

# Agile Project Management for Software Development

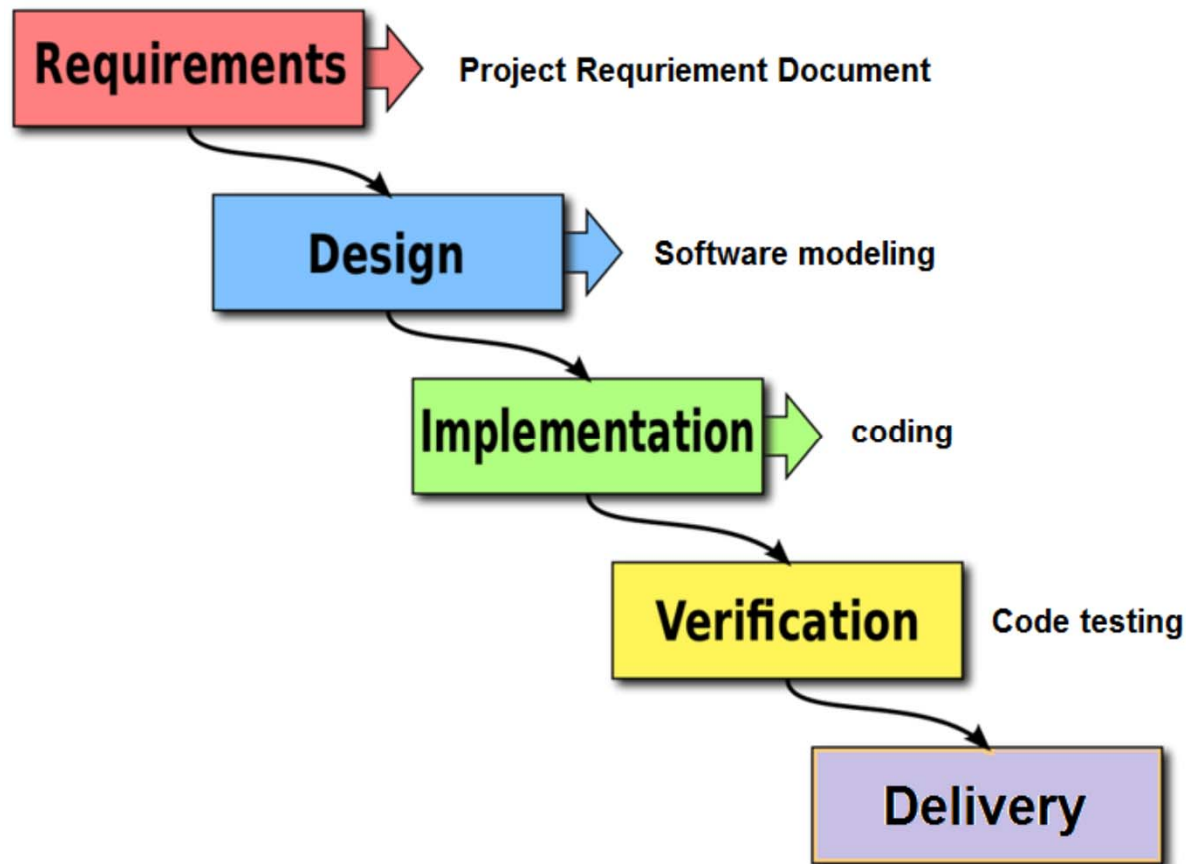
Senior Design II  
Electrical Engineering and  
Compute Science

# Software Development

- Each Team project has software (coding) component
- Common Problems
  - Start big
  - Good model and good design
  - Curse of complexity
  - Incomplete software
  - Failed Delivery

