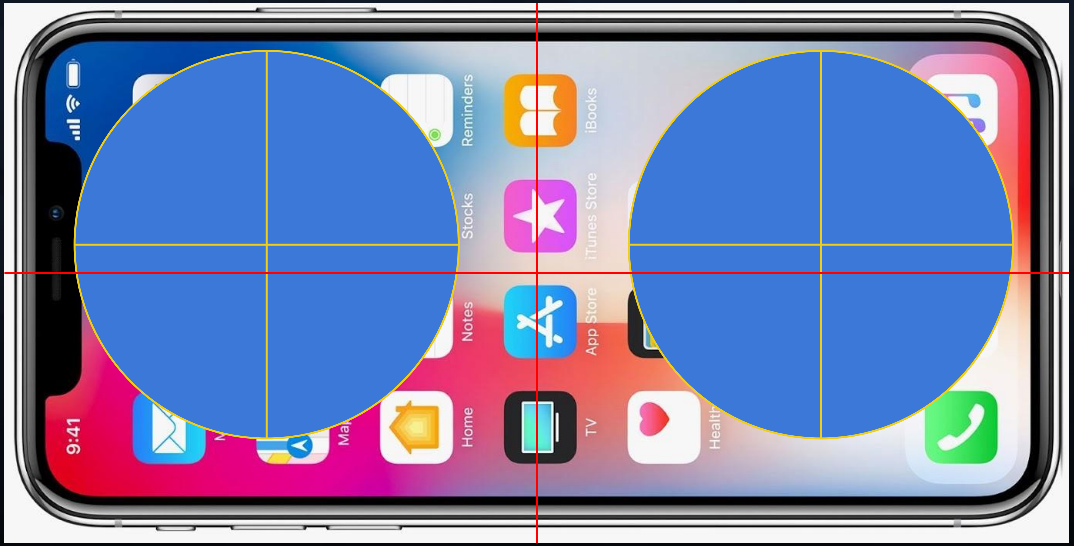
Zone of the phone’s screen where you can comfortably reach with your thumb *without* having to:

- Engage your other fingers to tilt the device
- Use your other hand to hold the phone
- Use the “Reachability” shortcut



Horizontal Orientation:

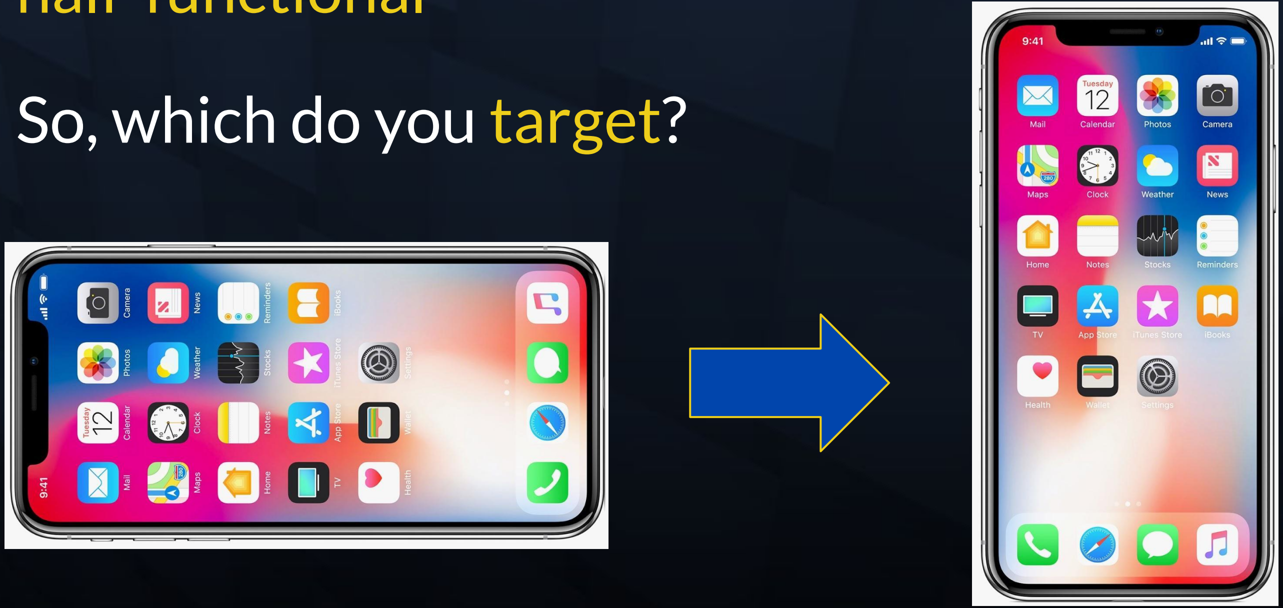
- Offset items from the edge of the screen
  - A phone case could make edges extra-difficult to reach



Swapping Orientation

- Better to do one right than to make two half-functional

- So, which do you target?

