PROJECT MANAGEMENT AND RISK TRACKING

A Primer for Capstone

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ALL CAPSTONE TEAMS MUST:

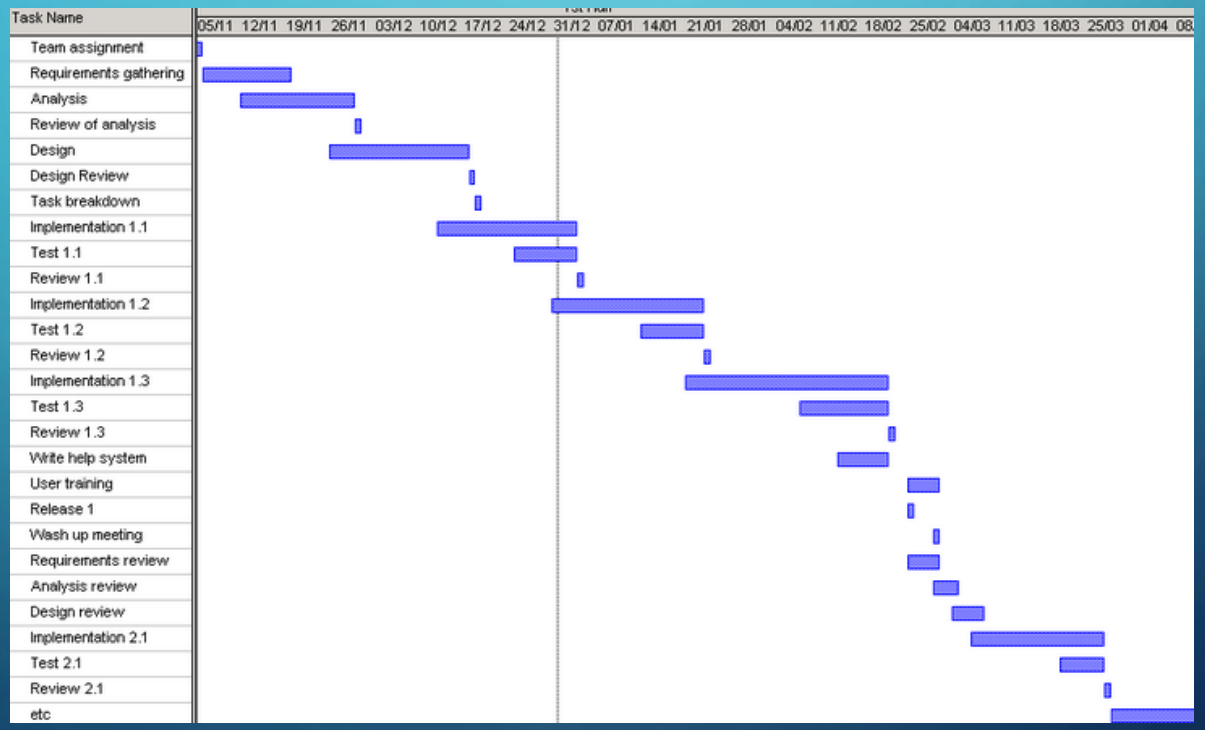
Choose a project management tool to maintain project status

Identify and track risks to their Anticipated Best Outcome

TRADITIONAL METHODS

- Traditional waterfall (Gantt chart) planning
  - List tasks and duration
  - Plan everything up front

- MS Project Training link available on the website



AGILE DEVELOPMENT

Iterative and incremental development methodology

Organize work into short duration “sprints”

Team commits to specific work for that period

Tasks are well defined

Members focus on a single task

Deliver something of value to the customer each sprint

THE AGILE PROCESS

STEP 1: FUTURE TASKS (BACKLOG)

The To-Do List

- A large group of ideas that together capture all of the features the customer wants
- Prioritized
- Not necessarily well defined
- Can be changed as needed:
  - Capture ideas for new work as you think of it
  - Remove work that is no longer necessary

STEP2: SPRINT PLANNING (GROOMING)

Preparing To-Do Items That Will Be Started Soon

- Further define ideas in the backlog
- Agree on relative size of the task
- Break up extra large tasks into manageable pieces
- Prioritize tasks
- Only go far enough to fill 1.5-2 sprints

