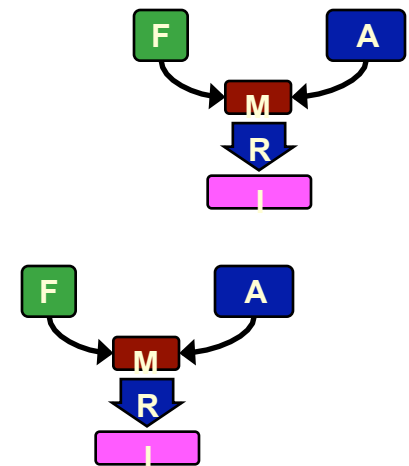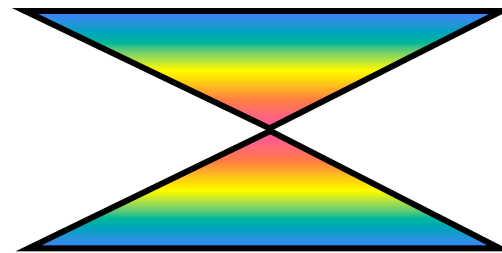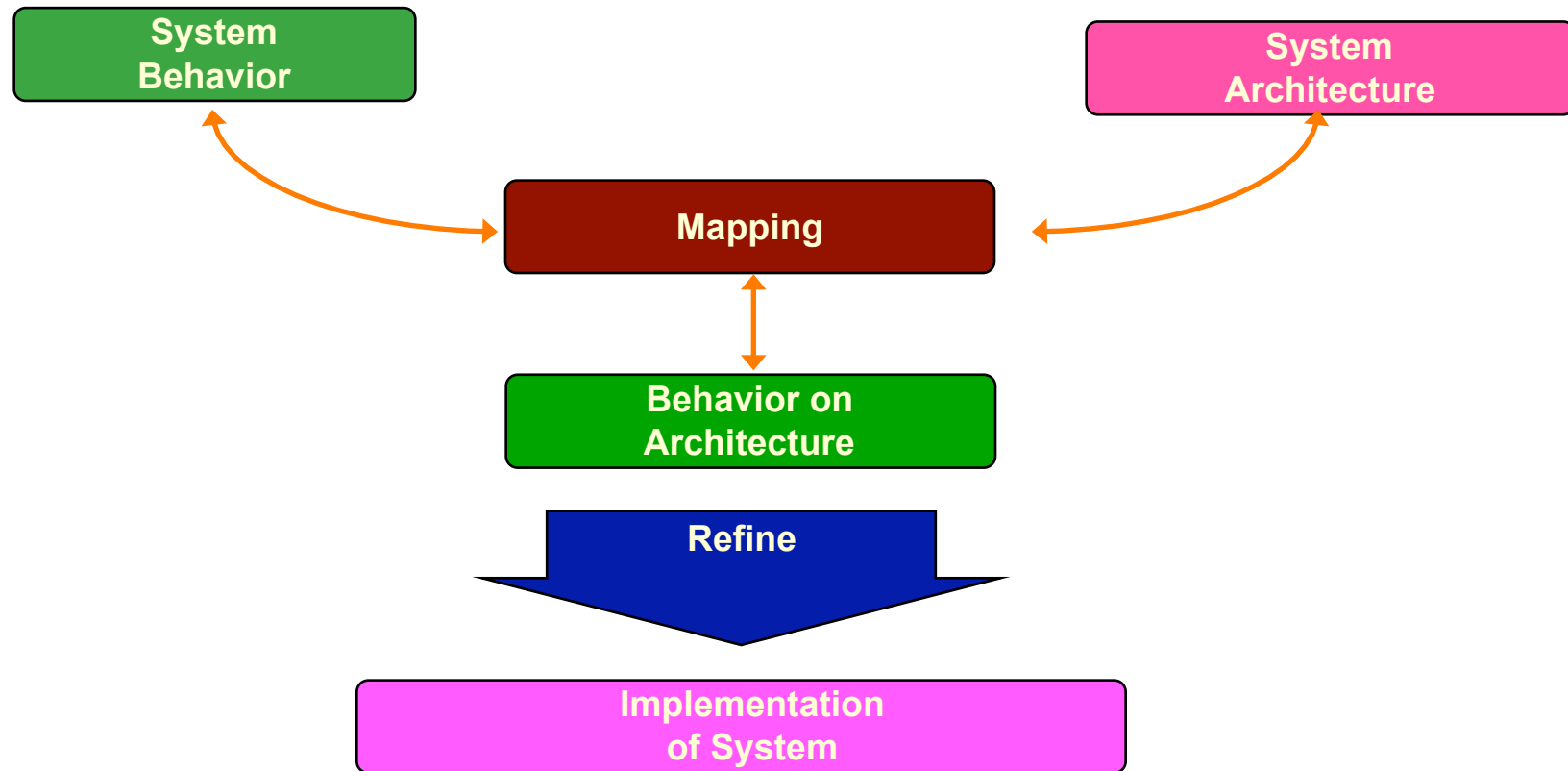# Summary of the Course

What, Why, When

Design Methods

Refine

- **Platform-Based design and Successive Refinement principle**

- **Communication-based design thru successive refinement as paradigm for re-use and correct by construction method**

The Y-chart view of the Course

System Behavior

◆ **Models of Computation as paradigm for system level behavior capture**

   ▲ **FSM**

   ▲ **Synchronous Languages**

   ▲ **Data-flow**

   ▲ **Petri-net**

   ▲ **Discrete Event**

   ▲ **Tagged Signal Model**

   ▲ **Metropolis Meta-Model**

Tools

- ◆ **Ptolemy II**

- ◆ **LabView**

- ◆ **Simulink**

- ◆ **Metro II**

Architecture

- ◆ **Xilinx Vertex II Pro**

- ◆ **Micro-processor based architectures**

- ◆ **Architectural Services**

- ◆ **Protocols and interconnects**

Mapping

◆ **Scheduling Algorithms and RTOSes**

◆ **Software Estimation**

Distributed Systems

◆ **Auto Design Flow:**

▲ **Issues related interconnect networks (CAN, FlexRay)**

▲ **Real time OS and Scheduling Issues**

▲ **Stochastic Analysis**

▲ **Autosar**

◆ **Energy Efficient Buildings**

◆ **Synthetic Biology**

The Y-chart view of the Course

System Behavior

Ptolemy

System Architecture

Mapping

Mescal

Behavior on Architecture

Refine

Implementation of System

Metropolis