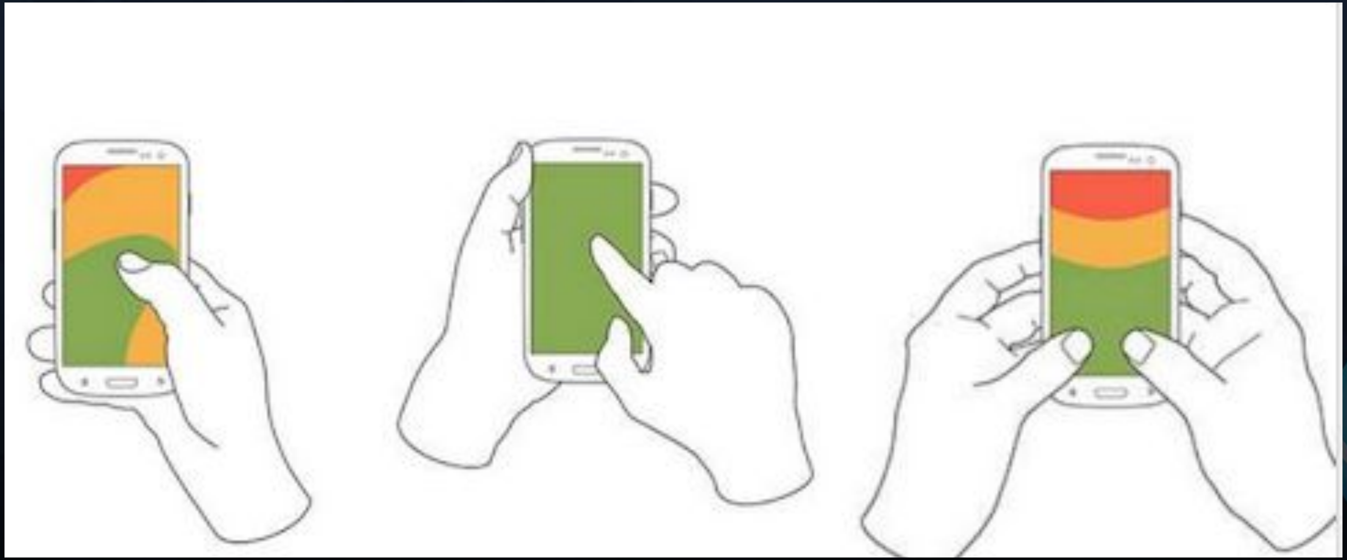


Vertical or Horizontal?

- *It’s contingent on the application*
- Build your interface to support the features YOUR application needs to make it comfortable for users.
- Try both orientations to see which works best

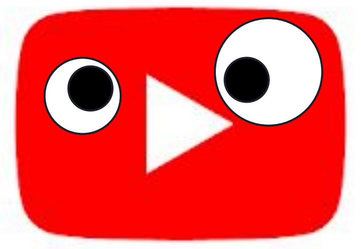
One “hold” fits all?

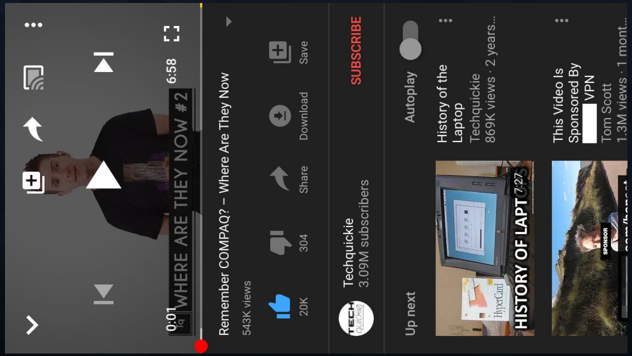
- If the design of the game necessitates it, users will naturally shift how they hold the device



HEY YOUTUBE;

- Want a good example of good UI / UX?
  - Avoid all the mistakes that YouTube makes.




