COSC 442:
Mobile Educational Game Development

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What is this course about?

Mobile Educational Game Development

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- What makes a game educational?
- What makes a game fun?
- How to build it effectively on a mobile device?
- How to measure these factors?

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Mobile Educational Game Development

- Involves:
  - Learn about pedagogy and design principles
  - Sample what others have done and critical evaluation of them
  - Learn the data analytics methods to test your hypotheses

Logistics

- Lectures
  - Theoretical concepts and case studies
  - Design activities: peer & instructor feedback
- Programming assignments/Project
  - Final project build on previous assignments
  - Development in Corona/Lua or Unity/C#
- Written assignments
  - Design and feedback on project idea
  - Take place in class
- Rules:
  - Late penalty
  - Passing criteria
- Questions?

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Games and school share a common goal!

Really?!
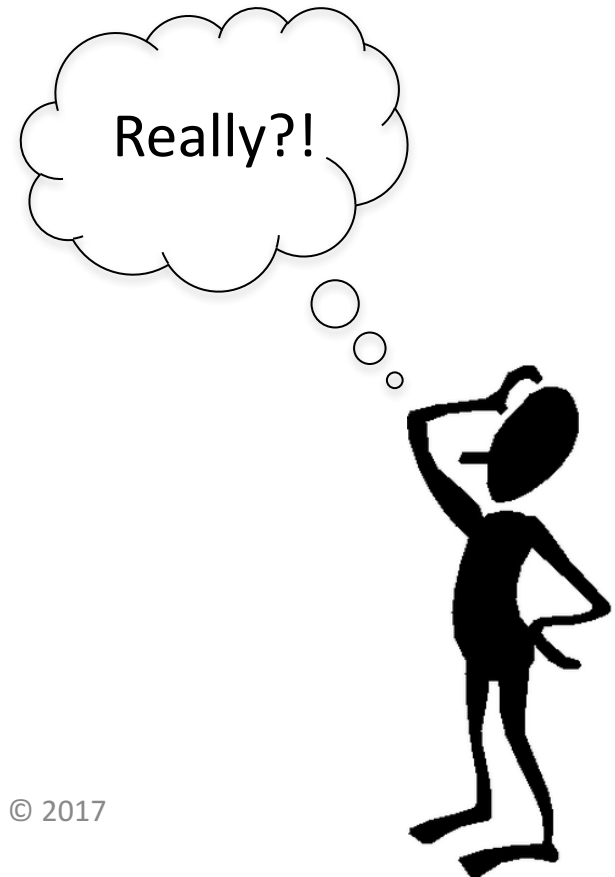
What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Games and school share a common goal!
  - Games get played long and hard by many
  - Won't get played if the game can't be learned or mastered
  - True gamers don't want short and easy games

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Common Characteristics:
  - Engaged in play over and over again
  - Sense of mastery
  - Sense of challenge

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achieve balance

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Pervasive learning
  - Learning at its best when it occurs inside and outside schools
    - Voluntarily researches on material
   - Voluntarily conducts extra practice

  - Outside: students must want to learn in order for this to happen

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Book presents 36 learning principles incorporated in good games
- We focus on only a few here

