Revision Report

Feedback comment: Moved paragraph from introduction from later in the paragraph so that readers who are not that familiar with SPD will have an example early on.

How incorporated: Moved text to contextualize introduction of the KA

Why not incorporated: N/A

Date considered:

Feedback comment: “Teaching core and elective courses in programming implemented in different” with “The particular”

How incorporated: Incorporate

Why not incorporated:

Date considered:

Feedback comment: Replace: “recognize various specialized platform development” with “recognize the need to develop for various specialized platforms”

How incorporated:

Why not incorporated:

Date considered:

Feedback comment: Delete “Objective C, Python,”

How incorporated: Objective-C is obsolete now, and Python and C++ don't belong in this category, as they are general-purpose programming languages, not platform-specific like the others.

Why not incorporated:

Date considered:

Feedback comment: “Techniques for learning and mastering a platform-specific programming language.”

How incorporated:

Why not incorporated:
Date considered:

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Feedback comment: “Analyzing requirements for web applications”

How incorporated: Suggested topic under SPD/Web Platforms

Why not incorporated:

Date considered:

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Feedback comment: “How to estimate costs for these services (based on requirements)”

How incorporated: Suggested topic under SPD/Web Platforms

Why not incorporated:

Date considered:

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Feedback comment: “etc” This is vague, it would help to expand it.

How incorporated: Removed “etc” and provided more examples of security

Why not incorporated: N/A

Date considered:

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Feedback comment: “architectures: advantages and disadvantages”

How incorporated: Incorporate “architectures: advantages and disadvantages” into Architecture for SPD/Web Platforms

Why not incorporated: N/A

Date considered:

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Feedback comment: The word “simple” is ambiguous. Does "simple" refer to the requirements of the application or to the implementation?

How incorporated: removed “simple Design and Implement, using the microservice architecture design, a simple web application. to Design and Implement a web application using microservice architecture design.

Why not incorporated:
Feedback comment: replace ‘shall be considering’ with ‘should consider.’

How incorporated:

Why not incorporated:

Date considered:

Feedback comment: some topics are underlined. It's not clear why some of these are underlined, and what this is supposed to mean (if anything).

How incorporated: remove underlined for consistency purposes

Why not incorporated:

Date considered:

Feedback comment: add “typical problems in testing” to Testing asynchronous code

How incorporated: Testing asynchronous code and typical problems in testing

Why not incorporated:

Date considered:

Feedback comment: Should the requirements, design, and implementation be separate items?

How incorporated: Use the highest level of Bloom’s verb, i.e., implement

Why not incorporated:

Date considered:

Feedback comment: replace ‘aims to consider’ with ‘considers’

How incorporated: under Robot Platforms, use considers

Why not incorporated:

Date considered:
Feedback comment: Robotic software architecture (e.g., using the Robot Operating System)

**How incorporated:** Formulate Robotic software architecture (i.e., using the Robot Operating System (ROS)) and its architecture to Robotic software architecture (e.g., using the Robot Operating System)

**Why not incorporated:**

Date considered:

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Feedback comment: add: “Safety considerations” to topics under Robot

**How incorporated:** incorporate as letter e

**Why not incorporated:**

Date considered:

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Feedback comment: add Evaluate which architecture is best for a given set of requirements

**How incorporated:** incorporate it as learning outcomes F for embedded

**Why not incorporated:**

Date considered:

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Feedback comment: Again, this is ambiguous. Does "simple" refer to the requirements of the application or to the implementation?

**How incorporated:** Reformulate learning outcome from “Implement a simple application on a game platform to “Implement an application using a game platform”

**Why not incorporated:**

Date considered:

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Feedback comment: Something to consider is not a testable outcome. Should this be explain? Or should the outcome be to develop a model for a simulation that takes real-world attributes into consideration?

**How incorporated:** reformulate “Consider real world attributes (such as Physics, behaviours) to develop a model for a simulation” to “

**Why not incorporated:**
Feedback comment: recognize is not really testable.
How incorporated: change Recognize to Discuss
Why not incorporated:

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Feedback comment: “understand” Not really testable from Understand how user research applies to games
How incorporated: change from Understand how user research applies to games to Describe how user research applies to games
Why not incorporated:

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Feedback comment: Should SPSS also be added?
How incorporated: incorporate SPSS into Data Analysis Platforms
Why not incorporated:

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Feedback comment: Write out what "lo-fi" means.
How incorporated: low-fidelity under Creative coding
Why not incorporated:

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Feedback comment: add (e.g., AI/ML pairing) to Machine-assisted interactivity
How incorporated: Machine-assisted interactivity (e.g., AI/ML pairing) under creative coding
Why not incorporated:
Date considered:

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Feedback comment: Delete: “using a read, evaluate, and print loop (repl)”

How incorporated: delete comment under Interactively analyze large datasets using a read, evaluate, and print loop (repl) to Interactively analyze large datasets

Why not incorporated:

Date considered:

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Feedback comment: substitute algorithm by system A program is written using a notebook computing platform, algorithms are theoretical ideas.

