Module 11

Wrap up
Module 01

Processing Recap

• Program structure
• Types
• Declarations
• Expressions
• Statements
Module 02

Input/Output

• The filesystem
• Reading and writing images
• Reading and writing illustrations
• Animated GIFs
• Reading and writing text
Module 03

Graphical User Interfaces

• Model-View-Controller
• Direct manipulation
• User interface toolkits
• ControlP5
Module 04

Physics and Animation

• Why look at physics?
• Newton’s first law; simulating constant speed
• Newton’s second law; gravity, sliding, springs, damping
• Newton’s third law; collisions
• Physics in 2D
• Physics engines, Fisica
• Animation principles and easing
Module 05

Geometric Context

• Why use geometric context?
• translate(), rotate(), scale()
• pushMatrix(), popMatrix()
• Combining transformations
• Hierarchical modelling
Module 06

Procedural Content

- Recursion
- `random()`, `randomSeed()`
- `noise()`
- Combining recursion and randomness
Module 07

Advanced Types and OO

• What is an object?
• Classes and instances
• Fields, methods, constructors
• Writing simple classes
• this
• Arrays, dictionaries, trees
Module 08

Image Processing

• Cropping
• Scaling and rotating
• Working with pixel arrays
• Filtering and blurring
• Working with the camera
Module 09

Text Processing

- `loadStrings()`, `split()`, `splitTokens()`
- `equals()`, `charAt()`
- Other String and Character functions
- Regular expressions
Module 09

Data Processing

• Tabular data and Table
• Loading tables
• Hierarchical data
• JSON
• Web APIs
The Cutting Room Floor

- Sound
- 3D
- Testing & Debugging
- Exceptions
- Multithreading
- Collection types
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A nightmare
Too many details
The Cutting Room Floor

- Exporting to web
- Exporting to Android
- Modules
- Typography
- Cellular automata
- ASCII Art

Actually not too bad
Impractical, annoying
Not worth it
Too specialized
Nerds only
Doable as a demo
The Cutting Room Floor

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  Actually not too bad
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- Exporting to web: Actually not too bad
- Exporting to Android: Impractical, annoying
- Modules: Not worth it
- Typography: Too specialized
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- Exporting to web: Actually not too bad
- Exporting to Android: Impractical, annoying
- Modules: Not worth it
- Typography: Too specialized
- Cellular automata: Nerds only
- ASCII Art: Doable as a demo
“This course is too hard.”

• Maybe
• Maybe not?
• ~50 lines of code per question isn’t a lot
• But some questions assumed too much background preparation, my bad
“Processing isn’t a real tool.”

• Wrong
• Large user base in art, design, education
• openprocessing.org
• More real-world than CS 115 or CS 135
• Version 3 coming soon!
• Sadly, long term outlook for Java is mixed.
“We should be learning Python.”

• Maybe
• Graphics and interactivity are difficult in straight Python
• Processing’s Python mode works, but not well enough
• No textbooks, fewer online resources for Processing.py
• We could switch in the long run
• Go learn it!
What next?

- GBDA game course in 3A—use code!
- PureData, Max/MSP, SuperCollider, VVVV, Ai and Ps plugins
- Python, Scala, ... for scripting
- Javascript for in-browser tools
- OpenFrameworks, libCinder for the full power of creative coding in C++
- Happy to offer advice
Code is an artistic medium