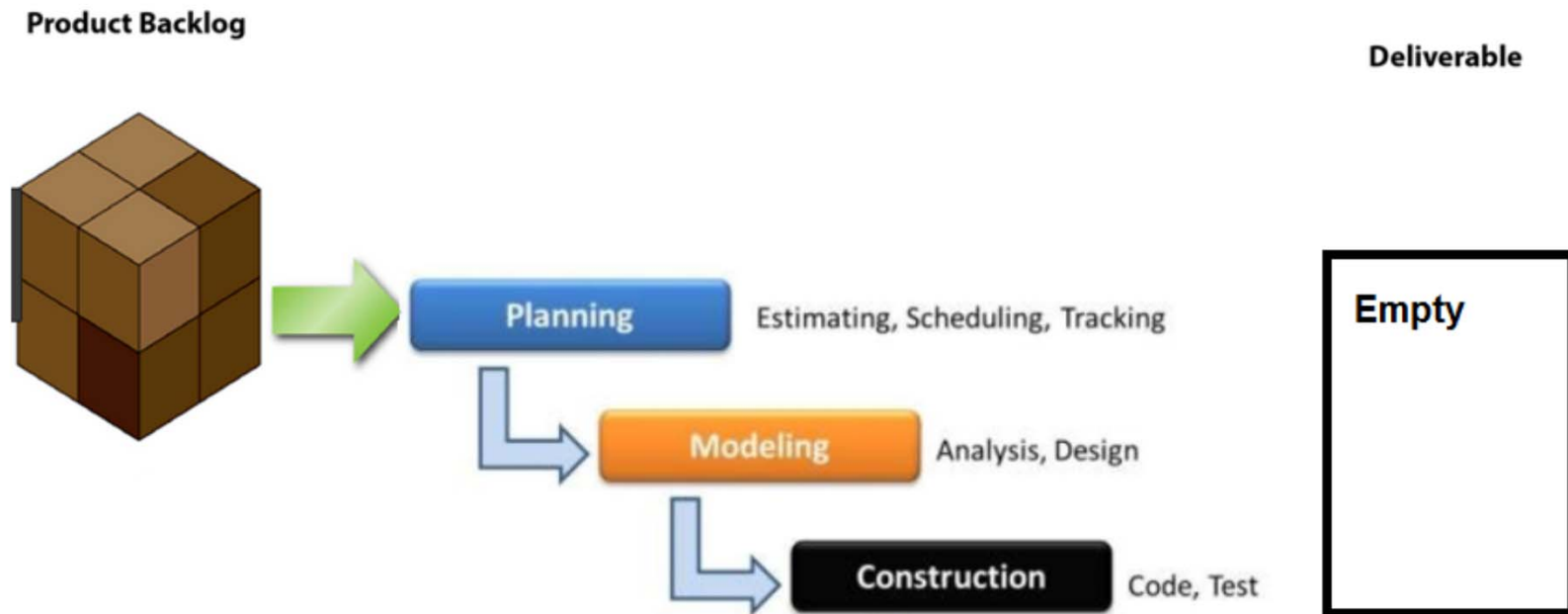
# Models for Software Development

- “Waterfall” Model

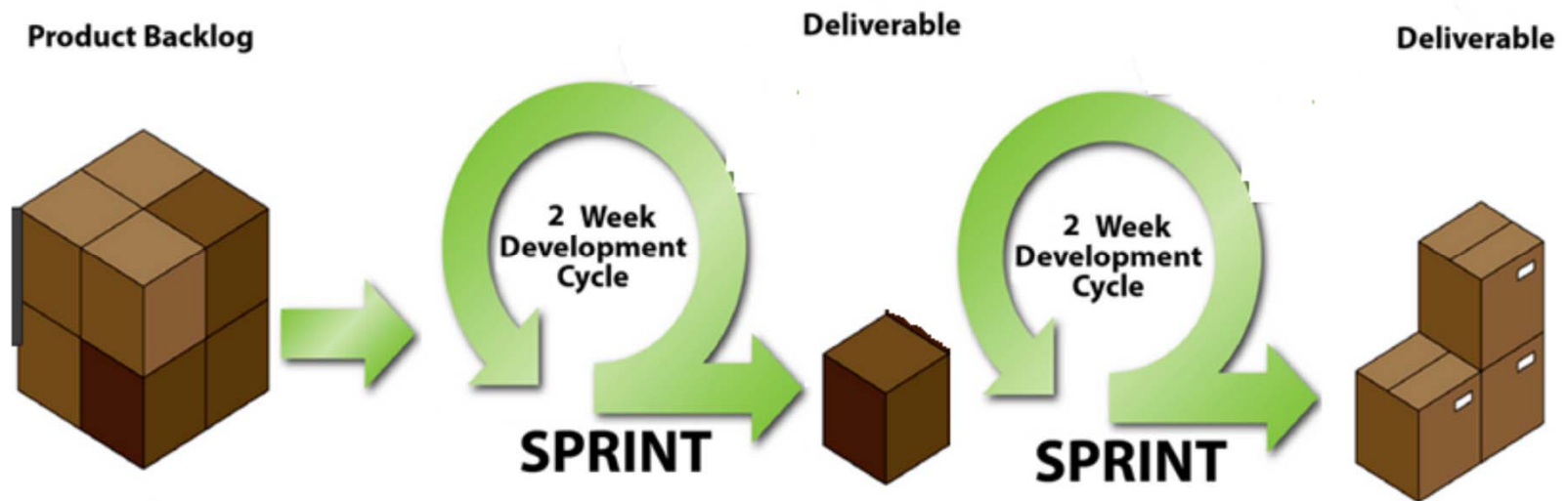


# Models for Software Development

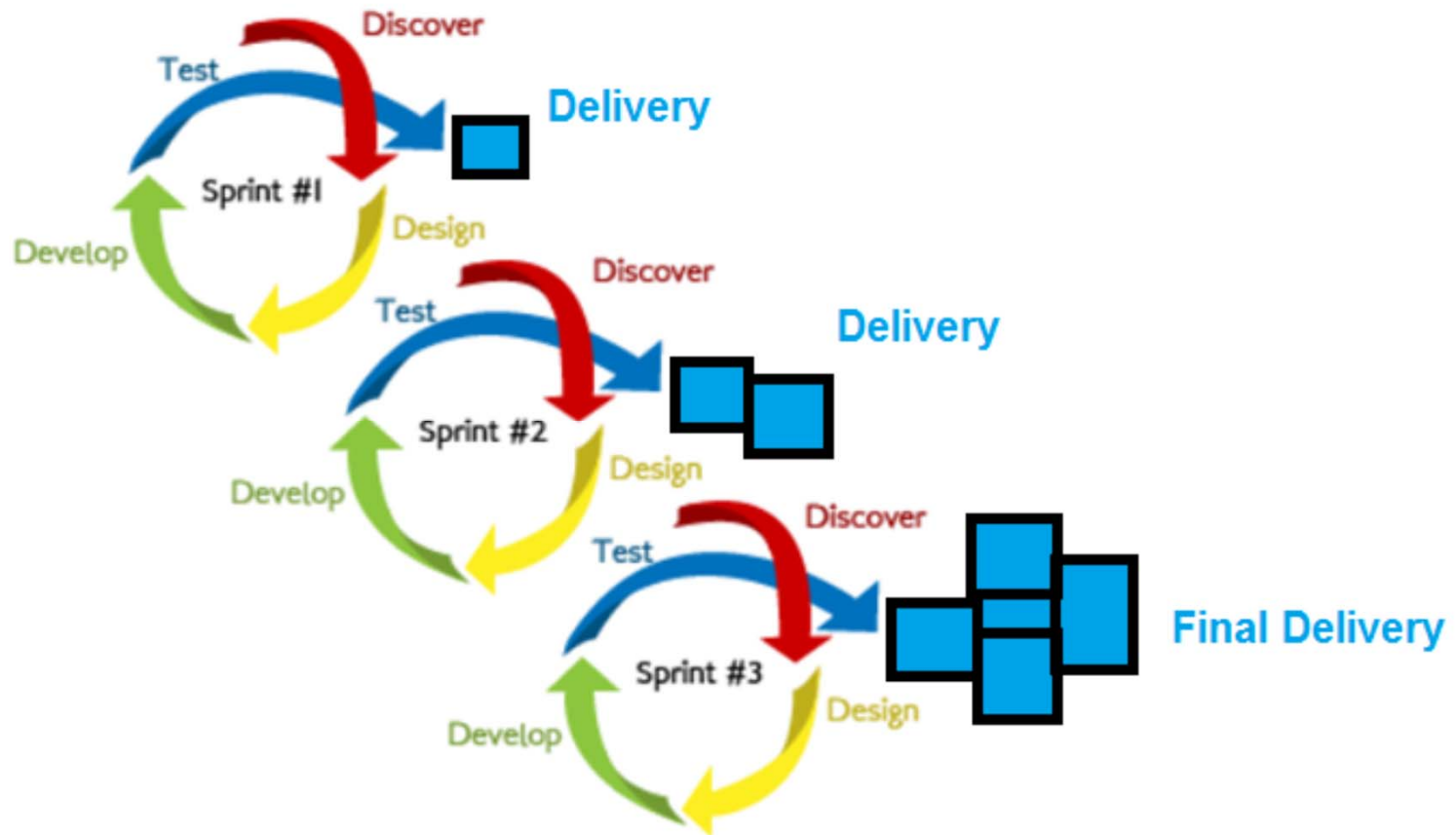
- “Waterfall” Model



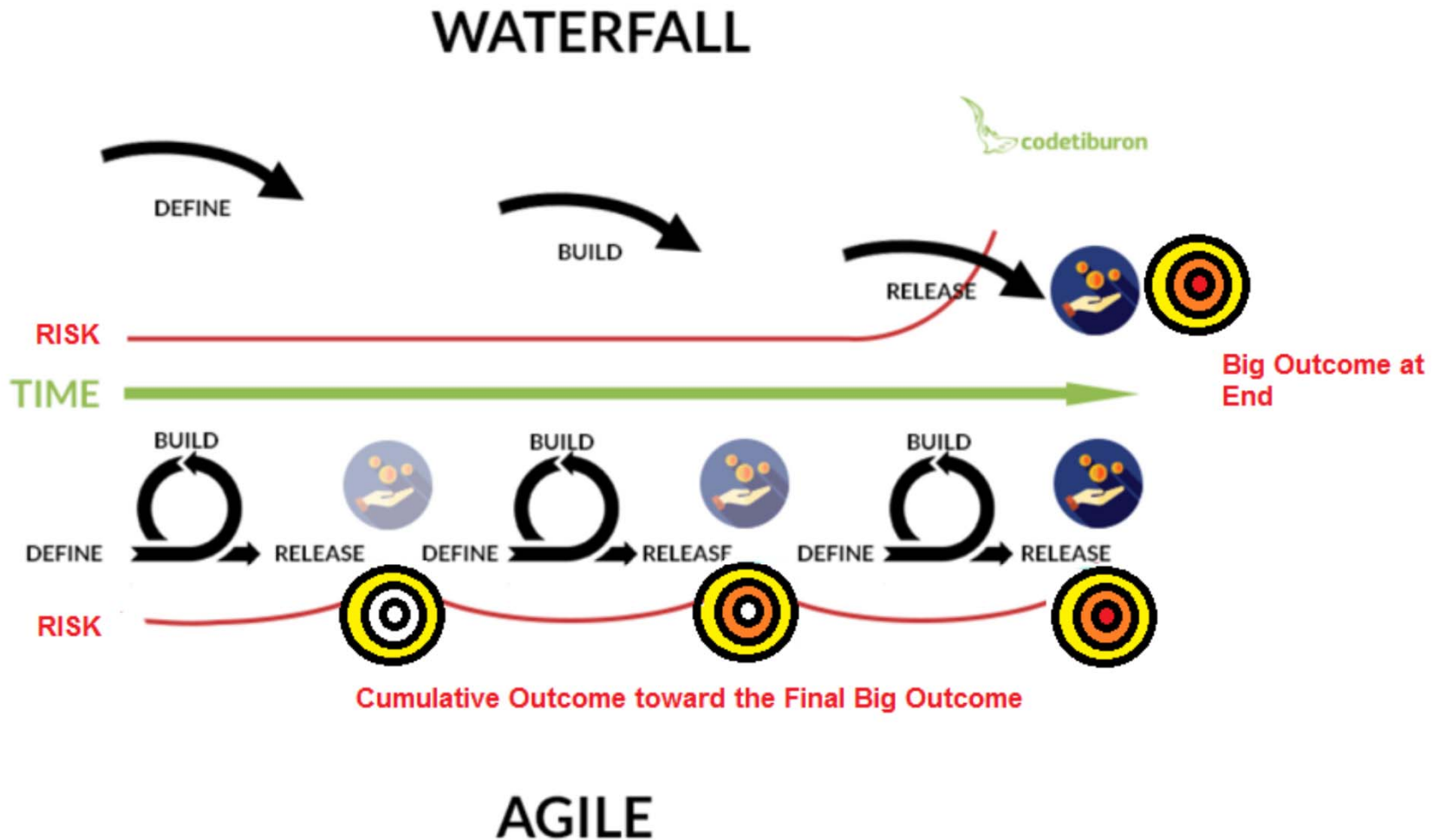
# Agile Model



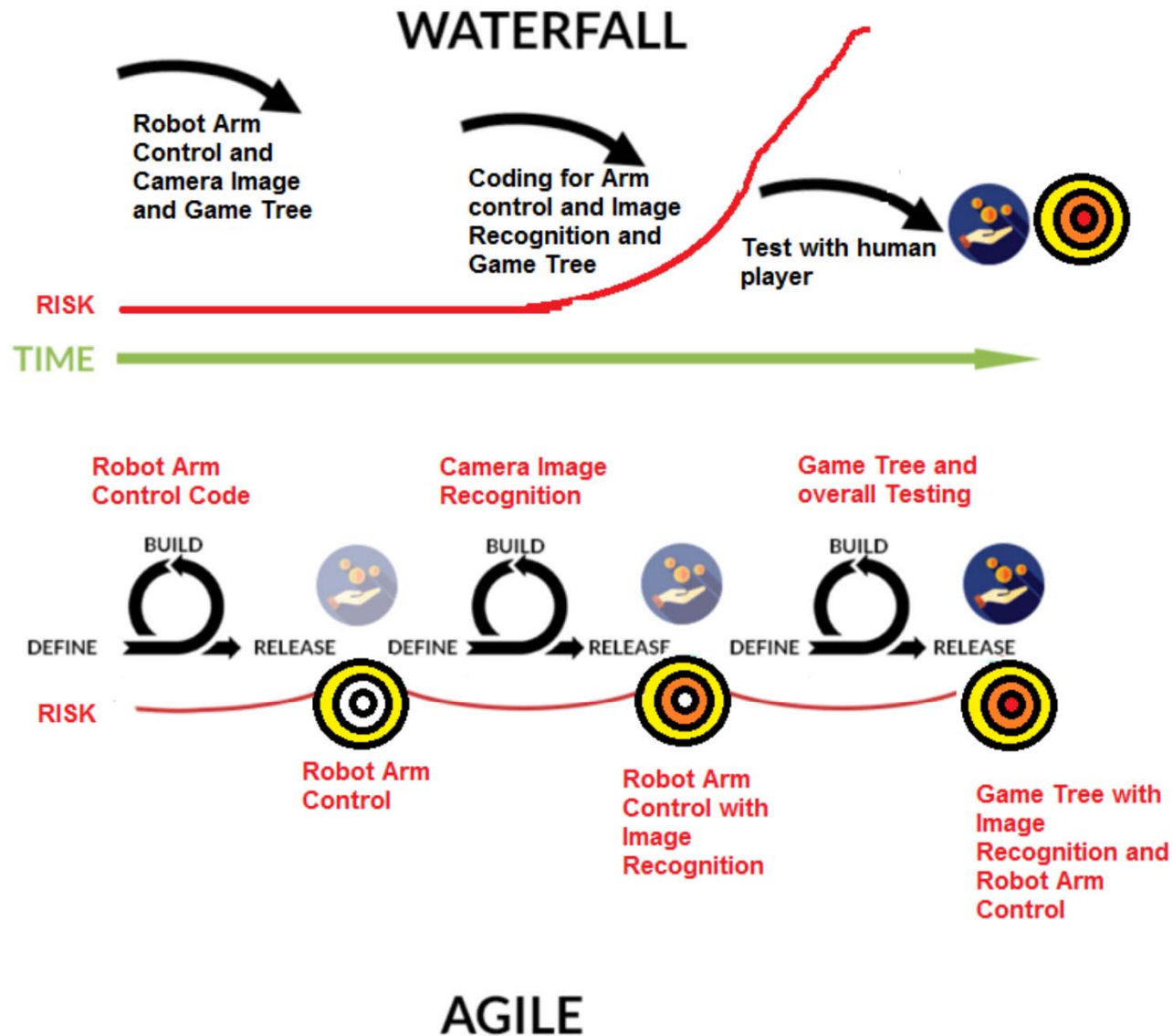
# Agile Model



# Waterfall vs Agile



# Waterfall vs Agile (Illustration