# Task

What is a Technical Cookbook?

A technical cookbook is a collection of practical solutions to common problems. It offers a series of "recipes" that provide step-by-step instructions for solving specific challenges instead of focusing on theory or in-depth explanations of technical concepts.

Typically, recipes focus on offering straight-to-the-point solutions that readers can directly implement. However, because this is an academic course, we also need to introduce some focus on evaluation or priming learners to use this in their learning.

A recipe typically covers the following:

1. **Specific challenges**: They address specific user cases or challenges faced by engineers in a particular domain or with a special technology.

2. **Variety of solutions**: Some problems can have multiple solutions, and Cookbook may present more than one way to address a particular challenge.

3. **Real-world Examples**: Most recipes are grounded in real-world scenarios, making them immediately applicable.

4.**Tool or Framework Specific**: While some cookbooks are language-agnostic, many focus on specific programming languages or frameworks. For example, you might find a "Arduino Cookbook" or a "Fusion360 Cookbook".

### Recipe in a Programming Cookbook:

A "recipe" in a programming cookbook is an individual solution or method to address a specific problem. Each recipe:

1. **Defines the Problem**: It starts with describing the problem or challenge the solution addresses.
2. **Provides a Solution**: The main body of the recipe offers code snippets, steps, or procedures to solve the stated problem.
3. **Includes Explanation**: While focusing on the solution, most recipes also briefly explain how and why the solution works, giving the developer some context and understanding.
4. **May Provide Variations**: Some recipes might present solution variations to cater to different scenarios or requirements.
5. **Often Includes Examples**: To illustrate the application of the solution, many recipes offer example scenarios where the answer can be applied.

Topics:

On-shape:

* Sketch tools (gemotric lines, constraints, relationships)
* Making parts with sketches
* Making multiparts from parts
* Making an assembly from parts
* Making a diagram from parts
* Creating Joints and Contact parts
* Animations

Arduino:

* Servomotors
* LORA devices
* Arduino to Arduino communication
* D-Pad controllers

Pitch any other ideas that you might have.

### Assessment Guide

* A recipe for one of the topics from above
* A video/tutorial that covers the recipe
* A short reflection on how the skills can be applied for projects, evaluate related topics or tools, examples of known synthesis

# Technical Cookbook Project: Scrum Sprints Overview (4 Sprints)

## Thursday 24th Sprint 1: Conceptualization, Team Formation & Research

### Focus:

Formulating the idea, assembling teams, and preliminary research.

### Activities:

* Brainstorming session for recipe ideas.
* Forming teams based on interest and skillsets.
* Initial pitch of recipe ideas and getting feedback.
* Researching to ensure the uniqueness of the recipe.

### Deliverable:

A clear concept of the recipe, the team that will work on it, and preliminary research findings.

## Tuesday 28th Sprint 2: Recipe Design & Video Scripting

### Focus:

Finalizing the recipe design and scripting for the video tutorial.

### Activities:

* Deciding on tools, platforms, or software needed for the video tutorial.
* Testing and finalizing the recipe.
* Sketching out the recipe layout.
* Writing a script for the video tutorial and designing a storyboard.
* Assigning roles for video production (camera person, presenter, editor, etc.).

### Deliverable:

A finalized recipe, video storyboard, and a script for the video tutorial.

## Tuesday 28th Sprint 3: Video Production & Peer Review

### Focus:

Recording the video and initiating peer reviews.

### Activities:

* Setting up and recording the video tutorial.
* Initial editing of the video, incorporating feedback from peers and the Scrum Master.
* Peer review: teams swap recipes and videos to test and provide feedback.

### Deliverable:

A rough cut of the video tutorial and feedback on recipes and videos from peers.

## Tuesday 12th Sprint 4: Finalization, Reflection & Submission

### Focus:

Final edits, reflection on the project, and showcasing the work.

### Activities:

* Implementing feedback to finalize the video editing.
* Incorporating feedback for final adjustments to the recipe.
* Teams reflect on what they learned, challenges faced, and solutions found.
* Each team presents their recipe and video tutorial to the class.

### Deliverable:

A finalized video tutorial, any final recipe adjustments, class presentations, and written reflections.

# Assessment Submission Task List

* **Conceptualization & Research**
  + Submit a clear recipe concept document.
  + Provide a list of team members and assigned roles.
  + Submit preliminary research findings on the uniqueness of the recipe.
  + Provide any initial sketches or notes related to the recipe idea.
* **Recipe Design & Video Scripting**
  + Submit the finalized recipe with all necessary instructions, ingredients, and diagrams.
  + Submit the video tutorial storyboard showcasing the flow and key scenes.
  + Submit the video script, detailing the spoken content, visual cues, and any additional notes.
* **Video Production & Peer Review**
  + Submit the rough cut of the video tutorial.
  + Provide feedback forms used during the peer review process.
  + Submit the compiled feedback received from peers on your team's recipe and video tutorial.
* **Finalization, Reflection & Presentation**
  + Submit the finalized video tutorial after all edits.
  + Submit the finalized recipe, including any adjustments made after feedback.
  + Provide a written reflection from the team, detailing learnings, challenges, and solutions found during the project.
  + (Optional) If recorded, submit the video or presentation slides of the class presentation.
* **Reflection Document**
  + **Analysis & Interpretation**: Reflect on how your preliminary research influenced and refined the initial concept of your recipe. Were there any unexpected findings?
  + **Application & Problem Solving**: Discuss challenges faced during the video scripting and design phase. How did you adjust your approach to ensure effective communication through your video tutorial?
  + **Evaluation & Decision Making**: Reflect on the feedback received during the peer review. How did you prioritize and decide on the changes to be made to your recipe and video tutorial?
  + **Synthesis & Creation**: Propose potential expansions or reimagination of this project. How would you take your current recipe or tutorial to the next level in a follow-up project?