

3DMM 2015 Project:

Simple PCI-e Graphics Card with 3D Display

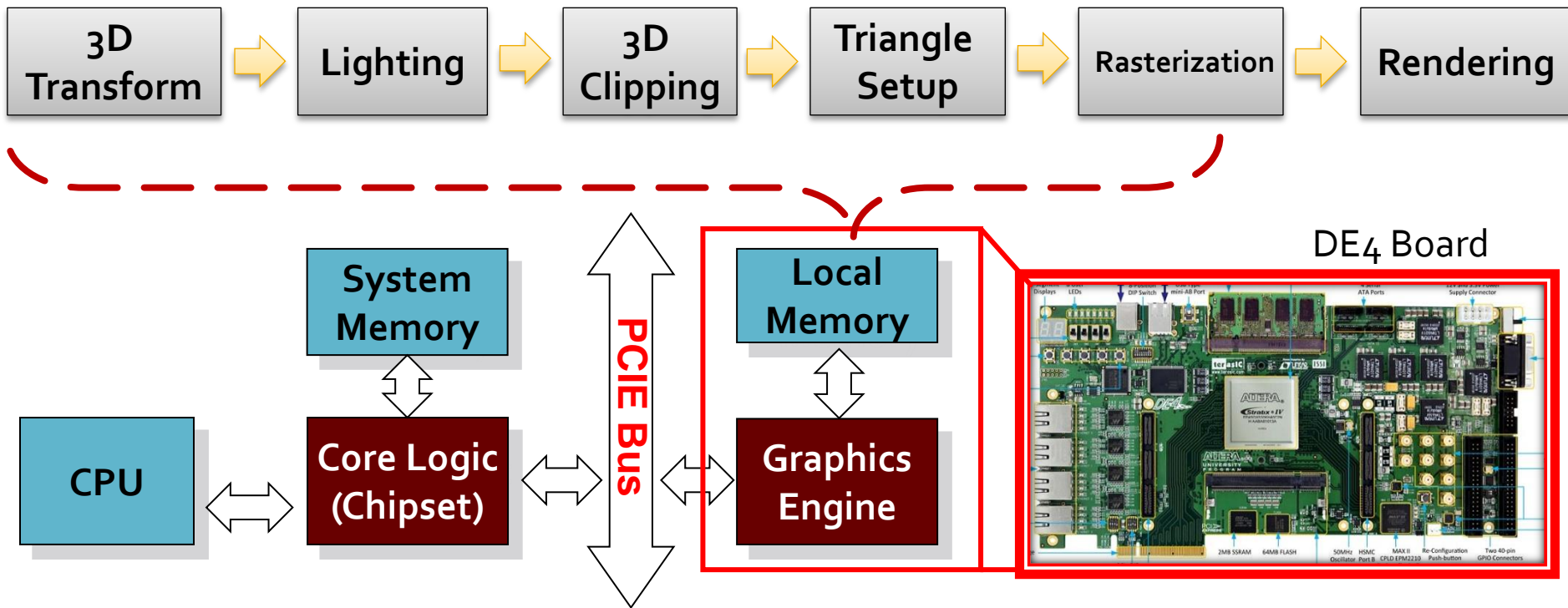
Media IC & System Lab, NTU GIEE
Prof. Shao-Yi Chien

Outline

- Goal
- Requirements
- 2012 Final Results
- Background Prerequisite
- Equipment Usage

Goal(1/2)

