

# Learning & Teaching Apps

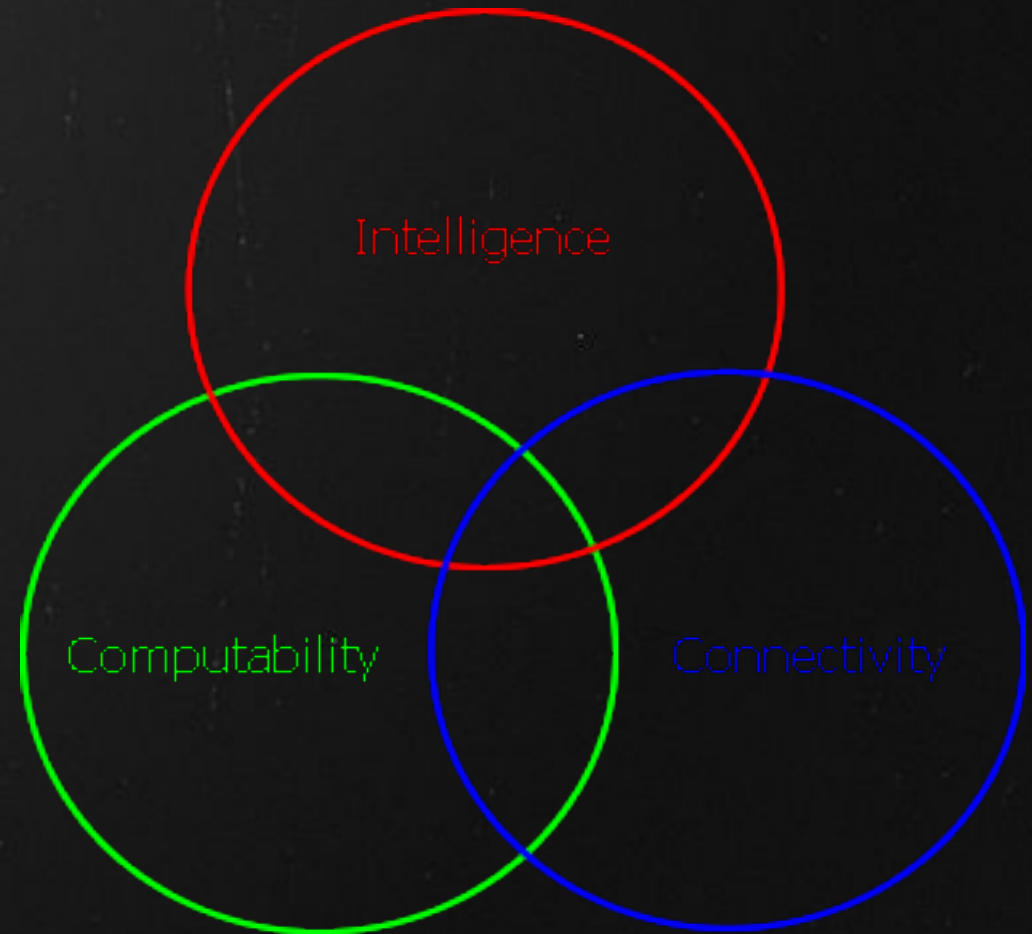
John Richards

# Overview

- What makes for an intelligent learning app?
- Why do mobiles make a good platform for learning?
- What's out there now?
- Detailed look at a few current apps
- My idea for an app
- What the future holds

# What makes an intelligent learning app?

- Connected to the cloud
- Perform an initial assessment to determine skill level
- Keep track of progress
- Adjust content based on performance
- Teach things related to YOUR interests



# Why are mobiles a good learning platform?

- (Mostly) ubiquitous
  - Owned by both kids & adults
- Provide 24/7 Internet access
- Easy to use
- Relatively affordable
  - iPhone 3G can be had for \$99
  - Unlimited data priced at \$30
- Many apps are available
  - The iTunes store has over 300 pages of "Education" apps
  - Many are free

