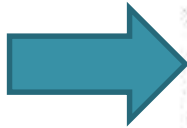


Lectures of the Course

<http://venus.eas.asu.edu/WSRepository/ASU-VPL/>

- **ASU-VPL can be used in an engineering's freshman class.**

- [L01 - About the Course and Syllabus](#)
- [L02 - CS Related Disciplines](#)
- [L03 - VPL - Visual Programming Language](#)
- [L04 - ALU Simulation in VPL](#)
- [L05 - Number systems](#)
- [L06 - Finite State Machine and Programmig](#)
- [L07 - Algorithms](#)
- [L08 - Event Driven Programming](#)
- [L09 - Programming Langauges](#)
- [L10 - Operating System](#)
- [L11 - Unix and Edison](#)
- [L12 - IoT and RaaS](#)
- [L13 - IoT and Augmented Reality](#)
- [L14 - from OOC to SOC](#)
- [L15 - SOC and Web Software](#)
- [L16 - Presentation Techniques](#)
- [L17 - Big Data](#)
- [L18 - Cloud Computing](#)
- [L19 - Amdahls Law](#)
- [L20 - Ethics Theories](#)



Introduction to Computer Science Using Robotics Experiments

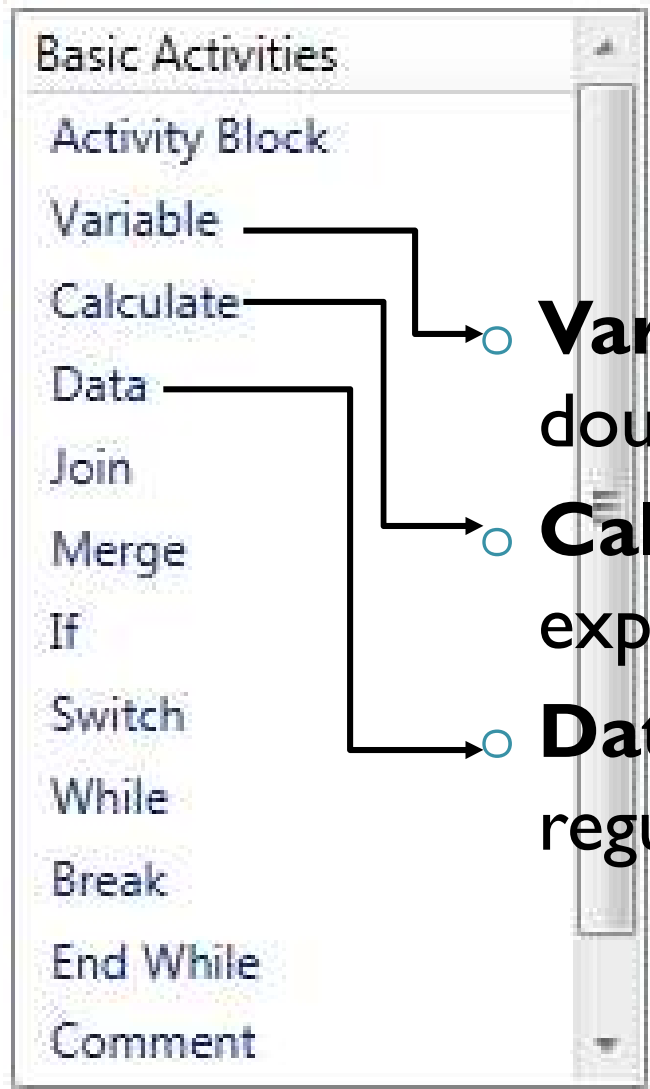
ASU Visual Program Language

ASU-VPL

Yinong Chen

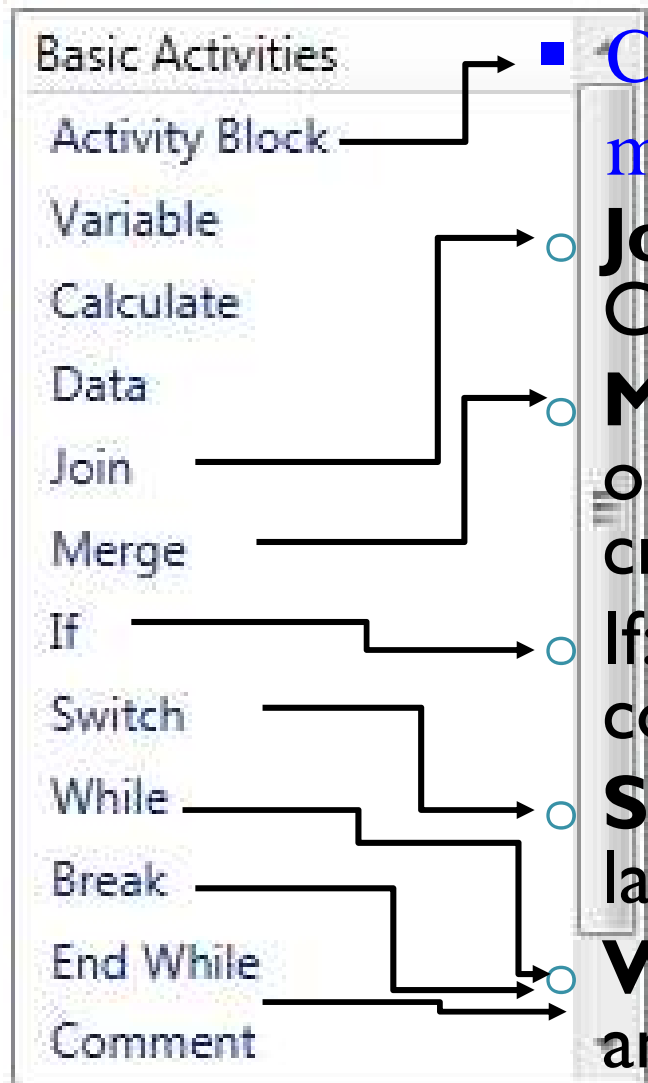
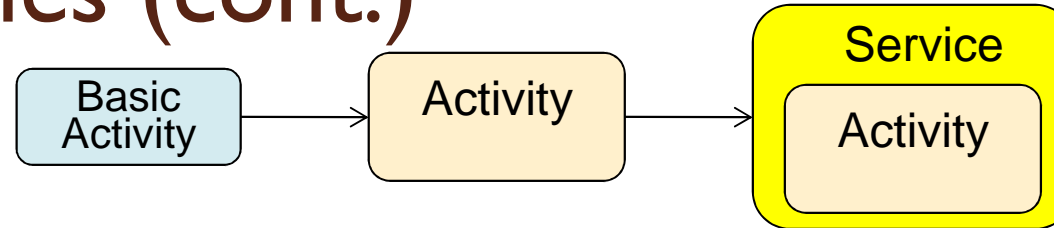
Basic Activities of VPL