- Simple graphics pipeline in FPGA



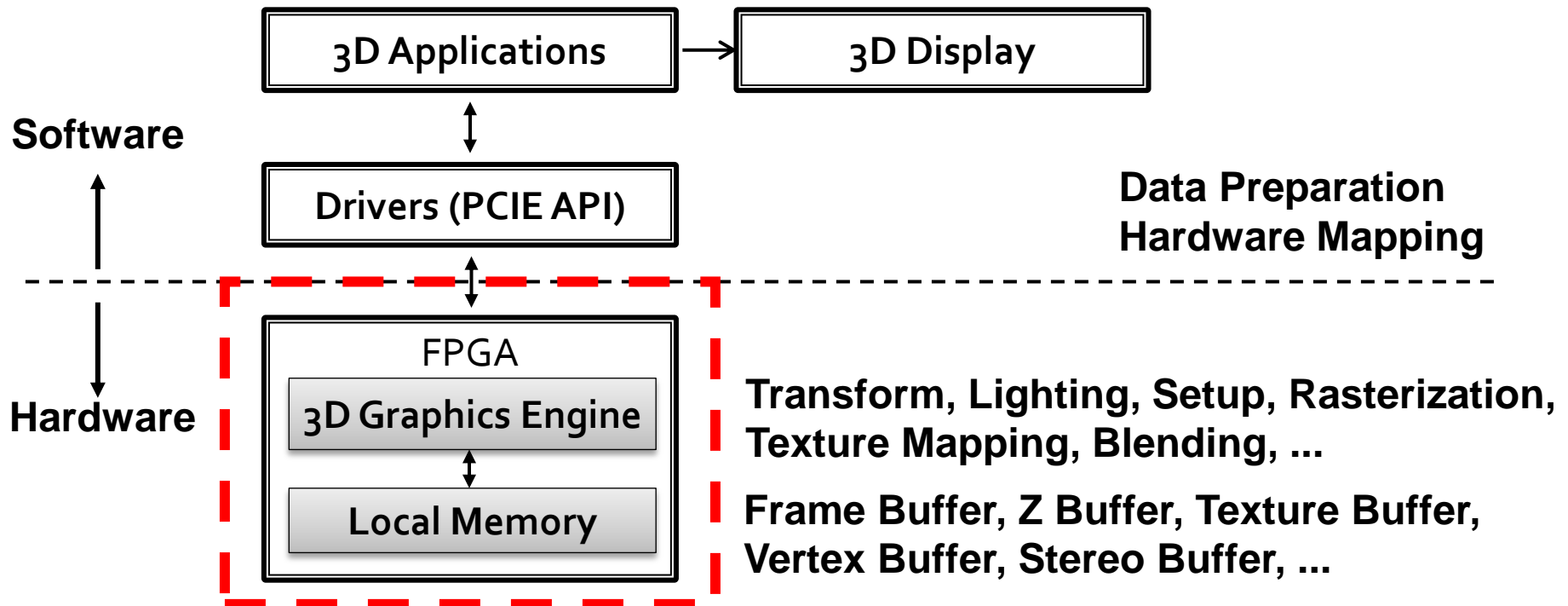
Goal(2/2)

- Combine with 3D display.