# What's out there now?

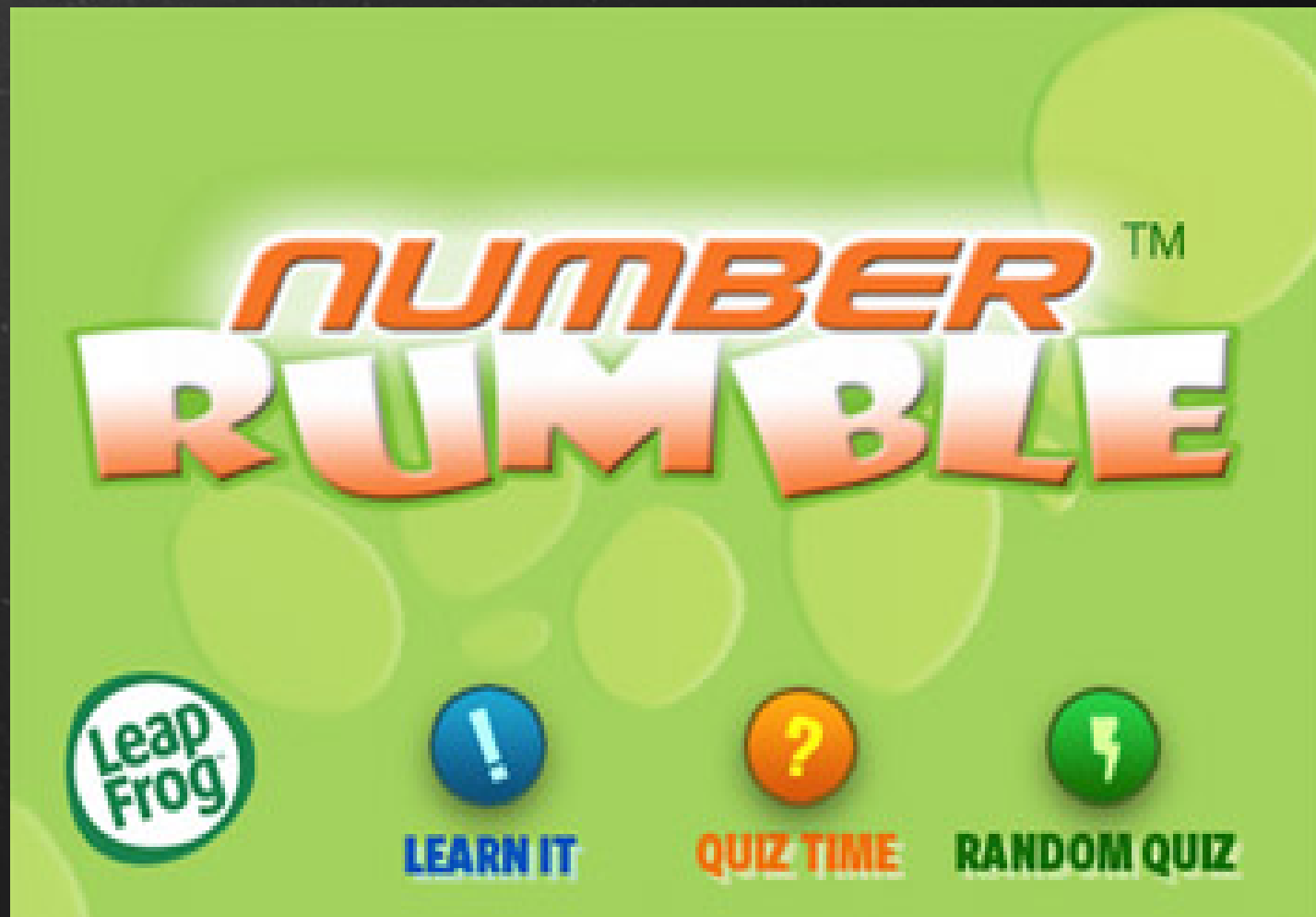
- Most apps are flashcard based
  - Flags
  - Alphabet
  - Math
- Scientific calculators
- Art & foreign languages
- Math & science
- Educational games
- Exam training (GRE, SAT, etc.)

