OS 13 - System Architecture

Start Assignment

- Due Wednesday by 10am
- Points 100
- Submitting a file upload
- Available after Feb 11 at 10am

OS13 (https://canvas.mit.edu/courses/37400/files/6184446?wrap=1) ↓ **(https://canvas.mit.edu/courses/37400/files/6184446/download?download_frd=1)** has been assigned by Dr. Bruce Cameron. If you need support while working through it, please reach out to your TA mentors or use **EM.413 Piazza** for assistance.

Additionally, please find this **Common Failure Modes (https://canvas.mit.edu/courses/37400/files/6178408?wrap=1)** ↓ **(https://canvas.mit.edu/courses/37400/files/6178408/download?download_frd=1)** document to assist in your work.

OS13 is due on Wednesday February 25, 2026 by 10am EST

Good luck!

Your TA team

OS13 - System Architecture

Criteria	Ratings			Pts
Q1 : Updated Decisions: Architectural Focus	**3 to >2.5 pts Excellent** All decisions are technical and architectural in nature (excluding process, form-based, or business-related decisions). There is a strong mapping between form and function, with no misclassified decisions.	**2.5 to >1.5 pts Very Good** 1-2 minor process or form-based decisions are included or 1-2 architectural decisions are misclassified.	**1.5 to >0 pts Good** More than 3 non-architectural decisions are present (e.g., related to process, business, aesthetics) or more than 3 architectural decisions are influenced by form.	3 pts
Q1: Updated Decisions: Justifications	**3 to >2.5 pts Excellent** There must be a clear, explicit rationale explaining how existing decisions satisfy the SPS. Explanations for closed decisions are clear, and any remaining or newly identified decisions have appropriate rationale.	**2.5 to >1.5 pts Very Good** Only some updates are explained, or does not cleary express how existing decisions satisfy the SPS.	**1.5 to >0 pts Good** See comments from grader	3 pts
Q1 : Updated Decisions: Trade-offs & Emergence	**2 to >1.0 pts Excellent** All decisions represent mutually exclusive trade-offs focused on architecture rather than just system properties (like usability).	**1 to >0.5 pts Very Good** Minor overlaps exist among decisions, with some references to emergent properties.	**0.5 to >0 pts Good** Confuses system outcomes (e.g., usability) with architectural decisions. See comments from grader	2 pts
Q1 : Updated Decisions: Morphological Matrix	**2 to >1.0 pts Excellent** Decisions are clearly represented in morphological matrix.	**1 to >0.5 pts Very Good** Morphological matrix is provided but contains ambiguity or incorrect formatting.	**0.5 to >0 pts Good** see comments from grader	2 pts
Q2 : Framing Past Designs	**4 to >3.0 pts Excellent** Clearly frames past designs using a structured list of architectural decisions.	**3 to >2.0 pts Very Good** Discusses past designs but partially lacks architectural framing.	**2 to >0 pts Good** Mentions past designs but weakly connects them to architectural decisions.	4 pts
Q2 : Key Differences	**4 to >3.0 pts Excellent**	**3 to >2.0 pts Very Good**	**2 to >0 pts Good**	4 pts

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Between Past Designs	Correctly distinguishes between design changes and major architectural shifts in the new proposed designs compared to a past design	Occasionally misclassifies minor design changes as architectural.	see comments from grader	
Q2 : Proposed Improvements	**2 to >1.0 pts** **Excellent** Clearly articulates major architectural differences between past designs and how proposed system could improve upon past systems	**1 to >0.5 pts** **Very Good** Includes discussion about how proposed system could improve upon past designs, but does not cleary relate differences to identified architecture choices.	**0.5 to >0 pts** **Good** See comments from grader	2 pts
Q3 : Clarity of Tradespace	**4 to >3.0 pts** **Excellent** Visual encoding of Utopia point, Pareto front, and reference anchor	**3 to >1.5 pts** **Very Good** Inadequate visual representation of the Utopia point, Pareto front, or reference anchor	**1.5 to >0 pts** **Good** Some elements (Utopia point, Pareto front, or reference anchor) are missing or unclear	4 pts
Q3: Diversity of Tradespace	**5 to >4.0 pts** **Excellent** 10 or More Points in Tradespace	**4 to >2.0 pts** **Very Good** 9 to 6 points in tradespace	**2 to >0 pts** **Good** Fewer than 5 points in the tradespace.	5 pts
Q3: Metrics and Evaluation	**10 to >8.0 pts** **Excellent** Metrics are clearly explained and well-connected to the architecture	**8 to >4.0 pts** **Very Good** Metrics are connected to the architecture	**4 to >0 pts** **Good** see comments from grader	10 pts
Q3: Tension and Decision-making	**5 to >4.0 pts** **Excellent** Well-defined tensions between axes leading to insightful trade-offs	**4 to >2.0 pts** **Very Good** Some tension exists between axes	**2 to >0 pts** **Good** No clear tension between axes.See comments from grader	5 pts
Q3: Analysis of Tradespace	**6 to >5.0 pts** **Excellent** In-depth analysis of the tradespace, providing clear insights on decision	**5 to >3.0 pts** **Very Good** Some discussion with analysis of Pareto front decisions and their connections.	**3 to >0 pts** **Good** see comments from grader	6 pts

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	connections and Pareto front decisions.			
Q4: Completeness	**5 to >4.0 pts** **Excellent** Completed 2 decompositions	**4 to >2.0 pts** **Very Good** Completed only decompositions or there is a mix of function and form listed	**2 to >0 pts** **Good** too few decompositions, not based on function	5 pts
Q4: Approach to Decomposition	**10 to >8.0 pts** **Excellent** Decompositions are meaningfully different and maintain solution neutrality over several concepts	**8 to >4.0 pts** **Very Good** Decompositions are mostly different but may lack solution-neutrality	**4 to >0 pts** **Good** See comments from grader	10 pts
Q4: Justification	**5 to >4.0 pts** **Excellent** Strong statement of preferred decomposition with rationale	**4 to >2.0 pts** **Very Good** Provided statement of preferred decomposition	**2 to >0 pts** **Good** No clear statement about preferred decomposition.	5 pts
Q4: Guiding Principles & Level 1 Modularization	**5 to >4.0 pts** **Excellent** Explicit guiding principle to generate L1 modularization based on L2	**4 to >2.0 pts** **Very Good** Guiding principle is present but weakly connected to Level 1 modularization	**2 to >0 pts** **Good** No guiding principle or justification for L1 modularization	5 pts
Q5: Platform Strategy Decision	**15 to >10.0 pts** **Excellent** Good discussion of variety demanded in the market and linkage to platform strategy (or not) rationale	**10 to >5.0 pts** **Very Good** Clear choice with some justification, but lacks full depth	**5 to >0 pts** **Good** see comments from grader	15 pts
Q5: Strategy Details	**10 to >8.0 pts** **Excellent** If platform is chosen, 8-box framework is appropriately utilized. If decided against a platform, clear discussion of architectural stability and evolution of the product.	**8 to >4.0 pts** **Very Good** Misuse of 8-box framework or missing/incomplete discussion about architectural stablity or product evolution.	**4 to >0 pts** **Good** see comments from grader	10 pts