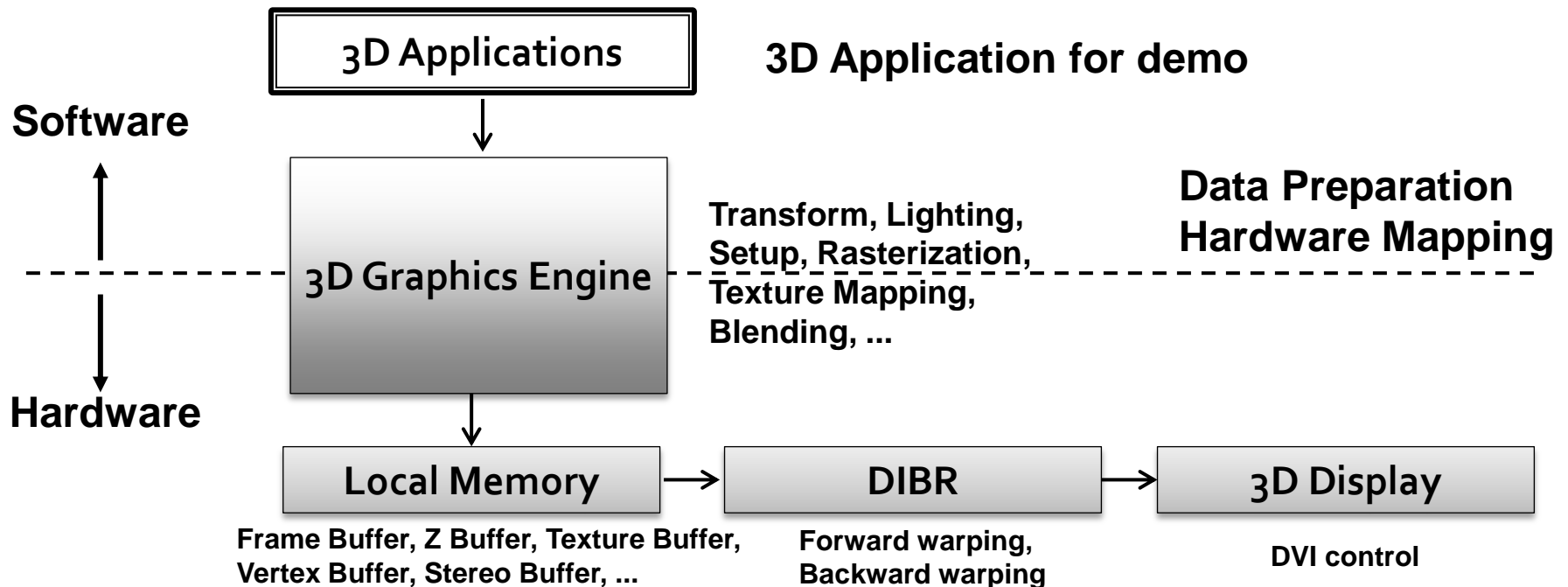
Project Requirements - 1

- Implement a graphic engine on DE4 PCIe adapter
 - HW/SW co-design
- Transmit data to graphic engine by PCIe
- 3D Application for stereo demo