Targets everyone from toddlers to college students to working adults.



Now we'll take a look at some apps...

# LeapFrog Number Rumble



# LeapFrog Number Rumble



- Teaches basic addition, subtraction, multiplication, and division
- Allows the user to answer random problems, take custom quizzes, and take random quizzes
- Makes use of the iPhone's accelerometer (generating random problems)



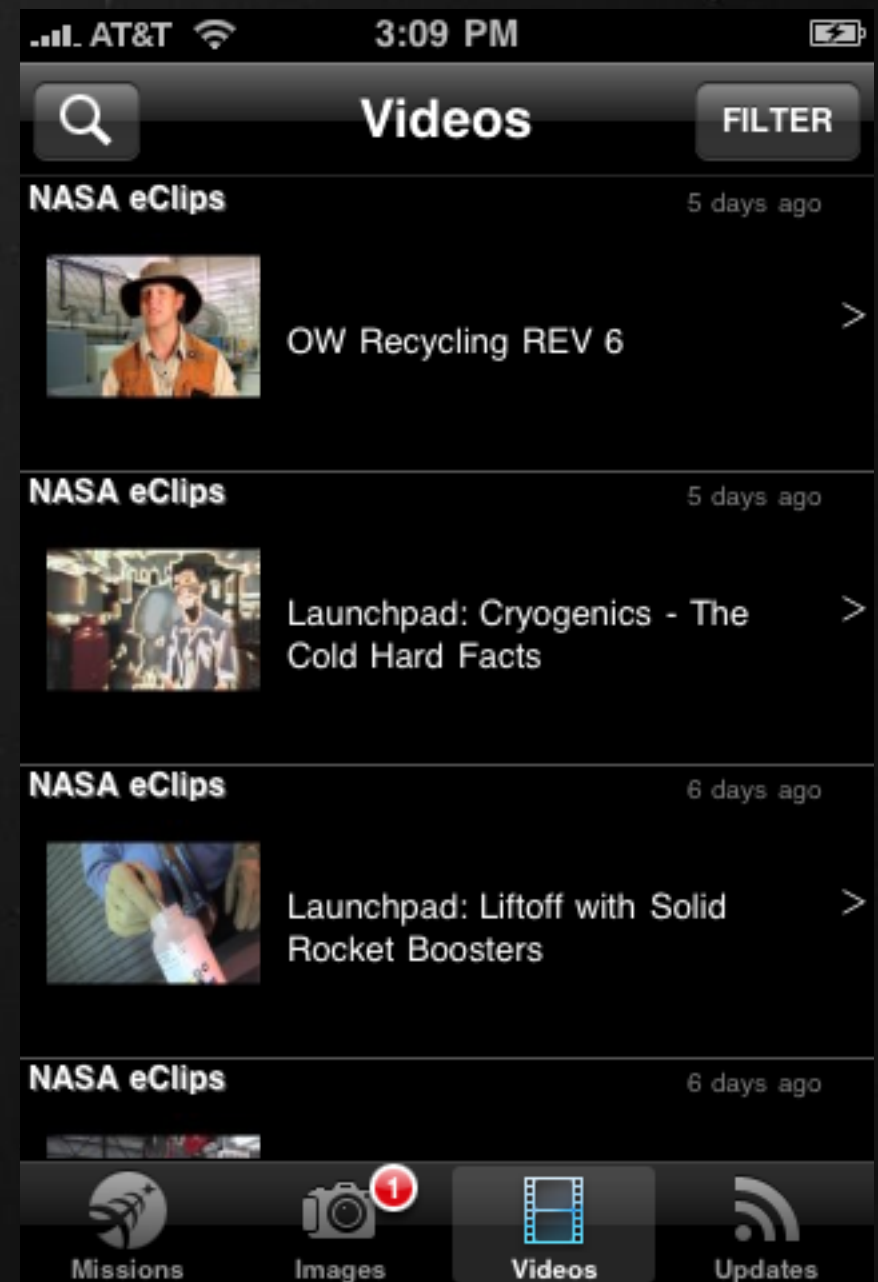
# LeapFrog Number Rumble

Not very smart nor connected.