How incorporated:

Why not incorporated:

Date considered:

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Feedback comment: Replace: “quantum, graph,” with “searching,“

How incorporated:

Why not incorporated:

Date considered:

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Feedback comment: This seems to consider visualization to be part of probability/statistics. I am skeptical of that.

How incorporated: remove it from Math needed/wanted

Why not incorporated:

Date considered:

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Feedback comment: add Requirements Engineering

How incorporated: incorporate Requirements Engineering as part of Crosscutting and Overlapping topics
Why not incorporated:
Date considered:

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Feedback comment: consider rephrasing as "programs at different institutions", which is euphonic if longer

How incorporated: different institutions Page 1 to This division allows programs at different institutions
→ This division allows programs at different institutions

Why not incorporated:
Date considered:

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Feedback comment: Page 1: This sentence could be more clear. Consider something like "The Common Aspects Knowledge Unit exposes concepts that the various specialized platforms share."

How incorporated: Change “The Common Aspects Knowledge Unit concentrates on concepts that various specialized platforms share” to
The Common Aspects Knowledge Unit exposes concepts that the various specialized platforms share”.

Why not incorporated:
Date considered:

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Feedback comment: This concluding sentence is a little unclear. Consider "Finally, the rest of the knowledge units permit the curriculum to have an extended and flexible number of KA core hours" (if flexible is indeed a desired outcome, which I think it is ;)

How incorporated: Change Finally, the rest of the knowledge units allow institutions to choose a particular specialization. To “Finally, the rest of the knowledge units permit the curriculum to have an extended and flexible number of KA core hours”.

Why not incorporated:
Date considered:

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Feedback comment: Consider also including frameworks, or meta-frameworks. For example, a discussion of the Flask and Django python frameworks might illustrate micro-frontends and MVC-driven design, and provide students an opportunity to dig into why different frameworks solve different problems.

How incorporated: Web platforms, frameworks, or meta-frameworks

Why not incorporated:
Date considered:
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Feedback comment: Consider including the Document Object Model (https://dom.spec.whatwg.org/), which connects with the Web programming languages (HTML5, JavaScript, CSS) in (a)

How incorporated: Web standards such as Document Object Model

Why not incorporated:

Date considered:
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Feedback comment: Are there no other kinds of standards, and no others for security? It would probably also be useful to mention accessibility standards, which would be important for legal compliance and government contracts.

How incorporated:

Why not incorporated:

Date considered:
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Feedback comment: Certificates (TLS)

How incorporated: removed from topics and add “Security and Privacy considerations”

Why not incorporated:

Date considered:
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Feedback comment: “privacy” This is vague, it would help to expand it.

How incorporated: removed from this topic

Why not incorporated:

Date considered:
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Feedback comment: ii. Data residency (where the data is located, and what paths can be taken to access it)

iii. Data integrity: guaranteeing data is accessible, and guaranteeing that data is deleted when required

How incorporated: incorporate it under data management
Why not incorporated:
Date considered:

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Feedback comment: Serverless, cloud computing on demand
How incorporated: add it under Architecture under web
Why not incorporated:

Date considered:

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Feedback comment: This suggests that the student can explain why a microservice model is a better fit for the problem than a monolithic model -- or better than a serverless model. for the SLO Design and Implement, using the microservice architecture design, a simple web application.

How incorporated:
Why not incorporated: Not applicable for the SLO design

Date considered:

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Feedback comment: The mobile platform also offers local, on-device computing. Typical on-device security and machine-language-specific chips make possible some apps that might not work as well in a web context.

How incorporated: in description of KU
Why not incorporated:

Date considered:

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Feedback comment: Examples of such standards would be helpful for instructors

How incorporated: No

Why not incorporated: No standard available to illustrate at SLO level

Date considered:

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Feedback comment: Add something about what makes this unique or a challenge here, briefly.
How incorporated: Programming via platform-specific Application Programming Interface (API) vs traditional application construction

Why not incorporated:

Date considered:

Feedback comment: It's not clear what this means. Rewrite to clarify.

How incorporated: change Network and the Web to Network and the Web interfaces

Why not incorporated:

Date considered:

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Feedback comment: What about emerging technologies is to be taught?

How incorporated: removed Emerging technologies

Why not incorporated:

Date considered:

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Feedback comment: Add: “Specification and”

How incorporated: now reads: Specification and Testing

Why not incorporated:

Date considered:

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Feedback comment: This isn't a unit on computer architecture. Is the point about choosing the right processor or architecture? Rewrite to clarify.

How incorporated: removed: Embedded processors and architectures. – due to redundancy on KU

Why not incorporated:

Date considered: