SYSTEMS DIAGRAM, SUBSYSTEMS, AND PROJECT PROPOSAL GO / NO-GO

COMING UP NEXT

- **Subsystem interfaces**
- **Peer Evaluation & 360 Review**

Homework:

Read Harvard Business Review:
https://hbr.org/2011/10/making-yourself-indispensable

Complete Peer Evaluation Part 1 BY SUNDAY OCT 9

1. **Follow this link: https://drive.google.com/open?id=0B6rS8Cf2dsobQVIrVUFrR3JKVG8**

2. **Find your section**

3. **Give constructive, honest feedback for all of your teammates, including yourself**

4. **Fill out your team name consistently, so it is searchable**

5. **Fill out one page per teammate, including comments: what's being done well, what might be done better?**

PEER EVALUATION

REVIEW:
WHY DO WE DO PEER EVALUATIONS IN EPICS?

To help teams to uncover and resolve issues that can impact their success in the class or on the project

To give students the opportunity to learn and practice:

- learn how to use the peer evaluation process and how effective it can be
- learn how to reflect on your own and others' roles and effectiveness on a team
- learn how to give constructive feedback
- learn how to receive feedback

Mentor will follow-up with each team to discuss the results and any areas for improvement, give you your midpoint participation assessment.

You'll repeat at end of semester.

PEER EVALUATION CRITERIA

1. <u>Equitable Contribution</u> - How well does this teammate contribute to team efforts and deliverables?

2. <u>Participation</u> - How well does this teammate participate in meetings and communicate with other teammates?

3. <u>Quality</u> - What is the level of quality of work and deliverables produced by this teammate for the team?

4. <u>Timeliness</u> - What is the timeliness of this teammate in regards to meetings, deliverables, and other time-sensitive items?

5. <u>Overall / Other</u> - How does this teammate perform in regards to any and all other aspects of your team's Team Working Agreement (contract)? Address the quality of the teammate as a member of your team overall, per your team contract.

6. Provide any <u>general comments (constructive criticism)</u> about the teammate being evaluated. This space can also be used to clarify any of the ratings your provided above for this teammate.

PEER EVALUATION SCALE/S

1✉ 5 USE THE WHOLE SCALE

5 = Absolutely perfect, no mistakes made to date

4 = Reliable productive contribution, I'd keep them as a teammate

3 = "Okay" contributor

2 = minimal productive contribution

1 = Little to no productive contribution

Scoring (average score out of 5%, applied to a percentage of your semester grade):

2% for 1st grade - Week 8

3% for 2nd grade - Week 15

PEER EVALUATION:
AVOID THESE BIASES IN EVALUATIONS

- **Recency bias:** you might overweigh performance over the past week. Consider the entire semester.

- **Leniency bias:** you might water down your feedback and give everyone "satisfactory" marks. Yes, it is easier.

- **Halo bias:** because of a single thing done well, you might rate them good in all areas.

- **Horn bias:** conversely, because of a single thing done poorly, you might rate them as poorly in all areas.

SYSTEMS DIAGRAM & SUBSYSTEMS

LEARNING OBJECTIVES

1- Identify, breakdown, and define open-ended problem(s).

→ 1.3 Define a system by its inputs, outputs, and key functions

2- Research the context and background of problems and solutions, including user needs and technical requirements, through scholarly and authoritative sources, and stakeholder input.

→ 2.3 Identify and prioritize technical requirements of the project.

WHERE ARE WE?
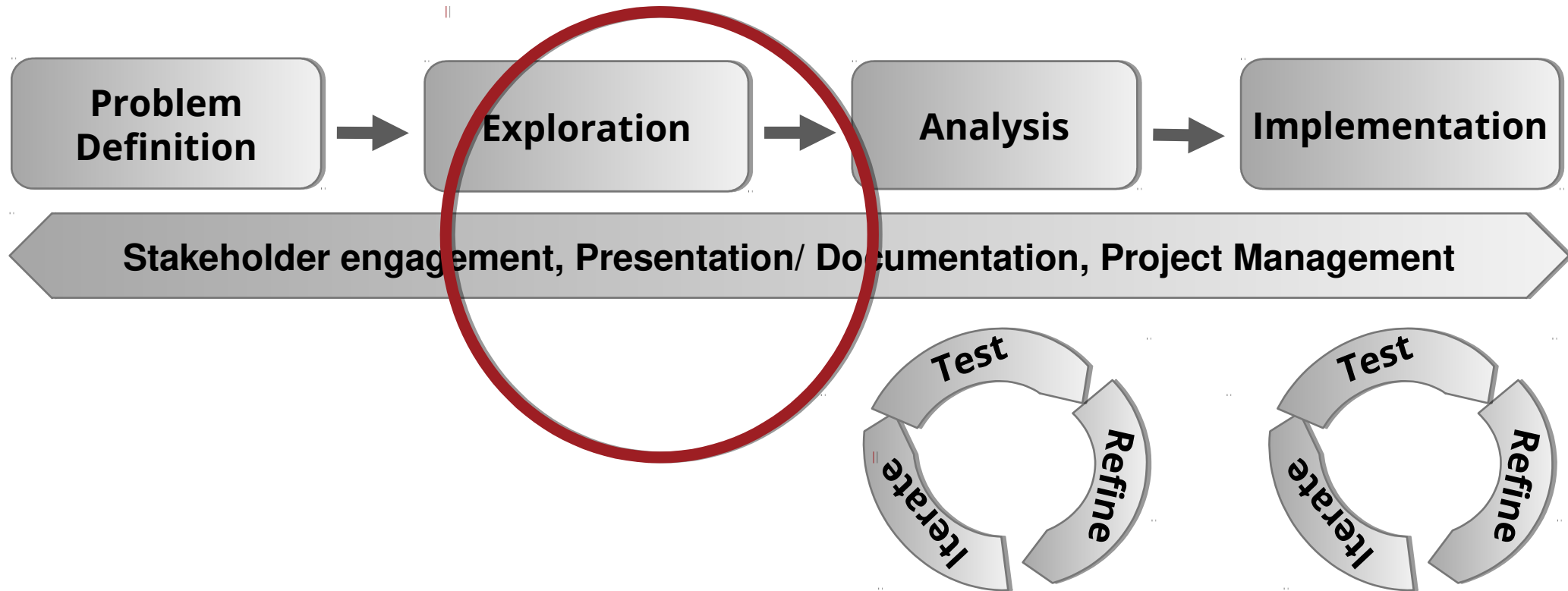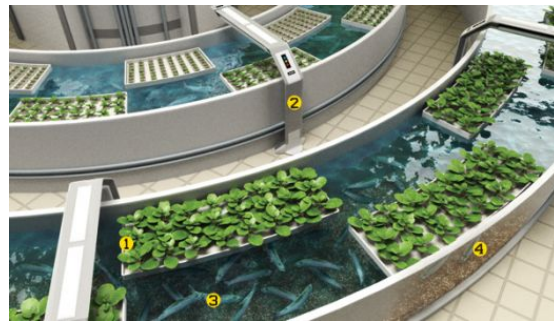
SYSTEM DIAGRAMS

BREAKING A BIG PROBLEM INTO PARTS

VIDEO (9.5 MIN) - https://vimeo.com/181090371/0e1b8ce946

How do we diagram **Food Production**?