STEP 3: THE SPRINT ITSELF

Doing the Work

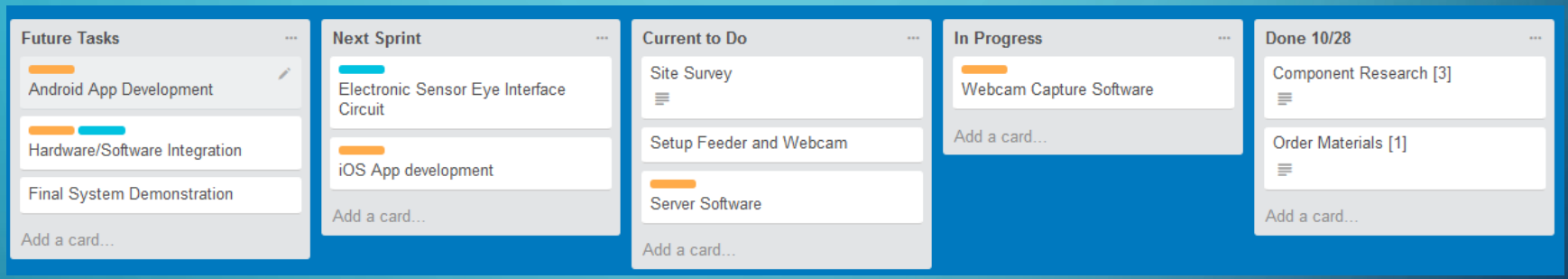
- The team commits to a set of tasks from the backlog
- You only get credit for tasks you complete
- Tasks move from To Do → Doing → Done

STEP 4: DEMO

Deliver Something of Value from Each Sprint

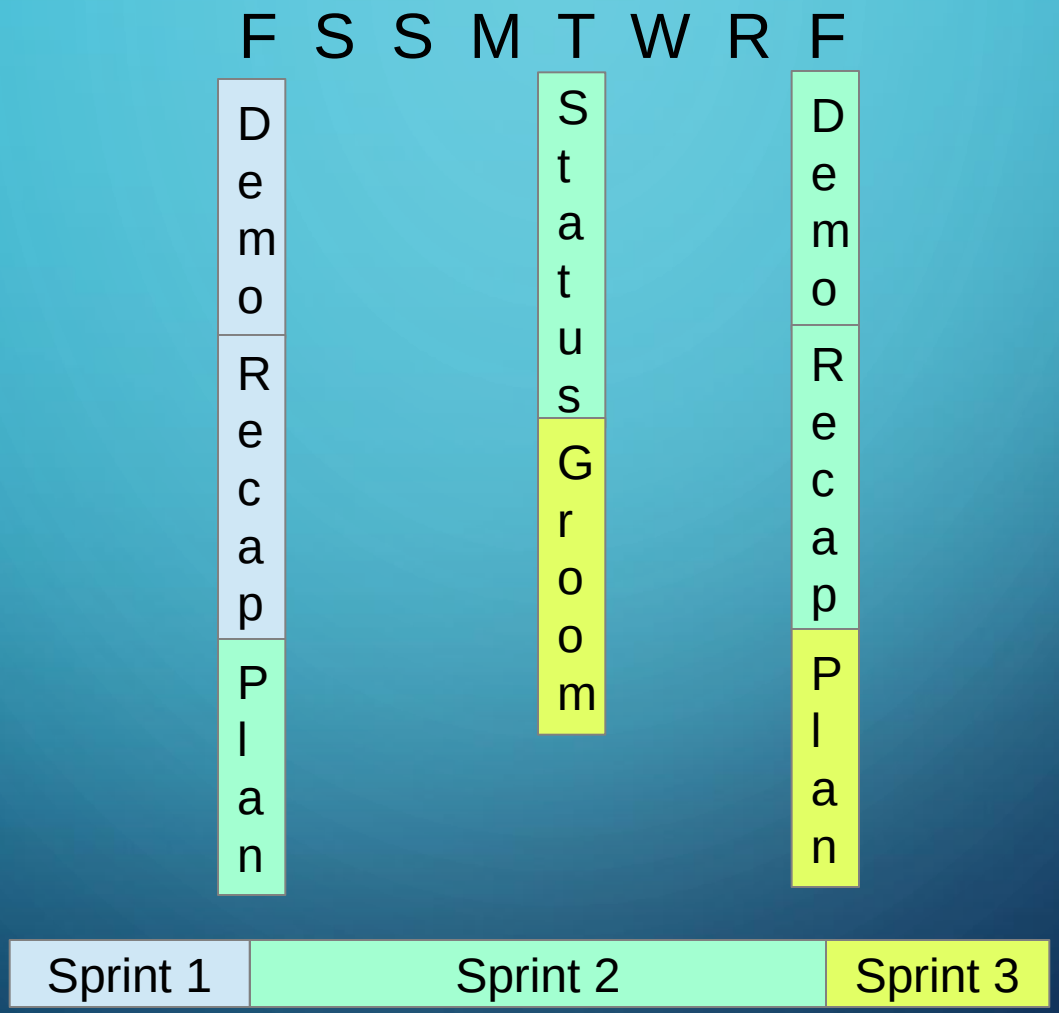
- Show what the team has done in the sprint
- Get feedback and forward direction from the customer

