**What has been added and changed:   
Transition Guide *Guzdial & Ericson 2e to 3e***

Mark has started using peer instruction in his classes, so he has added some “clicker” challenge questions and discussion questions in the slides.

***Chapter 1: Introduction to Computer Science and Media Computation***

Additions

* Shifted away from the “recipe” metaphor much earlier, and defined “programs” and “algorithms” (p. 8)
* Explain that Python can be used for end-user programming, and include URLs for GIMP and Blender. (p. 8)
* Updated examples (e.g., no longer mentioning Netscape)
* Adding a link in “To Dig Deeper” on US copyright law. (p. 15)

Fixed Errors

* P. 8: A wire’s voltage (not the wire itself) represents a zero or one.

***Chapter 2: Introduction to Programming***

Additions

* Updated operating system names.
* Introduces some distinctions between Python 3.0 vs. Python 2.x and Jython 2.x.

Fixed Errors

* Fixed some language typos caught by alert readers and reviewers.

***Chapter 3: Modifying Pictures Using Loops***

Additions

* Added language to make clear what x,y means.
* Added more on lossy vs. lossless image formats.

Fixed Errors

* Inserted the previously-missing zero from the explanation of a byte.

3ed Errata

* The program name in Program 13 (page 63) was changed to **makeSunset2**, to distinguish it from Program 12 (page 62). Unfortunately, we didn’t update the text on pages 63-64. All of those references to **makeSunset** should actually be references to **makeSunset2**. (Thanks to John Rutkiewicz.)
* On page 65, in the **reduceBlue** function, **filename = makePicture(filename)** should be **picture = makePicture(filename).** (Thanks to John Rutkiewicz.)

***Chapter 4: Modifying Pictures In a Range***

Additions

* Added some discussion of what happens when the mirror point is not the midpoint

Fixed Errors

* Made the image and the code for the temple fixing example match.
* Consistently used “Program” instead of “Recipe” in this chapter.
* Moved exercises that required IF into Chapter 5.

***Chapter 5: Picture Techniques with Selection and Combination***

Additions

* Introduced IF and color distance earlier.
* Added Figure 5.9 to explain the blur algorithm.
* Provide a second version of the line drawing algorithm using abstraction to define helper functions that make the code easier to read.

Fixed Errors

* Renamed chapter to fit better the content.
* Got the back slashes out of the code on 50% Barb and 50% Katie

***Chapter 6: Modifying Sounds using Loops***

Additions

* Additional explanation of the Nyquist Theorem (p. 152-153)
* More explanation of why the onlyMaximize() function has important implications for how we hear speech and about encoding speech as only a single bit per sample (p. 169-170).

***Chapter 7: Modifying Samples in a Range***

Additions

* The major change is the addition of Section 7.6 “On Functions and Scope” (p. 188-190). The goal of this section is to explain parameters and scope.

***Chapter 8: Making Sounds by Combining Pieces***

Additions

* Added a figure (82 on p. 197) to help explain how the echo() function works.
* Added a figure (8.3 on p. 200) to help students tell if their sound has doubled in frequency.

***Chapter 9: Building Bigger Programs***

Additions.

* Added a paragraph to “Algorithms and Design” (p. 235-236) exploring the alternative design decisions we could have made in the adventure game.
* Freshened the references, e.g., removed the reference to “Myst.”
* Added links in the Powerpoint slides explaining what are Adventure Games and their history.

Fixed Errors

* "until the test becomes true" describing while should *actually* be "until the test becomes **false**."
* "return room" should be indented at the same level as "printNow" in the example code.

***Chapter 10: Creating and Modifying Text***

No additions.

Fixed Errors

* Unicode printing has stopped working in Jython. It’s promised to work again in future versions, but for now, we have removed that example from Chapter 10.
* Problem 10.20 had a bug where swapped keys were supposed to start with “7” but there was a “6” in the text. Fixed.

***Chapter 11: Advanced Text Techniques: Web and Information***

Additions:

* Briefly introduced cell phone networks
* Updated references to browsers and email clients.
* Introduced the idea of steganography with sounds, e.g., hiding a sound in a picture.
* One of the big additions in this chapter was an example that would return the interests of a person from their Facebook page. However, Facebook’s new “Timeline” interface broke that example, and then they changed their robots/scraping policy, prohibiting JES from accessing the page.

The Powerpoint slides introduce a new function which does work and doesn’t break the Facebook new policy. It returns true if someone is on Facebook, and false if they’re not or they’re not convincingly on Facebook.

def isOnFacebook(name):

import urllib # Could go above, too

namewords = name.split()

lastname = namewords[-1]

combined = namewords[0]+"."+namewords[-1]

# Get the Facebook page for name

connection = urllib.urlopen("http://www.facebook.com/"+name)

fb = connection.read()

connection.close()

checkOn = fb.find("is on Facebook")

if checkOn <> -1:

print name,"is on Facebook at http://www.facebook.com/"+name

return true

# Get the Facebook page for combined name

connection = urllib.urlopen("http://www.facebook.com/"+combined)

fb = connection.read()

connection.close()

checkOn = fb.find("is on Facebook")

if checkOn <> -1:

print name,"is on Facebook at http://www.facebook.com/"+combined

return true

# Get the Facebook page for just the last name

connection = urllib.urlopen("http://www.facebook.com/"+lastname)

fb = connection.read()

connection.close()

checkOn = fb.find("is on Facebook")

if checkOn <> -1:

print name,"\*may\* be on Facebook at http://www.facebook.com/"+lastname

return false

***Chapter 12: Making Text for the Web***

No significant changes

***Chapter 13: Creating and Modifying Movies***

No significant changes

Fixed Errors

* Fixed calls to the writeFrame function in examples.

***Chapter 14: Speed***

Additions

* Added graphs to show how rapidly different big-Oh functions grow.
* Got updated ads for desktop and netbook computers to discuss.
* Added discussion on multi-core.

Fixed Errors

* Changed all references from “assembler language” to “assembly language,” and fixed the “assembley” typo.
* Updated sizes of disks.

***Chapter 15: Functional Programming***

Additions

* Powerpoint slides now include a reference to MapReduce and Hadoop.

***Chapter 16: Object-Oriented Programming***

Additions.

* Added additional turtle examples for advanced functions, like having multiple turtles interact (chase one another) and using **drop()** to create complex patterns.
* Added a **ConfusedTurtle** which inherits from Turtle, but uses a random variation to all turns and forwards, in order to introduce overriding.
* Does one more iteration on the Slide class to introduce getters and setters.