CS4HS
LiveCode Workshop
Cyril Pruszko
cyril.pruszko@pgcps.org
http://livecode.com
http://tinyurl.com/erhs-lc
Aug 5, 2013
UMBC
My Classes

☐ Teacher at Eleanor Roosevelt H.S.

☐ Intro, AP Comp. Sci., FoT

☐ Python, Linux, JAVA, LiveCode

☐ Class Sizes up to 36 students per class

☐ 30% S&T, rest Comp students

☐ Avg class is now 38% girls
History

- Declining enrollment, Need to expand
- Intro class - Python, polled students, evaluated options, tried LiveCode
- Added LC to AP after the Exam
- Est. part of FOT (9 wks class)
- New Computer club, cybersecurity

Wednesday, August 7, 13

Increased enrollment, higher grades, more students engaged, higher AP scores overwhelming feedback – students, parents, other teachers, admin.
Driving Forces

- Game Programming - Easy way to get students engaged in C.S.
- LiveCode - Easy way to teach programming concepts
- Growth - Future applicability
Current Edu. Trends

- 'Maker' movement
- PBL
- STEM initiatives
- Online classes - CodeAcademy, etc
- Organizations - Rails Girls, etc

What I have been doing is a combination of many of the current trends – a little bit of each
Game Programming

- Easy intro to CS - (lang, syntax, IDE)
- Great Draw - Game Programming
- Less structured lessons
- No boring assignments
- Individualized learning
- Every student engaged and productive
Interesting Side Effects

- High level of engagement (everyone)
- Teamwork, collaboration
- Sharing of discoveries, problems
- Higher level of independence
- Work at own pace (faster or slower)
- Self-directed learning

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Students are totally engaged – dramatically less surfing, emailing, horseplay,...
They work together to design games
Also to solve problems, share accomplishments and discoveries of new commands
They do more research
Results

- Python, Java students:
  - Better understood CS concepts (inheritance, etc)
  - Tackled advanced programming (client/servers, multi-player, multi-computer games, threading, etc)
  - Better scores on AP exams
Results cont.

- 9th grade students
  - Higher enrollment in later computer courses
  - More girls, minorities in late classes
  - More successful in later Python, Java classes
Why LiveCode?

- Easy to learn, English-like, Free
- Powerful, full-featured Prog. Lang.
- PC, Mac, Linux, iOS, Android, ...
- Obj. Oriented, Event Programming.
Found. of Tech. Course

☐ Quarter classes (9 weeks)

☐ 3 - HTML

☐ 6 - LiveCode

☐ 2 - LiveCode Basics, Ask, Answer, If

☐ 1 - Mazes

☐ 1 - Matching
LiveCode Lessons

- Basics - IDE, commands, language
  - HelloWorld, Greetings
- Game Programming
  - Simple Games (Minefields, Mazes)
  - Educational Games (matching, etc)
  - Action Games with game loops
- Interactive Stories
LiveCode Lessons cont.

- Project based Assignments
  - Two Player games
  - Multi-level, finished games for iTunes
  - Servers - chat programs, multi-computer games
  - Misc. - calculators, word processor, etc
Daily Classes

- Show Demo of what to learn
- Do simple example with students
- Give them an enhancement to make
- or weekly project to do
Now Your Turn

☐ Let the programming begin...