TRELLO IMPLEMENTATION

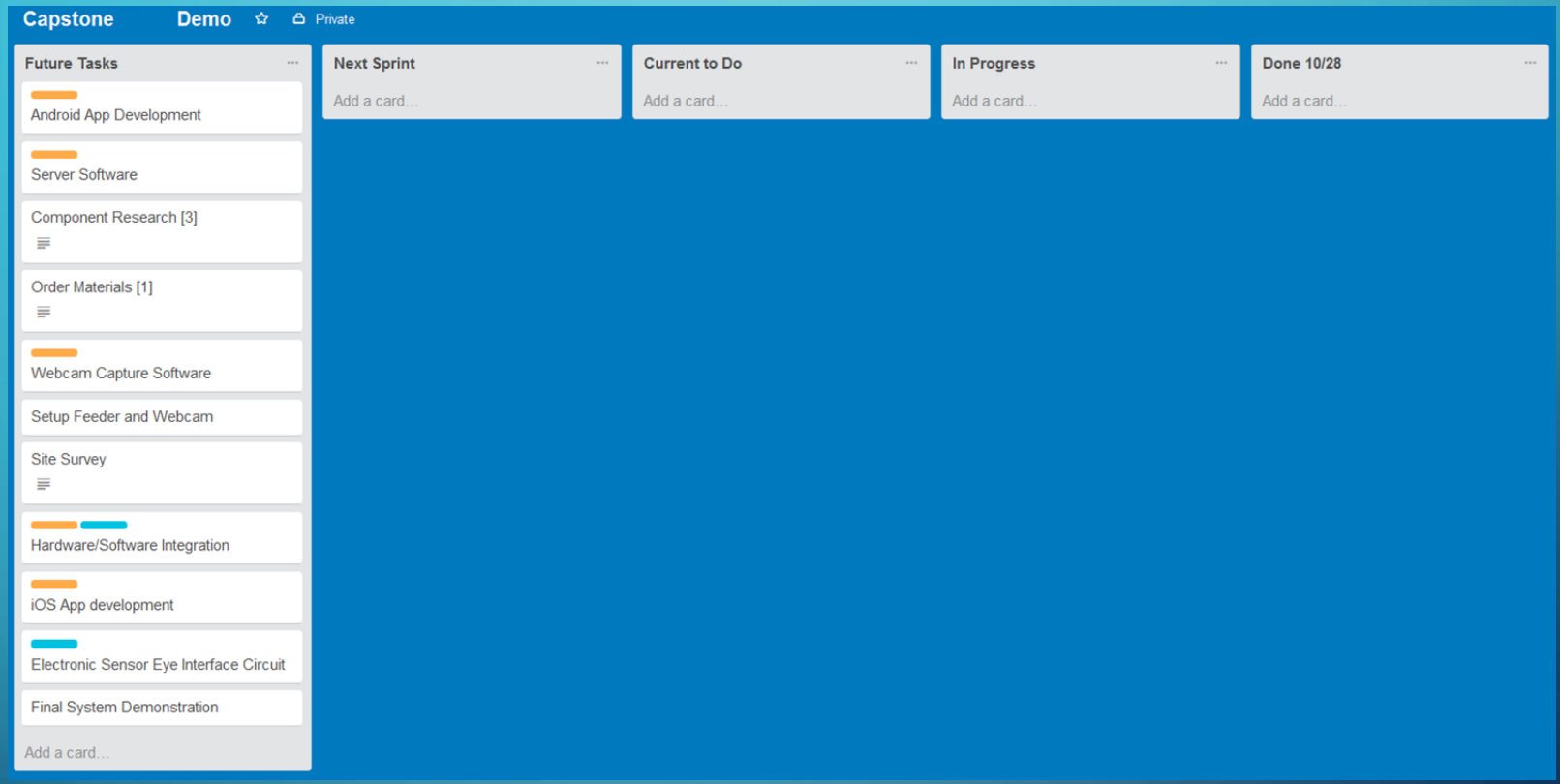


Example Training Link

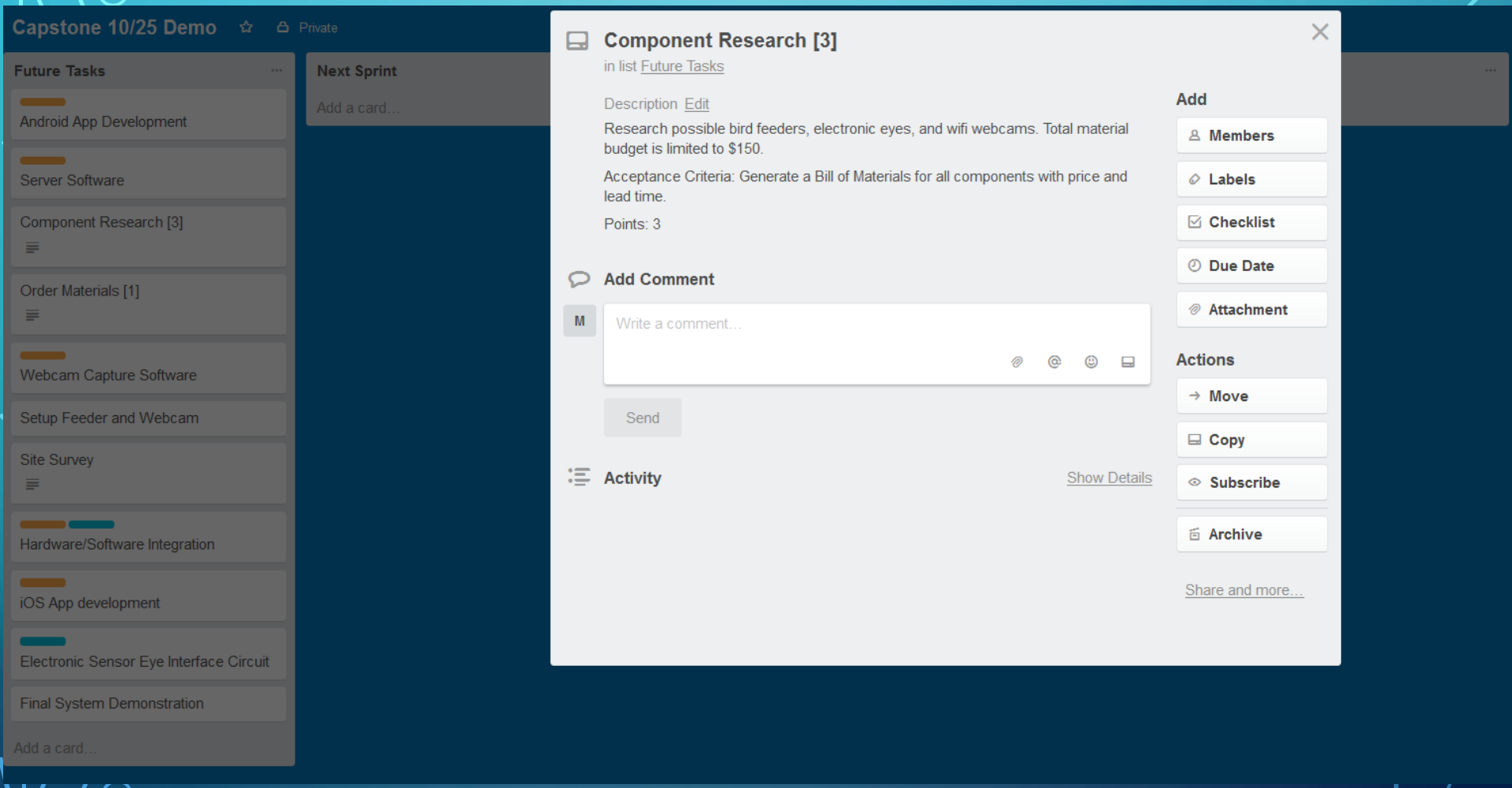
CAPSTONE ONE WEEK TIMELINE



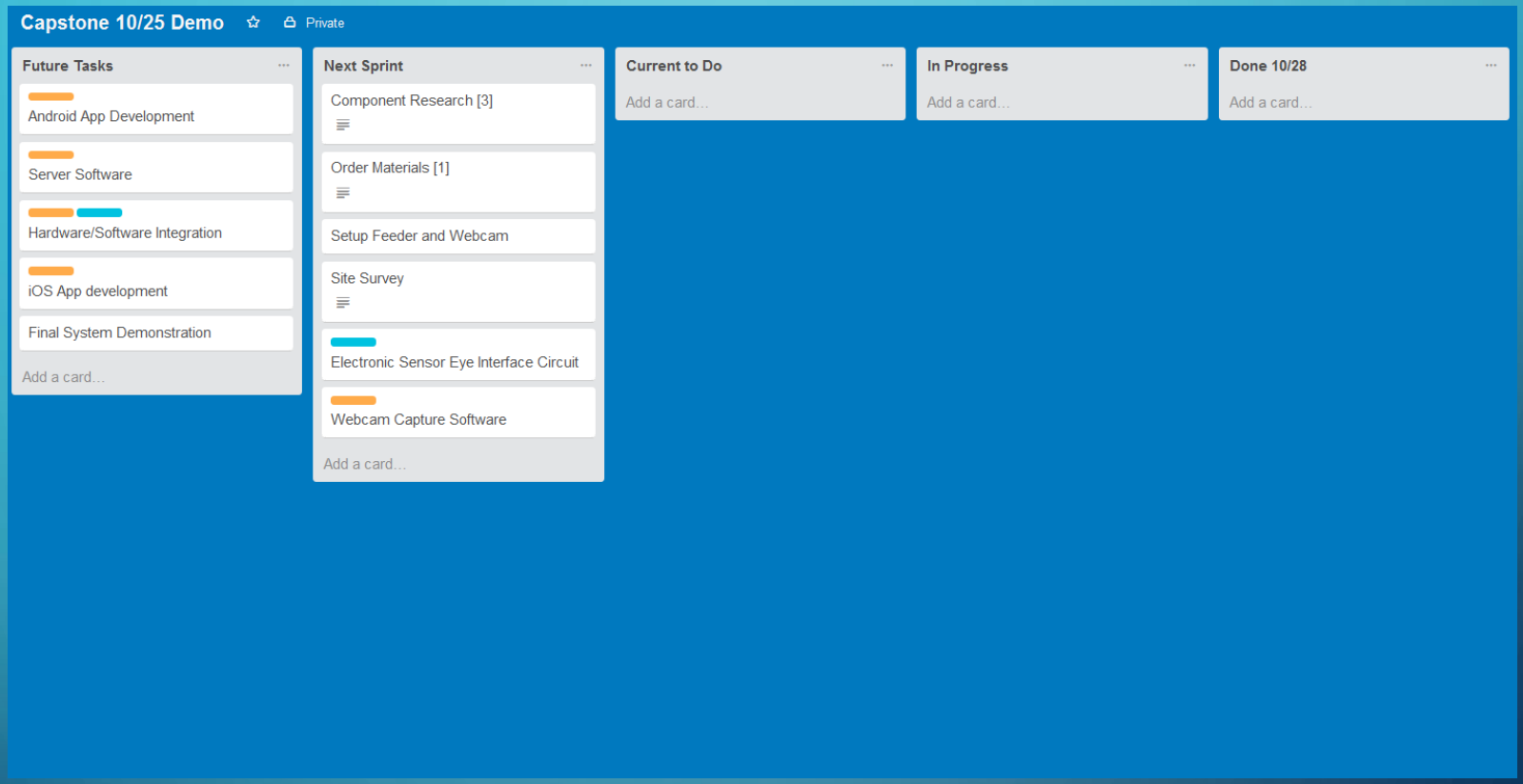
START OF PROJECT



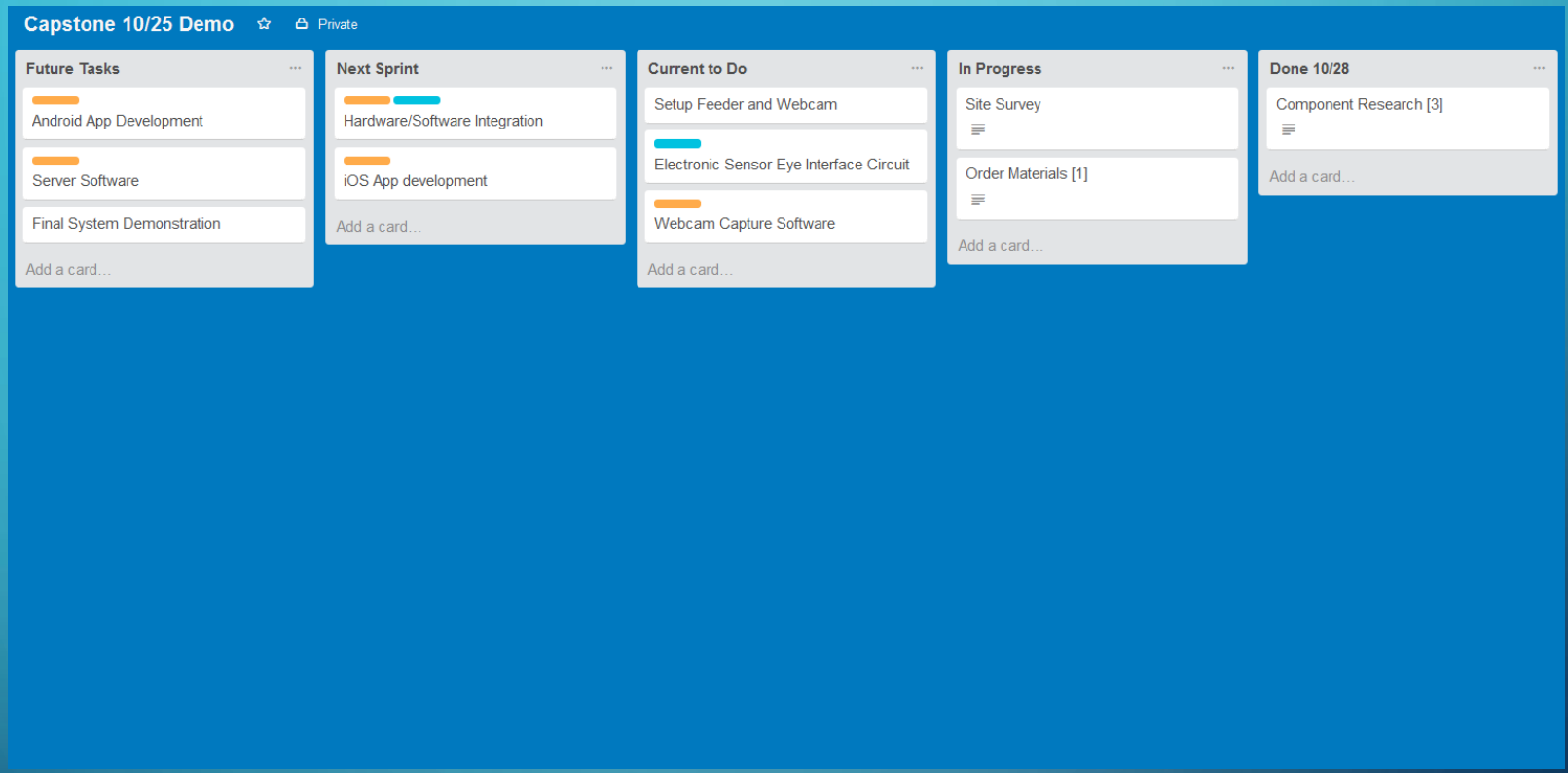
DETAILED TASK EXAMPLE



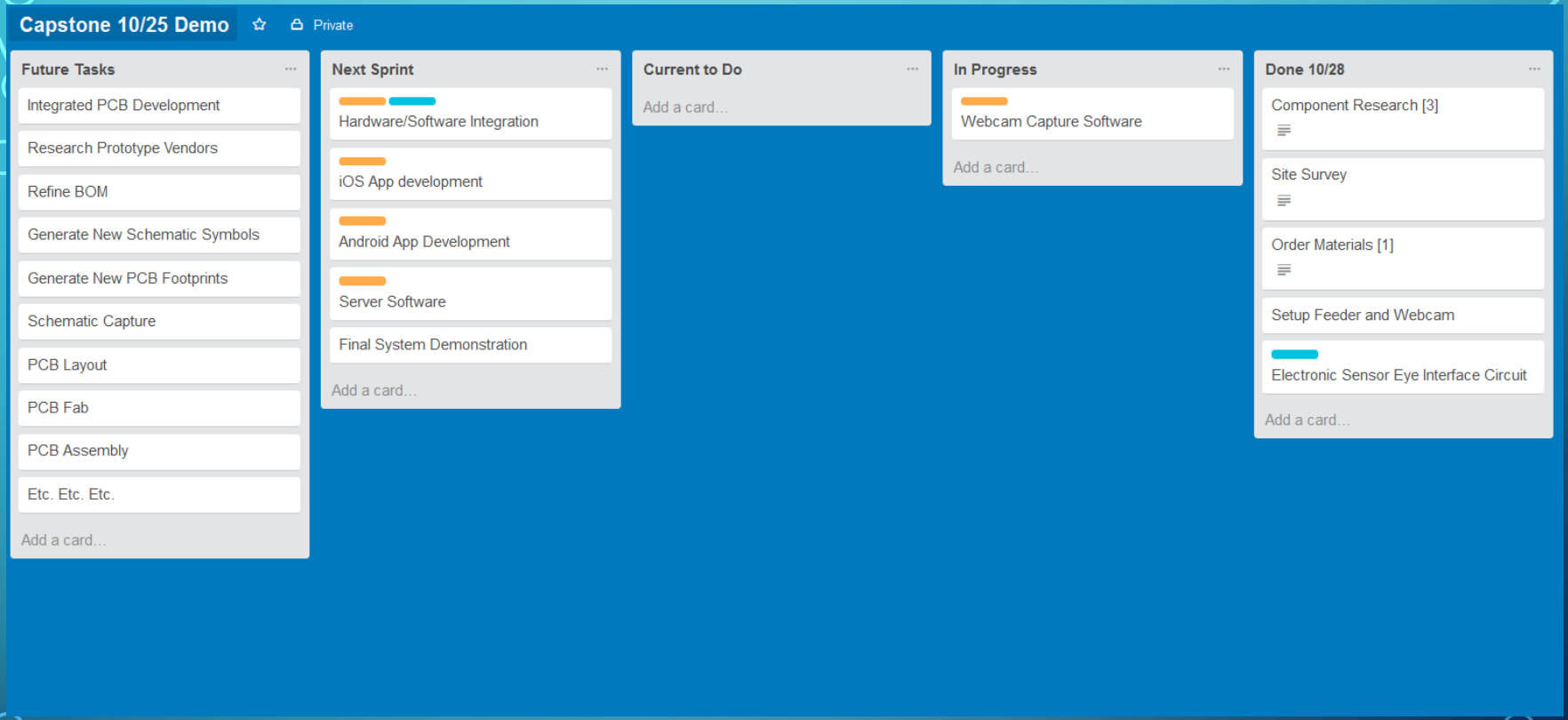
READY FOR SPRINT 1



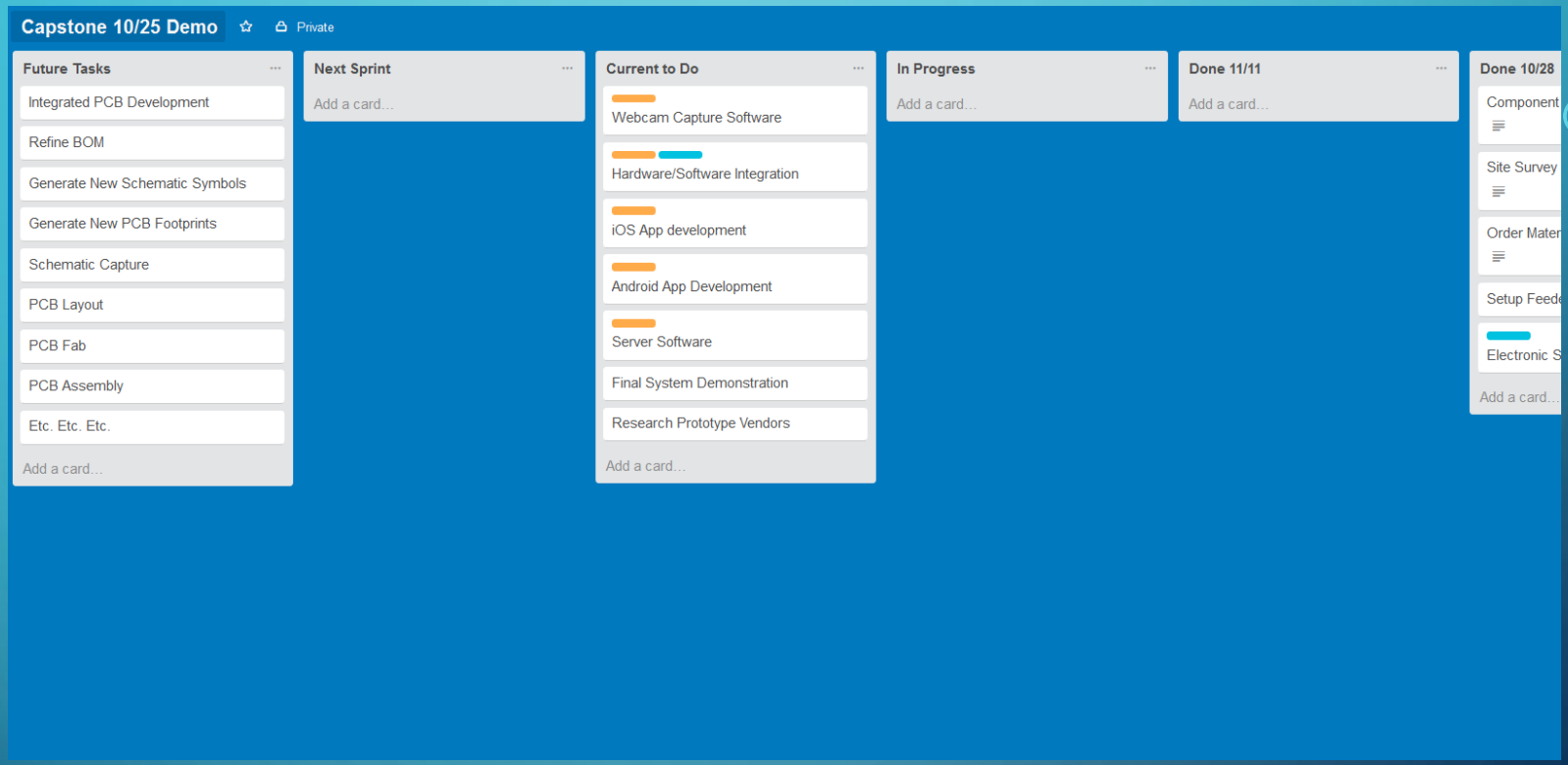
SPRINT IN PROGRESS



END OF SPRINT



START OF SPRINT 2



RISK TRACKING