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

1. Present info on demand when skill application is needed
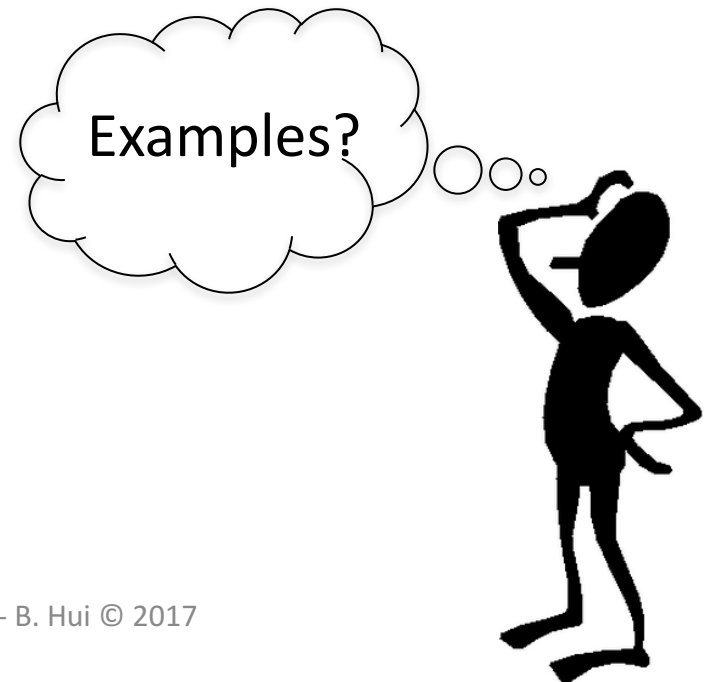
Examples?
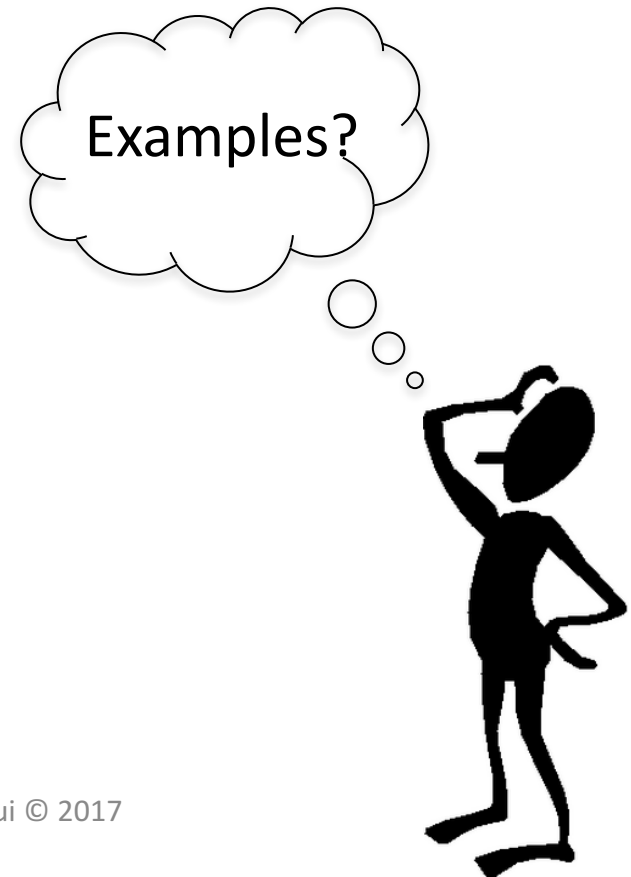
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2. Levels of difficulty enable personalized learning

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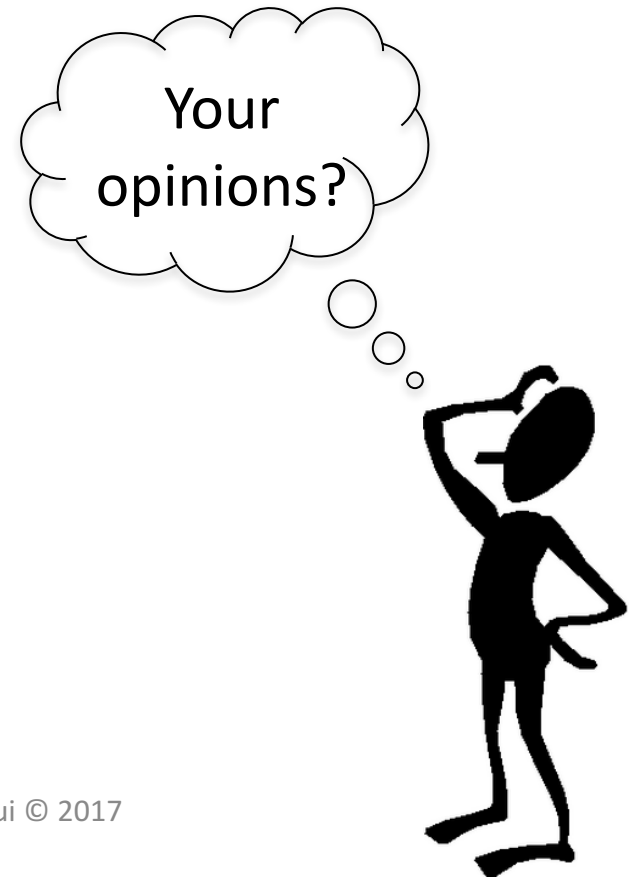# What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

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4. Initial simple problems need to be good generalizations of later complex problems

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1. Present info on demand when skill application is needed
2. Levels of difficulty enable personalized learning
3. Enable students to be producers, not just consumers
4. Initial simple problems need to be good generalizations of later complex problems
5. Supports "cycle of expertise" where one learns, practice, newly learned skill that incorporates with old one, practice, ..., repeat

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

- Features that engage gamers?

Your opinions?

What Video Games Have to Teach Us about Learning and Literacy (Gee 2003)

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  - "The more a player can manipulate a game character and make decisions that impact on the character, the more the player invests in the character and the game at a deep level"

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  - Collaboration
  - Allow people to re-create themselves in new worlds

What makes mobile design different?