Remember COMPAQ? – Where Are They Now
543K views
Techquickie
3.09M subscribers
History of the Laptop
Techquickie · 869K views · 2 years...
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Tom Scott
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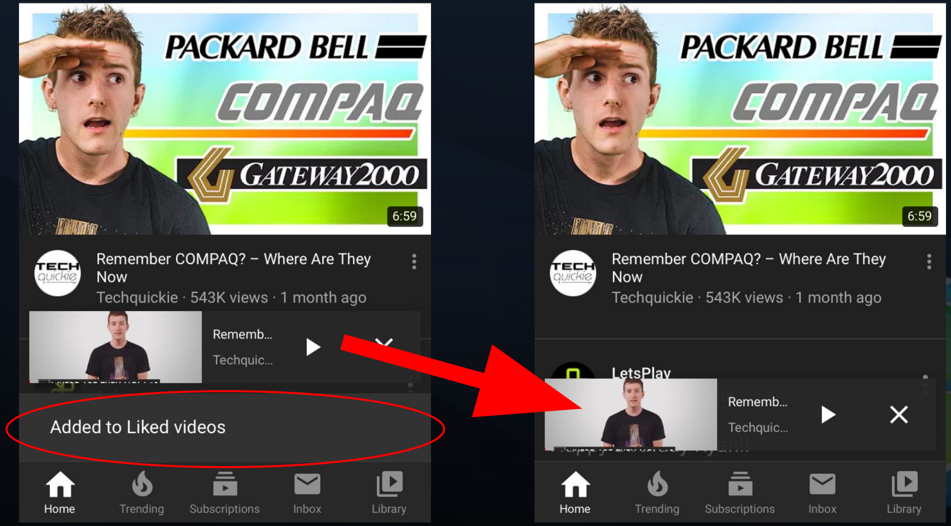
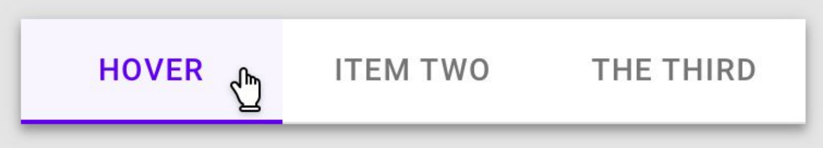

Remember COMPAQ? – Where Are They Now
Techquickie · 543K views · 1 month ago
Added to Liked videos

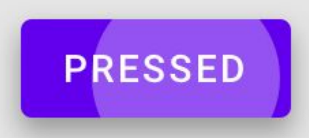
Control

Responsiveness

- Phones can’t detect “cursor hover”



- Need to increase reliance on “Pressed” state of buttons

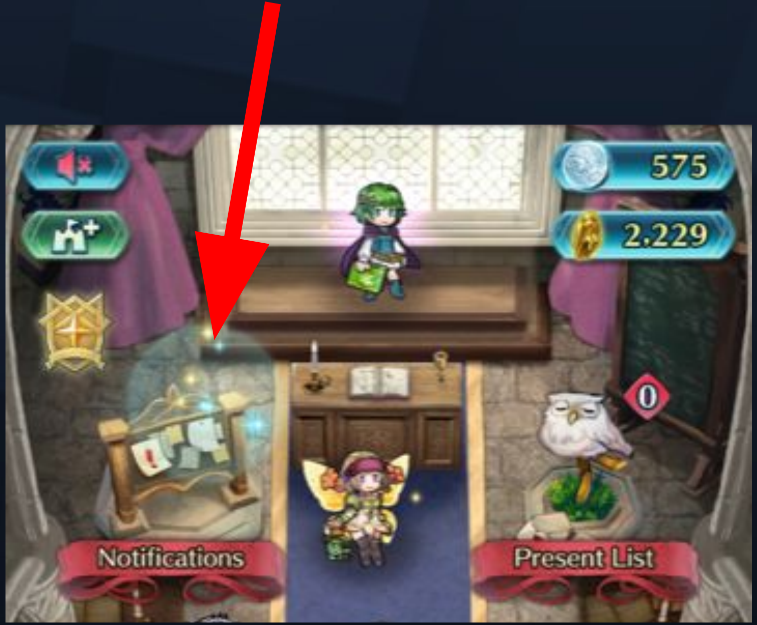


- Trigger more functions “On Release” instead of “On Press”
  - Except quick-actions like “Jump” or “Shoot”

Particle Effects

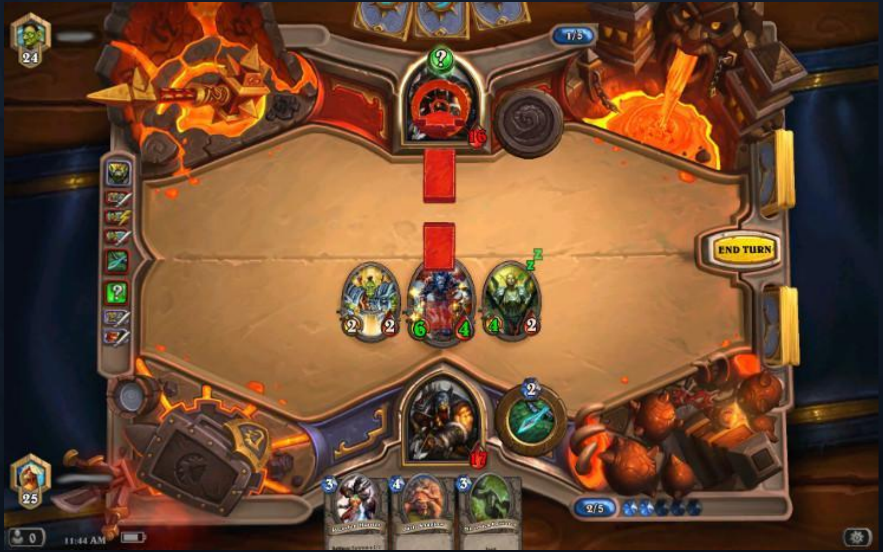
- Trigger a trail of particle effects as the user moves their finger around the screen

- Create a larger effect centered on the position the user touched



Creating a Tactile Interface

What feels intuitive?



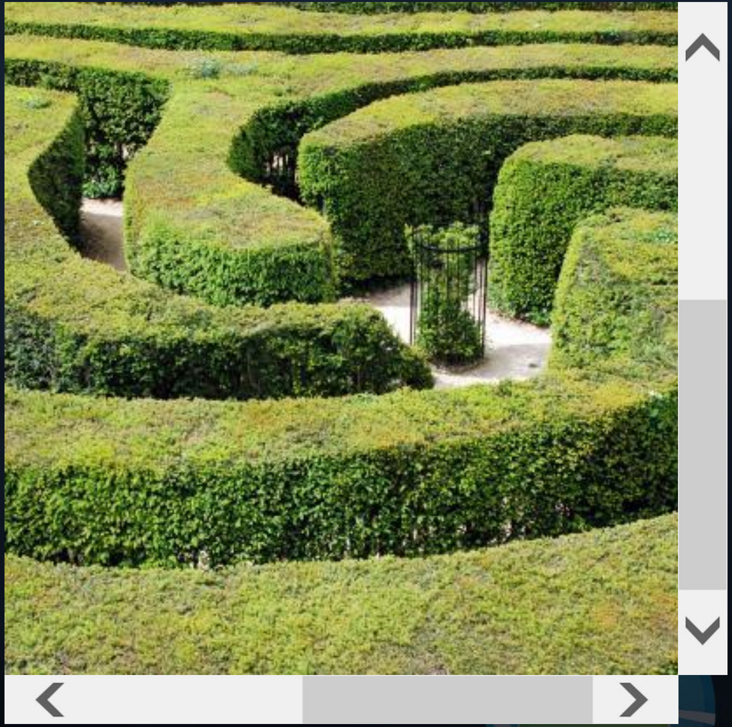
- Touch and Drag virtual Cards around
- Tap switches to make them flip states
- Fling things with gesture controls

List navigation:

- Allow users to manipulate lists by swiping over the list elements themselves without *needing to* use a scroll-bar
  - It couldn't hurt to still include a scroll bar
- Make sure your app can tell the difference between scrolling and selecting List items!
  - Better to handle selection "On Release"

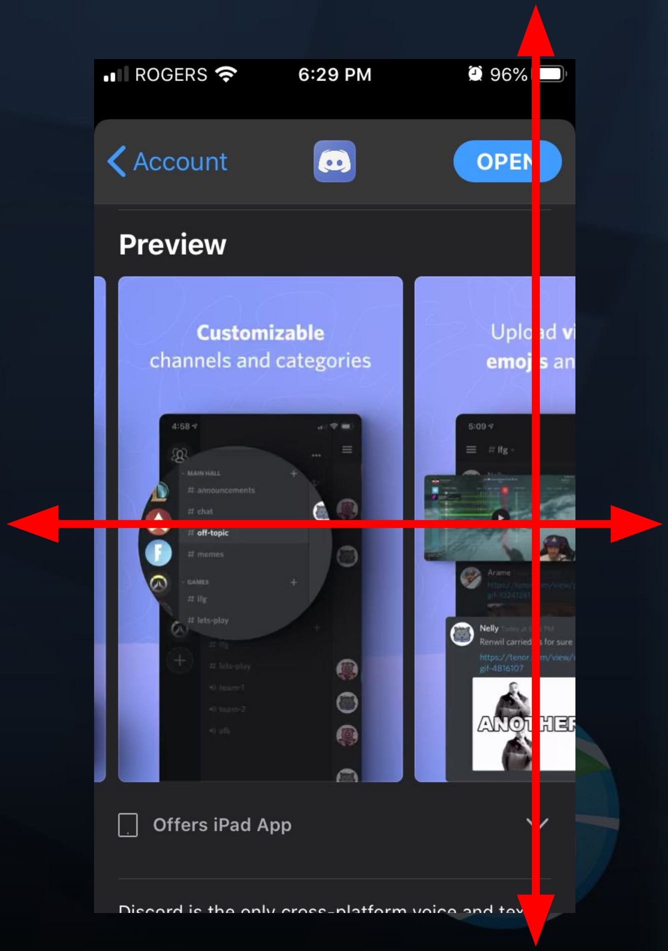
Axes of Control

- It can be difficult to find what you're looking for if you have to scroll content on both a horizontal and vertical axis
  - Especially if you can't zoom!



Axes of Control

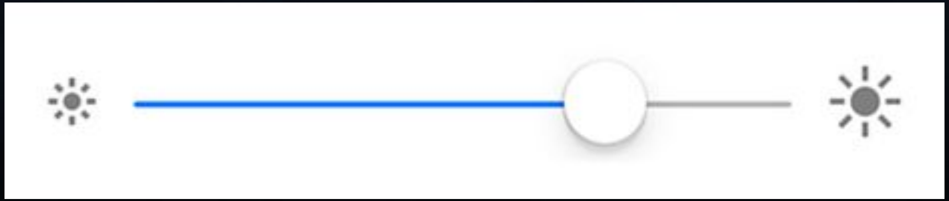
- If possible, try to fit everything on one screen at a time
- If you need to scroll content, try to limit it to a single axis
- Or, use an embedded carousel



Discord is the only cross-platform voice and tex

Sliders

- Sliders should occupy as much of the width of the display as possible
- Giving users the option to enter a value manually or use arrow buttons to adjust the value incrementally



Game Control

Step Zero

- Is *Touch* the correct input for this game?
- *What is your objective?*
  - *Are you making a game and trying to find a platform for it*
  - *Or; do you have a platform and are trying to make a game for it?*

On the Clock

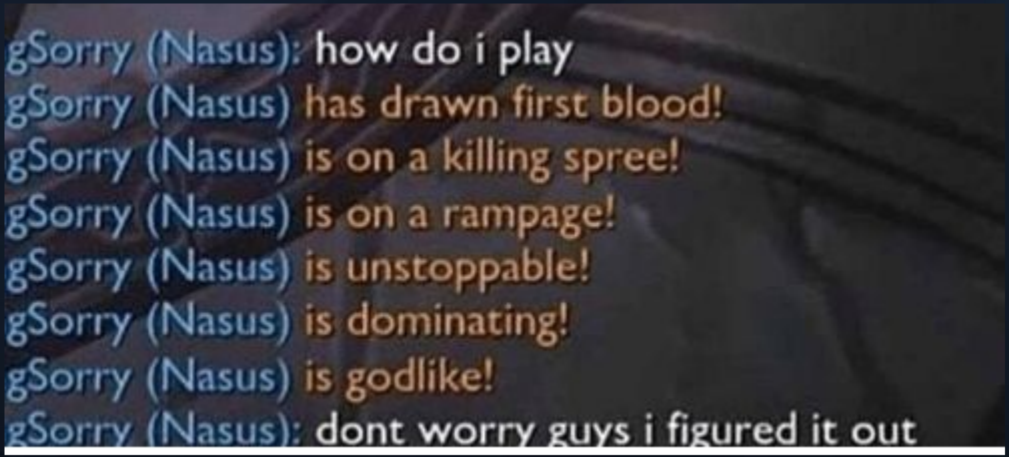
- *Touch* works well for almost anything where time is not a concern
- ***In general***, the faster the pace of a game, the less well it will work with *Touch* controls
  - Naturally, the faster a user is making inputs, the more likely they are to miss-click
  - You can compensate with better spacing