How could we make this app smarter?

- Increase/decrease the difficulty based on previous answers
- Use previous answers to determine problem areas
- Add connectivity to allow users to play with friends... or allow the teacher to push out questions

# NASA app for iPhone



# NASA app for iPhone

- View mission details & objectives
- View pictures & videos from missions
- View current orbit of ISS, satellites, etc.
- Receive real-time mission updates
- View other NASA info... like launch dates, Twitter feeds, etc.
- Send items to friends

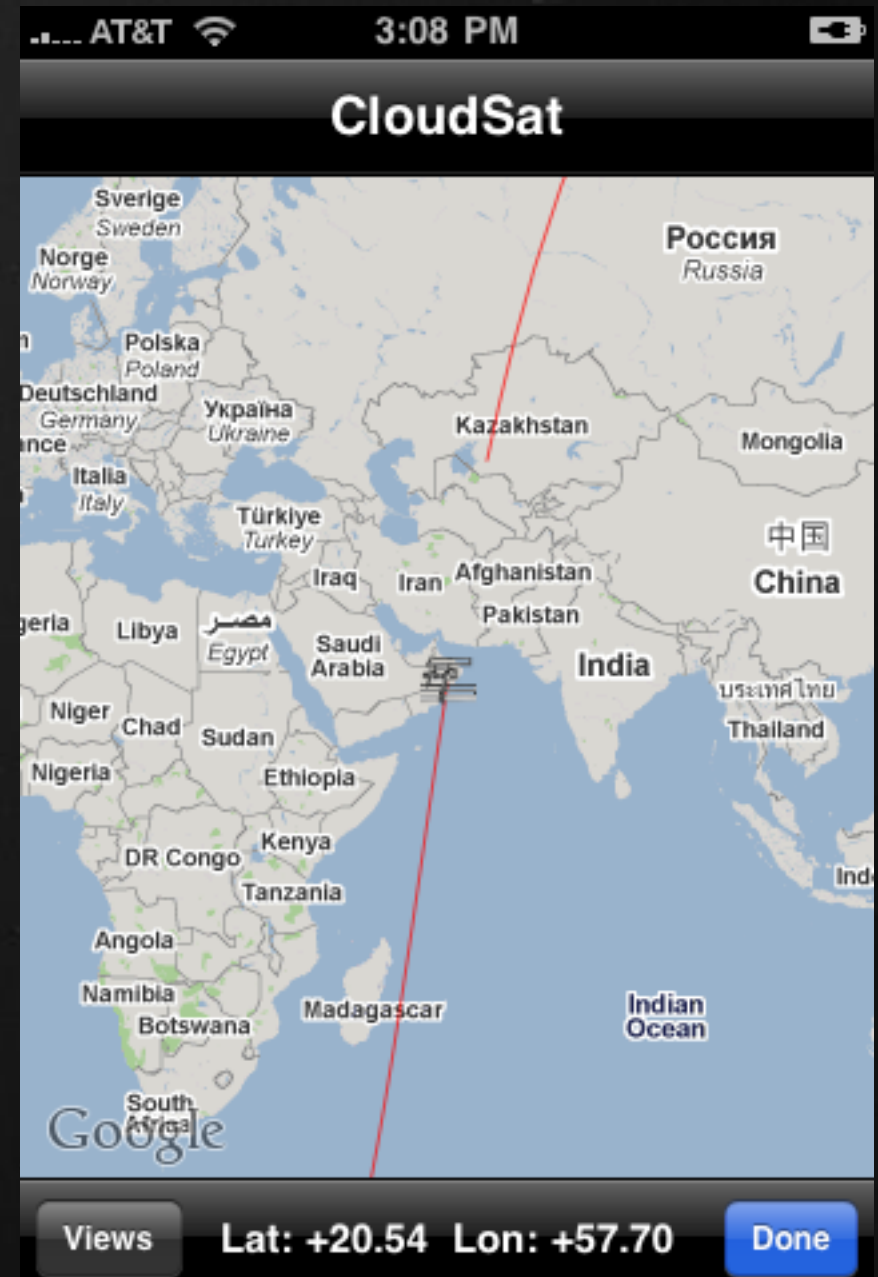


Image courtesy of NASA



# NASA app for iPhone



# NASA app for iPhone

This app is pretty well connected, but lacks in the intelligence department... how could we make it better?