There are 10 basic activities, and many composite services in VPL Repository



- **Variable:** supports basic types (Int32, double, string, boolean, etc)
- **Calculate:** Calculate the value of typical expression that is supported by C++, Java
- **Data:** Introducing the constant values in regular programming language

Basic Activities (cont.)



- Construct a composite activity (block or module)

- **Join:** proceeds when all threads arrive; Can be used for parallel data or threads.

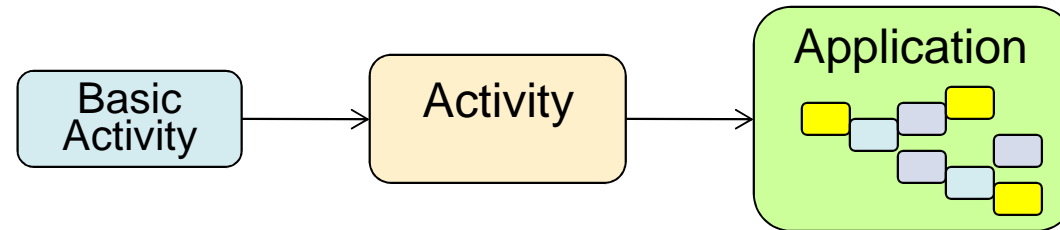
- **Merge:** proceeds when one of the data or threads arrives. It can be used for creating the return point of a loop;

- **If:** same as regular programming language construct; It allows multiple conditions.

- **Switch:** same as regular programming language construct;

- **While:** start a loop; **Break** exits a loop, and **End While** returns to While

Activity a as Building Block



- Basic Activity and Activity are building blocks of diagrams or flowchart.
- Data transfer between the activities are through
- Global variables and parameter passing

Example of Activity and Parameter Passing