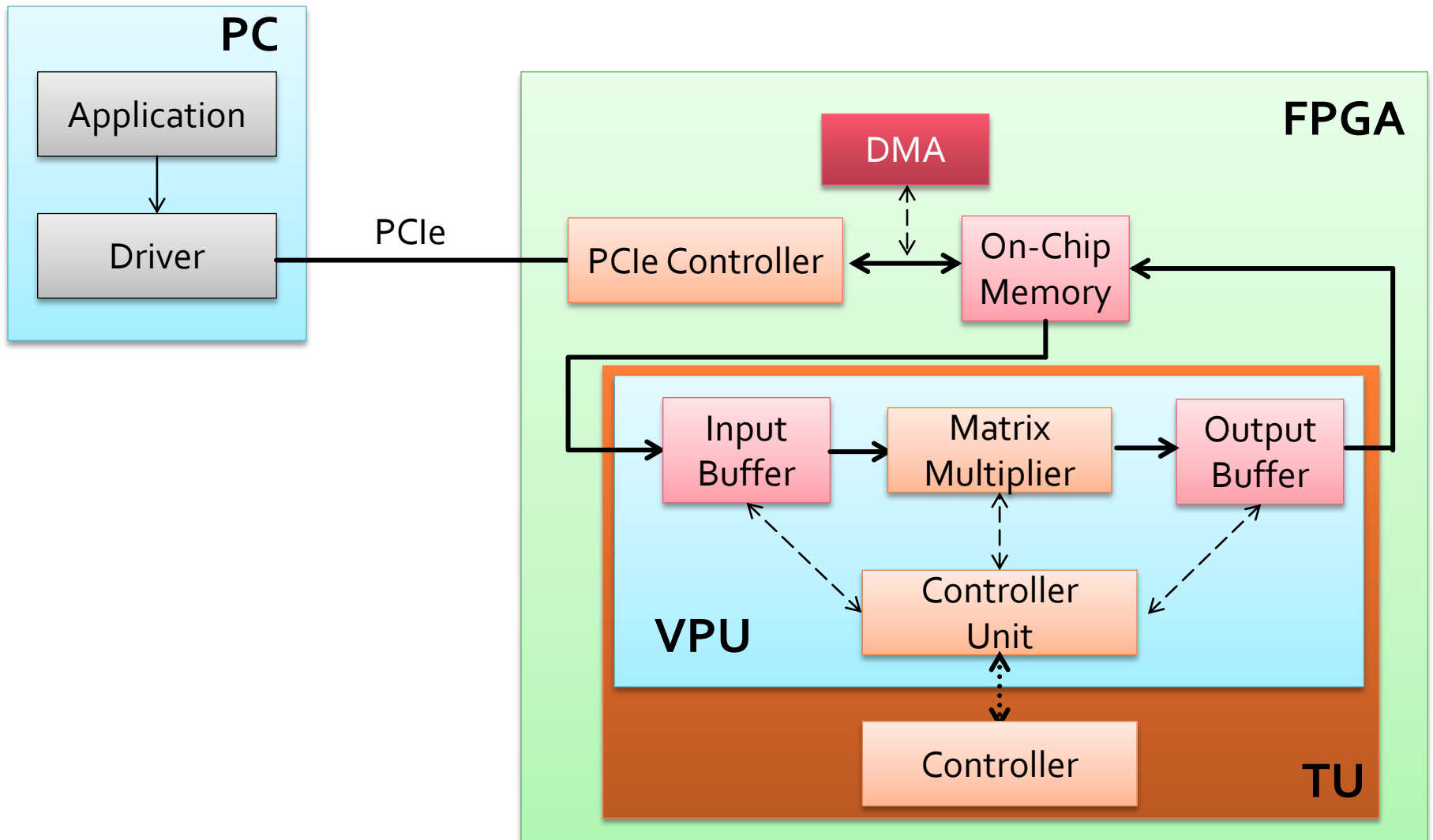


Project Requirements - 2

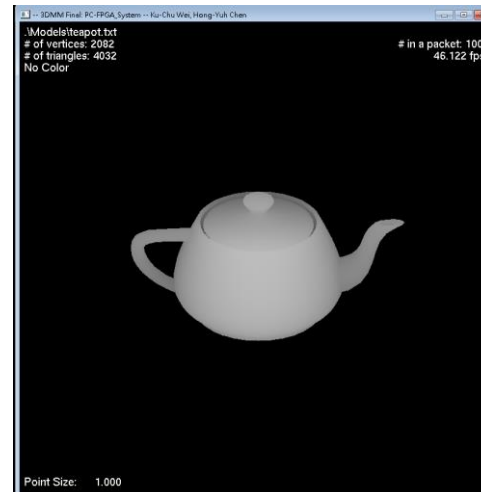
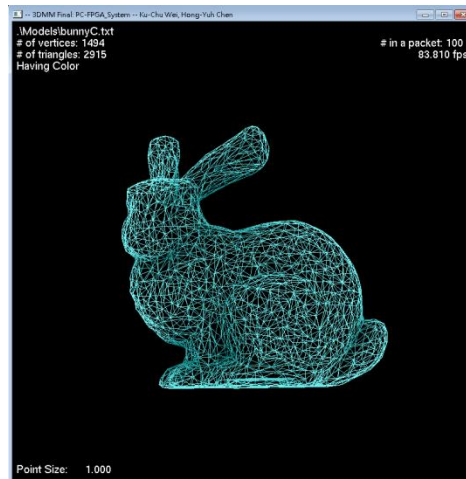
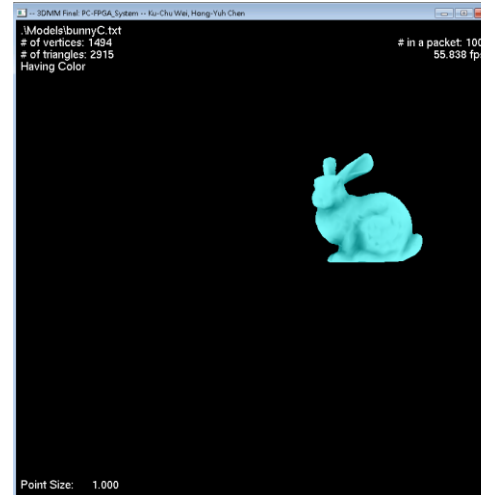
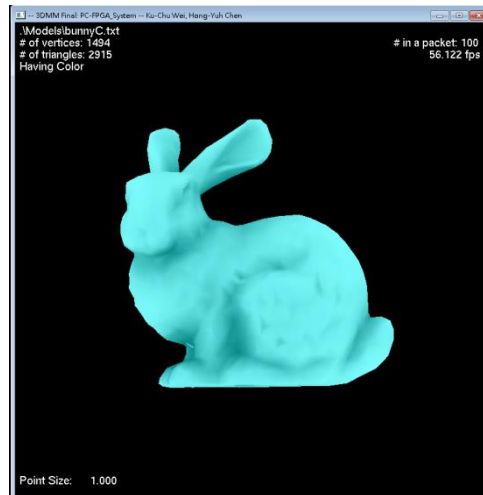
- Implement a graphic engine on PC/DE-4
- Transmit data to graphic engine by PCIe
- Display with DVI interface on DE-4



2012 Final Results: Hardware Diagram



2012 Final Results: Function Demonstration



Background Prerequisite

- Verilog/VHDL coding
- C/C++

Equipment Usage

- Two PCs with DE₄ boards
 - 2 groups in maximum

Thank You