- Incorporate the user's GPS coords and show their position relative to the ISS, satellites, etc.
- Provide astronomy functionality... show visible stars/planets based on user's coords



# Blackboard Learn



Image courtesy of CNET

# Blackboard Learn

- Allows users to access all Blackboard material from iPhone
- View assignments, grades, and class discussions
- All material is available in real-time

Blackboard is used by most higher educational institutions (including WVU... eCampus).



# Blackboard Learn

This app fulfills the connectivity requirement, but it's not very intelligent.

What could we do to make it smarter?

- Make reading/research recommendations based on grades
- Deny calendar events if grades are low (other potential parental controls here)
- Use the web browser's history to find interesting, and relevant, discussion topics
- Allow a deeper student/teacher relationship (tutoring, etc.)

# Smart.fm





# Smart.fm

By far, this is the smartest (and coolest) app I've found.

- A social networking learning app
- Learn topics that YOU want to learn
- Users create lists of facts that can be shared with other users
- Tests and exercises are created, by the app, to help you learn
- Performance is monitored on a short and long term basis, and the tests and exercises are dynamically adjusted!
- Performance data is used to plan a curriculum and learning strategy
- The app also contains built in lessons to learn English, Japanese, and Korean



# Smart.fm

Image courtesy of Adaptive Path

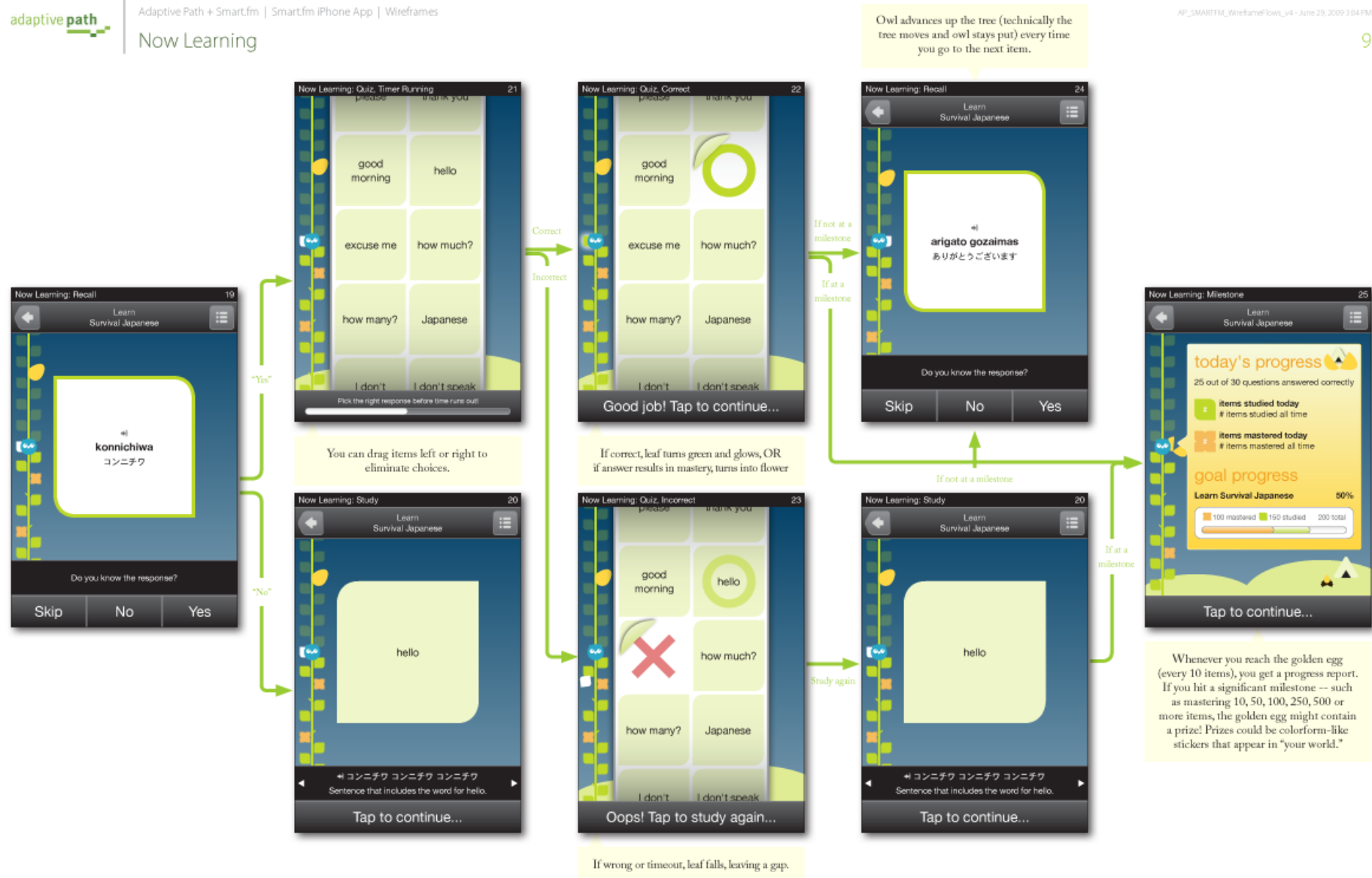


Adaptive Path + Smart.fm | Smart.fm iPhone App | Wireframes

Now Learning

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# Smart.fm

Wow, so this is like the Einstein of apps... could we do any better?

- This app is list based... there are things that don't fit into lists (think Math & Engineering concepts, programming, etc.)... make those other things work
- Use the user's location to give lessons based on nearby attractions or languages
- Incorporate voice recognition functionality into the language lessons... the app actually listens to the user speak

Any other ideas?

Now that we've seen what's out there, here's what I've come up with...

# My idea for an app

- Combine the functionality of Smart.fm and Blackboard Learn