Display pixels
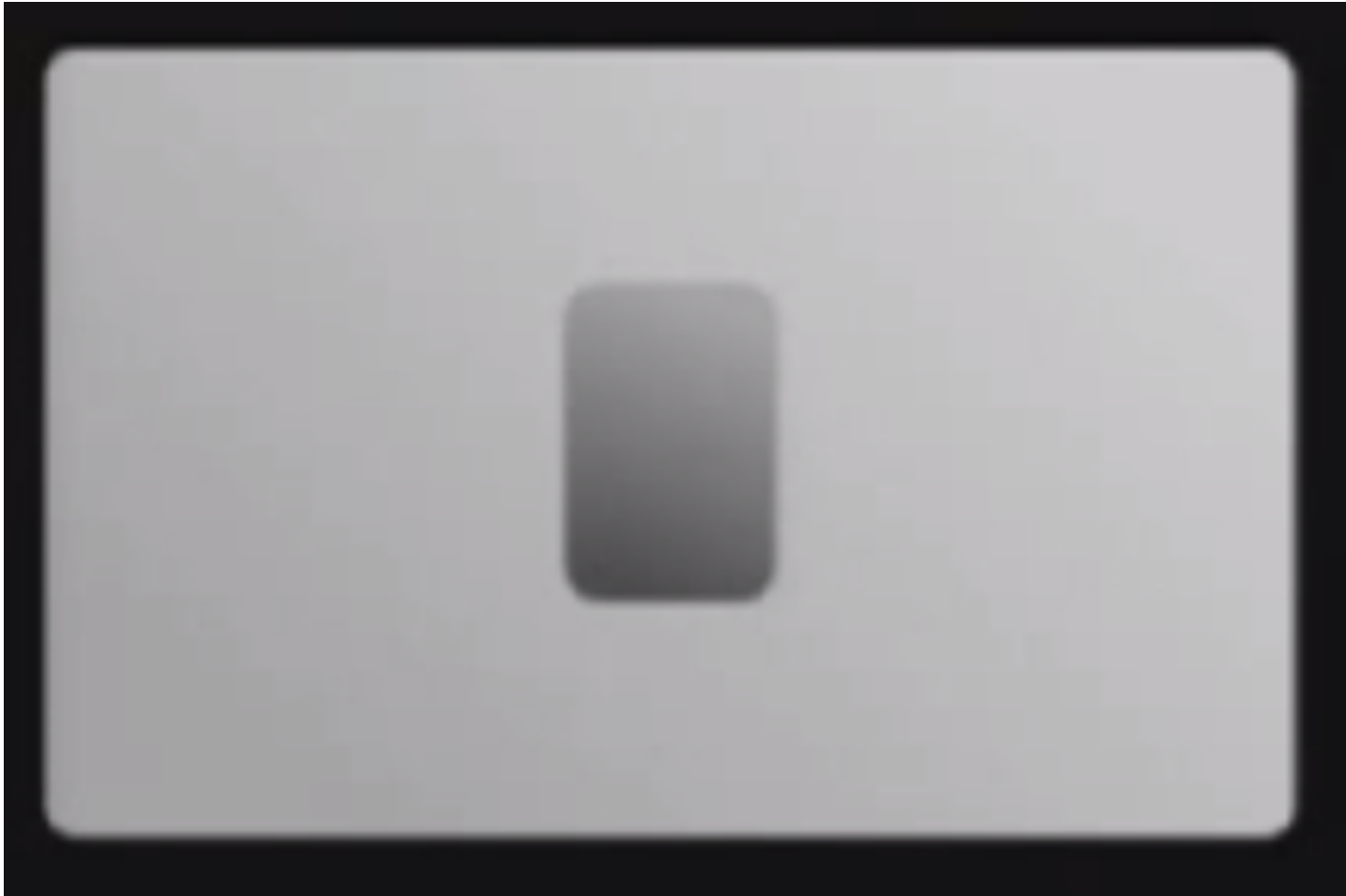
Input method

Usage – location, duration

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  - Input method
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  - Input method
  - Usage – location, duration
- Opportunities:
  - Short, frequent usage
  - Lots of data about user (calendar, reminder lists, social networks, GPS, location aware, etc.)
- Design implications?

Administration

- Class schedule
- Start on A1
  - Review requirements
  - Review UI terminology
    - Aesthetics
    - Target audience
    - Cognitive overload
    - Discoverability
    - Interruptability
    - Learnability of interface
    - Learnability of activity