What is the fundamental **output(s)** of all these options?
What is the fundamental **input(s)** of all these options?
What are the fundamental **tasks/functions** performed by all these options?
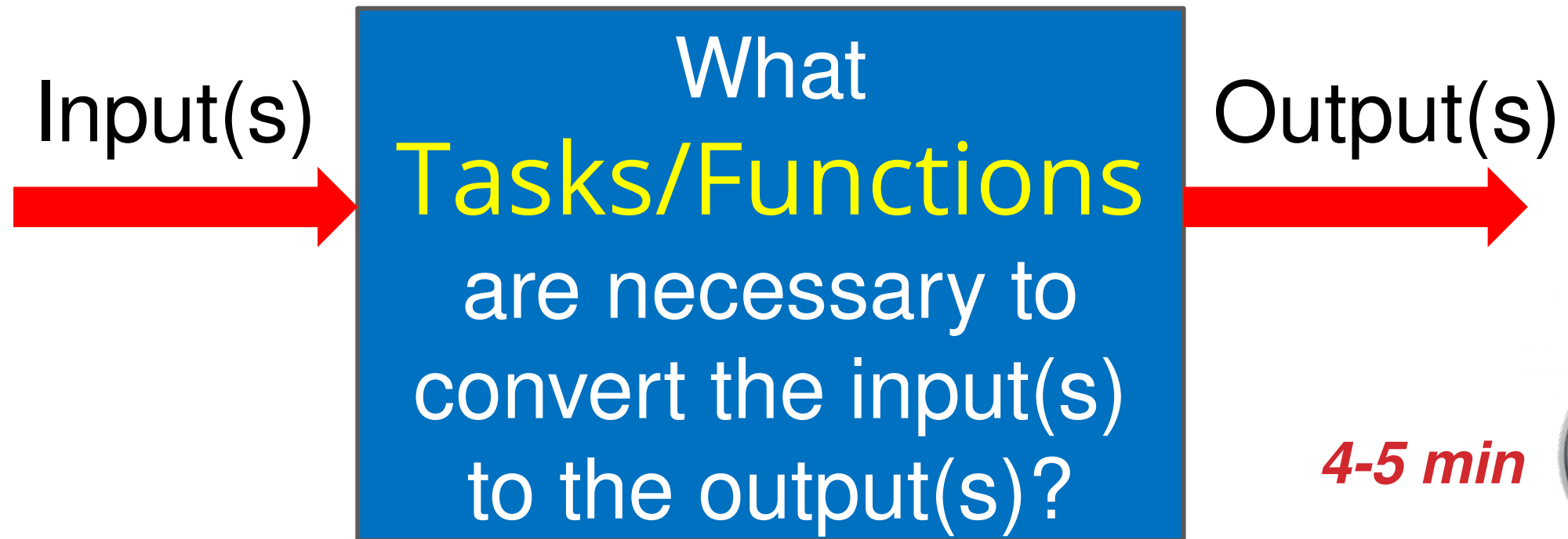
DRAW THE SYSTEM DIAGRAM FOR: **FOOD PRODUCTION**

What is/are the fundamental **output(s)**?
What is/are the fundamental **input(s)**?
What is/are the fundamental **tasks/functions** required to convert the input(s) to the output(s)?

Input(s) →

What Tasks/Functions are necessary to convert the input(s) to the output(s)?

Output(s) →

4-5 min

SYSTEM DIAGRAM GROUP WORK

Look at the food production system diagram. How well does it fit for YOUR team's food problem definition?   And your team's preferred solution concept?

Report outs….

2-3 minutes

FROM THE <u>WHAT</u> TO THE <u>HOW</u>

What are ALL the ways you can accomplish each subsystem?

Brainstorm HOW you might accomplish the various functions in your system diagram.

✉ **At <u>least</u> 5-6 each.**

2-3 min now – more later

INTRODUCTION OF <u>SUBSYSTEMS</u>

- **A grouping of the Functions and Tasks inside your system diagram.**

- **They are self-contained mini-systems, inside your larger system.**

- **Creating subsystems helps your team divide and conquer.**

EACH OF YOUR CONCEPT SUBSYSTEMS:

Is a component of your solution…

…that requires detailed design/analysis…

…to ensure that it functions as planned *(or even better…)*

It must be described so that it can be built, and,

… together, your subsystems fully define your entire solution.

→ **You will each write a technical report describing one subsystem (due Nov 3)**

SMARTPHONE SUBSYSTEMS: *IDEAS ANYONE?*

1ˢᵗ! System Diagram for Telephone

Conversationalists

Sound waves

Energy

Command & Control	Sound capture
Sound delivery	Energy management
Housing	*(Upgrade: apps…)*

Completed conversation

POSSIBLE SMARTPHONE SUBSYSTEMS

Graphical User Interface

Exterior housing

Energy supply

Command and control (software)

What else…?