  - Use the app for actual school work
  - Allow the teacher to create Smart.fm lessons and tests for credit
  - Each student would have a custom tailored lesson plan
- Add voice recognition functionality
  - Teachers could hear their students pronunciation, etc. and give feedback
- Incorporate GPS coords
  - Teachers could assign a visit to a museum, play, etc.
  - The coords would allow different tests based on which museum, play, etc. they visited
- Doesn't have to just be used for school
  - If the user visits Japan, the app would know and give lessons in Japanese, local customs, etc.



# My idea for an app

Creating this app would benefit both the student and the teacher.

Each student would be able to move at their own pace, due to the customized lesson plans and assignments. They would also be able to learn things that they like (ex. if the teacher assigns a museum visit, they could visit a space museum, a car museum, etc.).

Teachers would have more flexibility in the topics they cover and the assignments they give.

The students and teachers would be connected at a closer level, so learning wouldn't stop when class is over.



What's next...

# The future

- Definitely see a more dynamic teaching style
  - Custom tailored assignments (my museum example)
  - Mobile apps allow this
- Larger wireless data pipes means more "on the job" learning
  - Have students go out and take pictures, then send them back
  - Same thing with videos
  - Record practice with musical instruments, then send it to the teacher
- Mobile apps allow learning to begin at a younger age and continue through older ages
  - Devices are easy to use... toddlers and seniors can use them
  - Open platforms means learning apps for all topics

# The future

- As mobile devices increase in speed and capabilities, more can be done on them
  - All levels of programming (graphics, OS, AI, etc.)
  - Beginner and advanced photography assignments
- More remote learning
  - Online classes were just the beginning
  - A Peruvian farmer could take a Calculus class or an inner-city high school student could visit the Louvre... all from their phone
- Students would be able to teach each other
  - Smart.fm let's users create their own lists... build off of that concept

Questions?

Thank you!