with Terminator project)

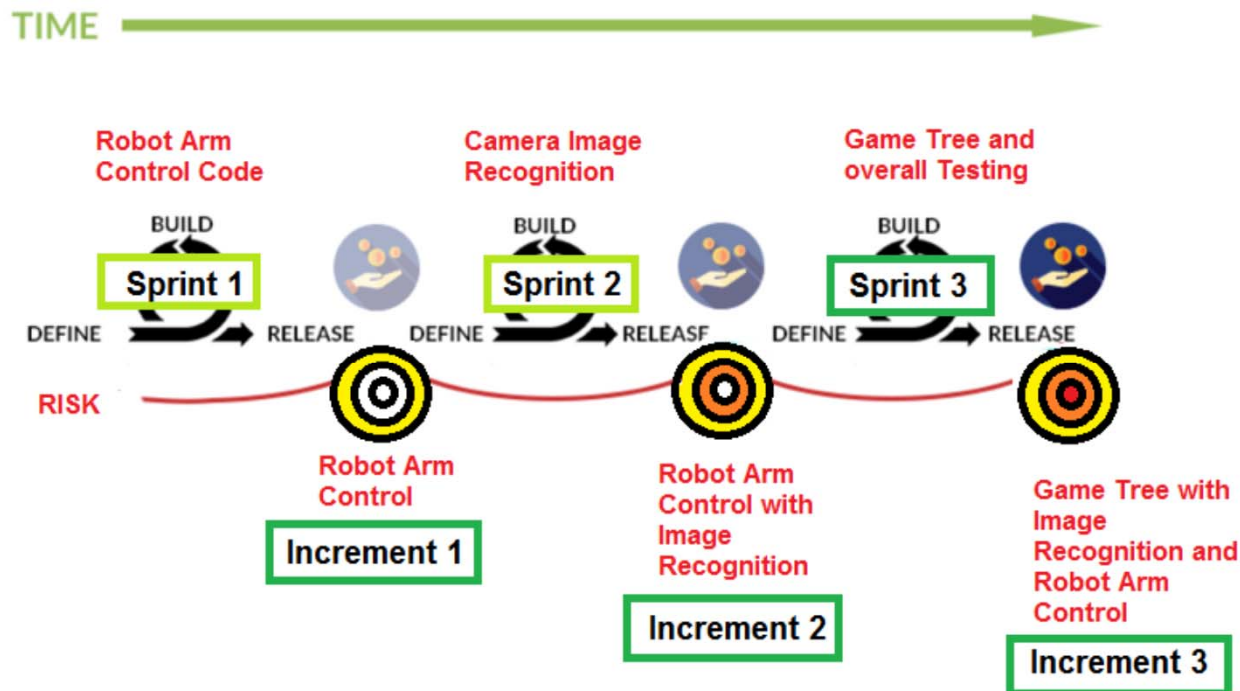




# Agile Management

- **Essence**

- **Sprint:** Short Iteration (2 weeks in the class)
- **Increment:** Some shippable (deliverable or class demonstrable) functionality



# Agile Management

- Agile Workflow
  - Sprint 0: Target a delivery → Divide task into a few small pieces
  - Sprint 1: A small piece > design and build > test > showcasing the increment 1
  - Sprint 2: Another small piece > design and build > connect to increment 1 . > test> showcasing the increment 2
  - Sprint 3 > Sprint 4 > ...
  - Final Product

# Agile Management

- Advantages
  - Cyclic iterative process
  - Coordinated and organized
  - Value-driven prioritization: important component has to be prioritized for the entire software
  - Continuous incremental delivery and continuous integration
  - On budget, on goal, and on-time delivery

## Class Activity for Agile Management of Software Development – for each team

- **Start from “Project Implementation Plan”**
- Specify the software requirement of the team project/product
- Describe the final software deliverables (in the product)
- Divide the software in to a few segments/components
- Apply Sprint and Increment every 2 weeks
- From Jan 27
- Sprint 1: Jan 27 – Feb 8
- Sprint 2: Feb 10 – Feb 22
- Sprint 3: Feb 24 – Mar 7
- Sprint 4: Mar 9 – Mar 28
- Increment 1
- Increment 2 + Increment 1
- Increment 3 + Increment 2 + Increment 1
- Increment 4+ Increment 3 + Increment 2 + Increment 1

# Class Activity for Agile Management of Software Development – for each team

Agile Management Form Senior Design II

Date: \_\_\_\_\_

Team Name: \_\_\_\_\_