- **Sound capture and delivery**
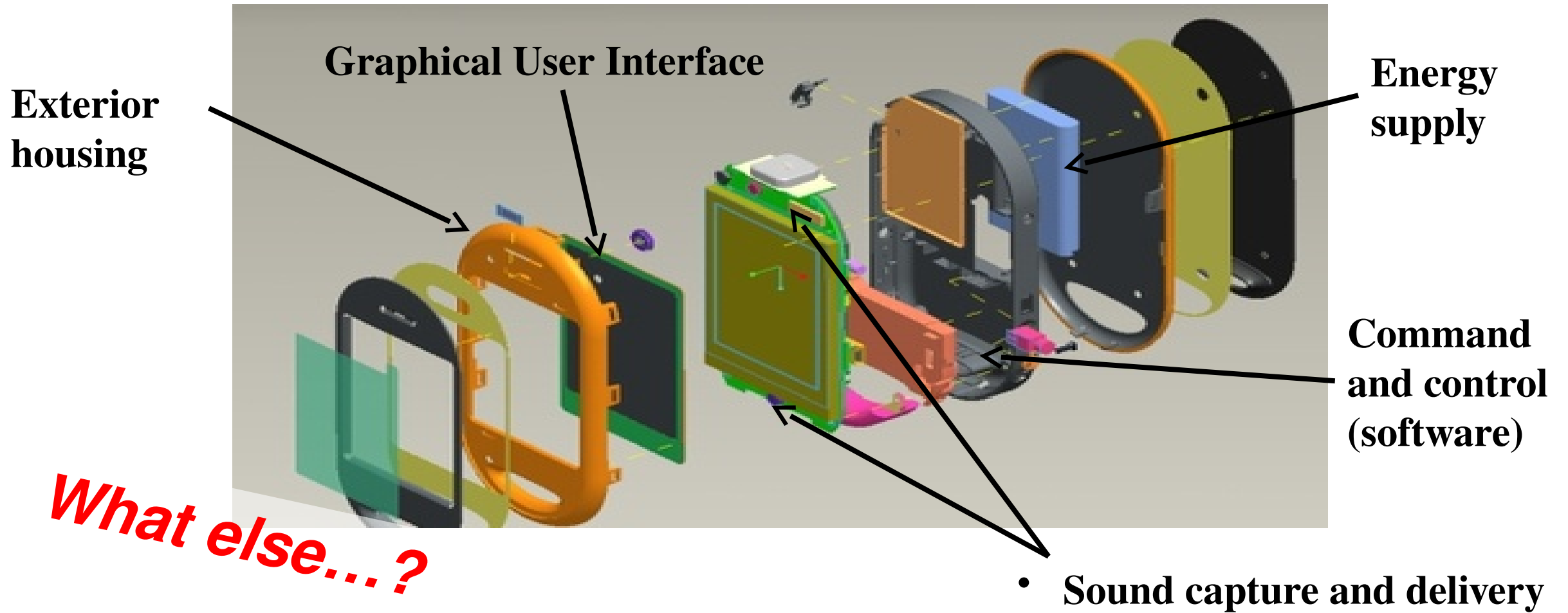
YOUR SUBSYSTEM DESIGN MUST…

- **Meet client's requirements**

- **Be definitive (dimensions, materials)**

- **Have all claims backed by calculations and research**

- **Be consistent with the other subsystem designs within your team (interfaces… *more next week*)**

GO / NO-GO ON PROJECT PROPOSAL

MENTOR-TEAM DISCUSSIONS

I'll visit each team to give red light / green light on your proposed design.

WHILE I'M DOING THAT... TEAM TIME:

1- Brainstorm HOW you might accomplish the functions in your system diagram.

→ Think of many ways: at <u>least</u> 5-6 each.

2- Discuss your team's subsystems and determine who will do what.

3- What questions do you need answers to?

How will you find the answers?

4- Update your project plan

30 min