Motion Controls

- Shaking + Rotating means moving your viewport
- Even less precise than touch controls
- For sake of accessibility (and player preference) Motion Controls controls MUST be made optional

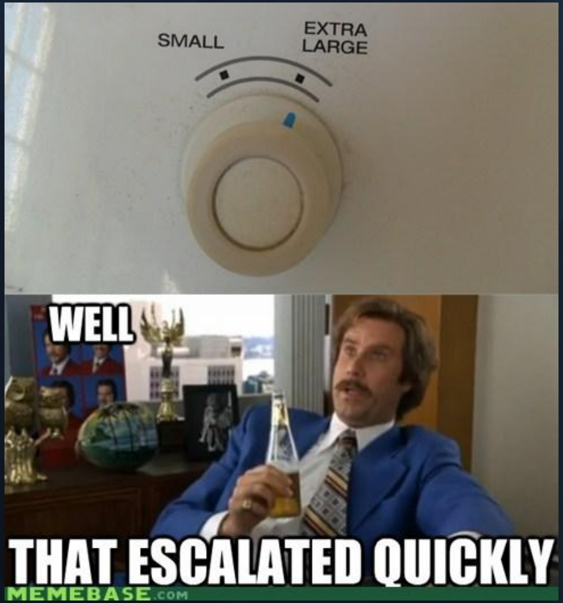
What are the controls?

Users should be able to access all the controls of the game / app WITHIN the app and not need to watch a *TOP 5 SECRET TRICKS* video to learn how the interface works



gSorry (Nasus): how do i play
gSorry (Nasus) has drawn first blood!
gSorry (Nasus) is on a killing spree!
gSorry (Nasus) is on a rampage!
gSorry (Nasus) is unstoppable!
gSorry (Nasus) is dominating!
gSorry (Nasus) is godlike!
gSorry (Nasus): dont worry guys i figured it out

Input options to configure



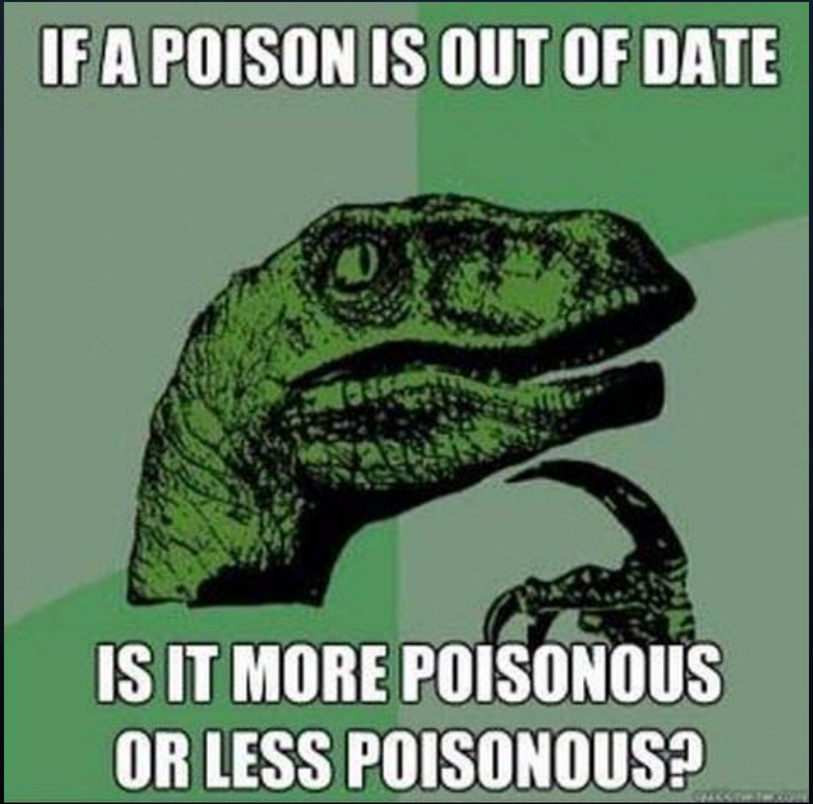
- Accessibility: Touch & Drag / 2 Taps
- Gesture Controls:
  - Enable / Disable
  - Swipe over a list item behaviour
- Do boolean options make sense or should there be settings in-between on / off?
- Place controls near the content they modify

In Conclusion

Additional Reading

- Apple UI Design Do’s and Don’ts: https://developer.apple.com/design/tips/
- Design for Fingers, Touch, and People: https://www.uxmatters.com/mt/archives/2017/03/design-for-fingers-touch-and-people-part-1.php

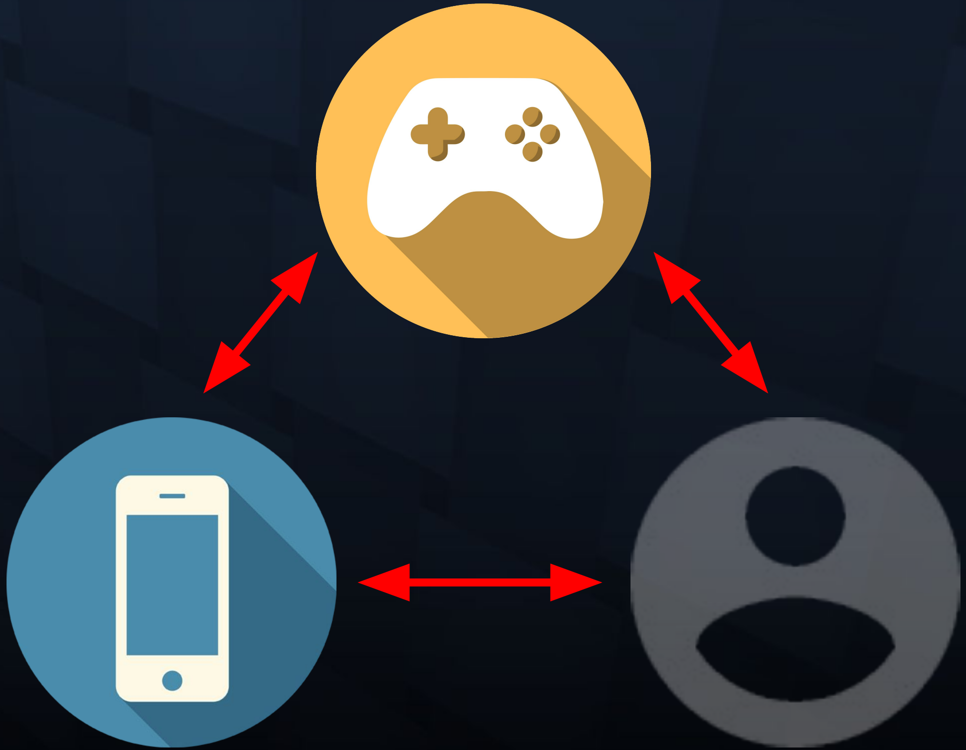
Beware out-of-date data!


IF A POISON IS OUT OF DATE
IS IT MORE POISONOUS OR LESS POISONOUS?

A deep understanding

- To create an effective UX, you must have a “deep understanding” of;
    - The device
    - Your software
    - Your users

Consider all connections;



In Summary

- Keep the 2 primary hurdles in mind:
  - Screen Real Estate
  - Lack of Precision
- Positive / Negative Spacing
- Make buttons contextual where possible
- UI is not the enemy!
- Minimize Cursor travel
- Observe the “Circle of Comfort”
- Target the device orientation that best fits your game
- Limit scrolling to 1 axis at a time
- Make controls accessible
  - And *not hidden*!

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THANK YOU

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END OF SLIDES

Header
[Instructional]

Title

- A