WHY TRACK RISK?

CAPSTONE GUIDANCE

- Only track risks with a reasonable likelihood of occurring
- Remember that risks have a negative impact and may occur

  Once it happens, it's no longer a risk but an issue
- Identify:

  Critical decisions that need to be made, Findings that need to occur, Schedule targets that need to be hit, Points of failure, Assumptions made, Critical resources, etc

  that would impact the Best Anticipated Outcome of the project.
- Work backwards from your Best Anticipated Outcome

CAPSTONE IMPLEMENTATION

- You'll create a risk table in your logbook, from the template provided to include:
  - Description of Risk
  - Impact to the Project (Consequences if risk comes true)
  - Likelihood of Risk Occurring
  - Seriousness of Risk Occurring
  - Grade of Risk
  - Mitigation Strategy, if applicable

Grade				
	Seriousness			
		Low	Medium	High
Likelihood	Low	D	D	C
	Medium	D	C	B
	High	C	B	A

Recommended Action by Risk Grade	
Grade	Risk mitigation actions
A	Immediately identify and implement actions to reduce the likelihood and seriousness as a top priority.
B	Identify actions to reduce the likelihood and seriousness to implement as the risk become more likely/serious.
C	Identify actions to implement should the risk occur.
D	Monitor the risk for changes in the future.

- Revisit weekly to update grade and action, add new risks, retire items that are no longer risks.
- Your current risk table will be included in your major progress reports throughout the year.

RISK EXAMPLE

- Description: A critical system component is currently out of stock and may not be available in time for integration and testing
- Impact: A major feature of the project might not be implemented
- Likelyhood: Medium
- Seriousness: High
- Grade: B
- Mitigation Strategy: Identify when the part would be needed to stay on schedule. Check stock daily or pay premium price (reduces likelihood of risk occurring) if it becomes available. As the need by date approaches, investigate alternative components that could be used instead. (reduces seriousness)

Grade				
	Seriousness			
		Low	Medium	High
Likelihood	Low	D	D	C
	Medium	D	C	B
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REQUIRED NEXT STEPS

Review your project management choice with TDs

Start identifying risks to add to your logbook