

Project Proposal

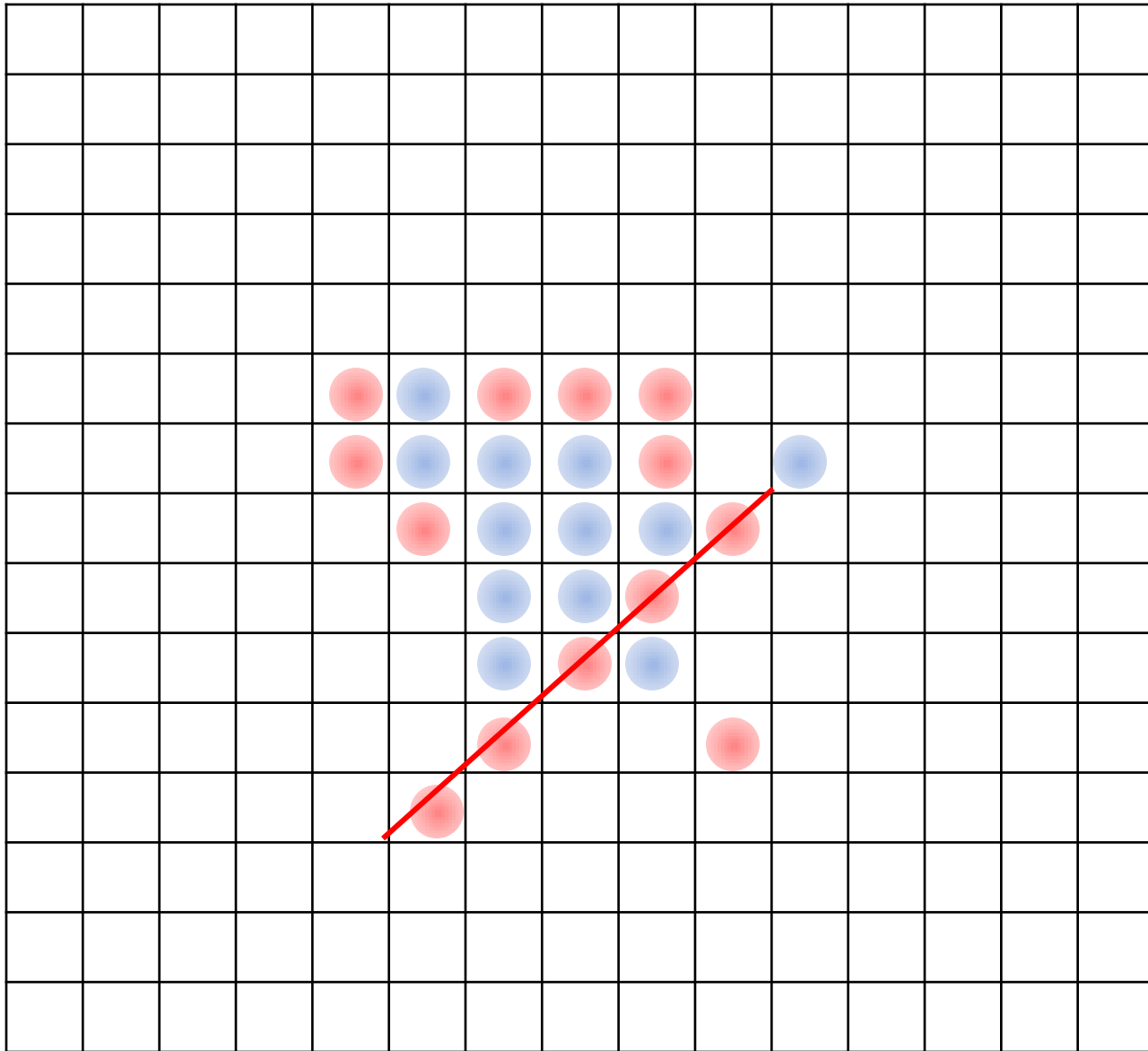
5-in-line game

Zhonghua Wang

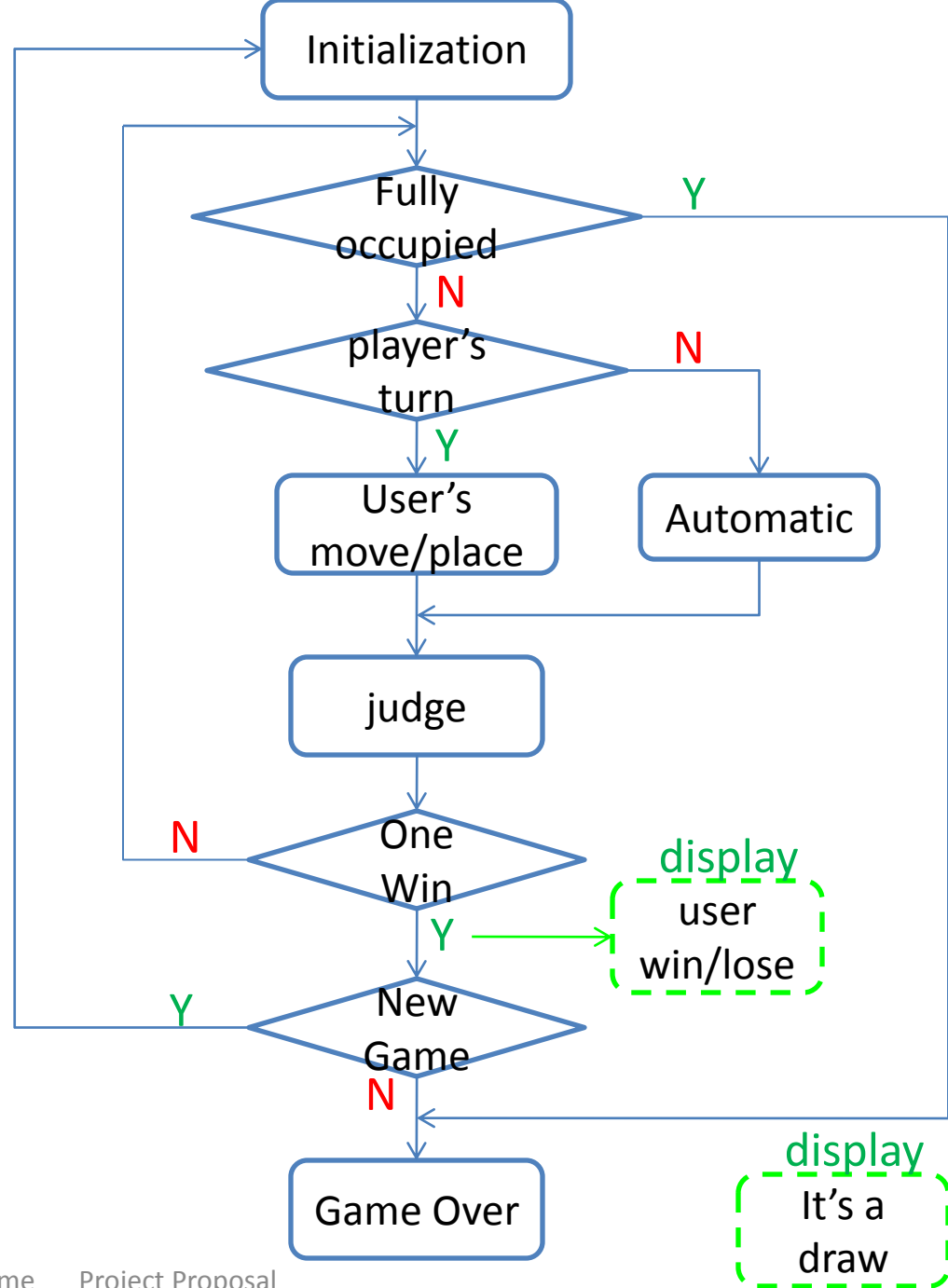
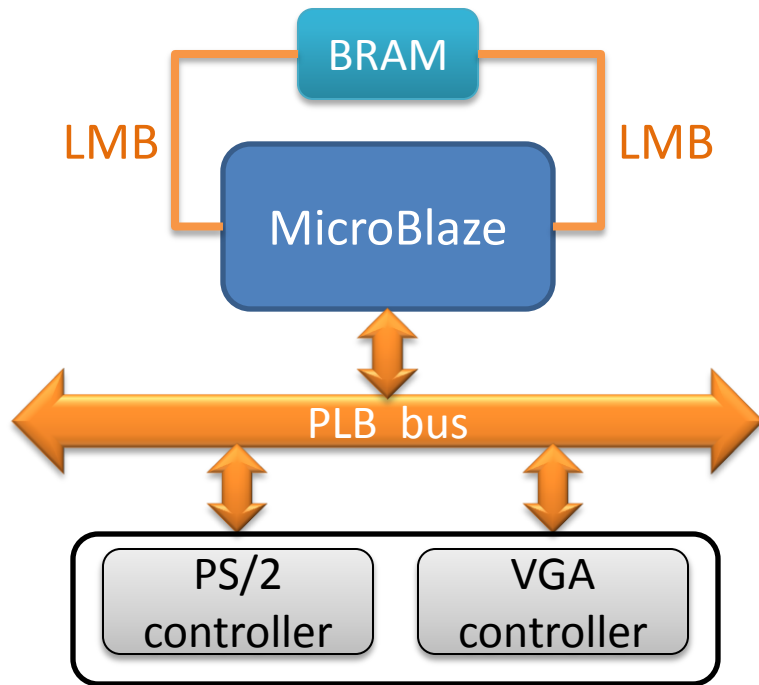
Ziyang Li

Hongwan Qin

5-in-line Game



Architecture & Flow diagram



Computation complexity

- Algorithm for the rival's (machine) decision
- Judgement of the Victory/Defeat
- Pixel calculation for the VGA displaying

Memory allocation

- Memory required:
 - $640 * 480 * 2$ Byte
 - :for saving the information of all pixels
 - Intermediate data
 - program

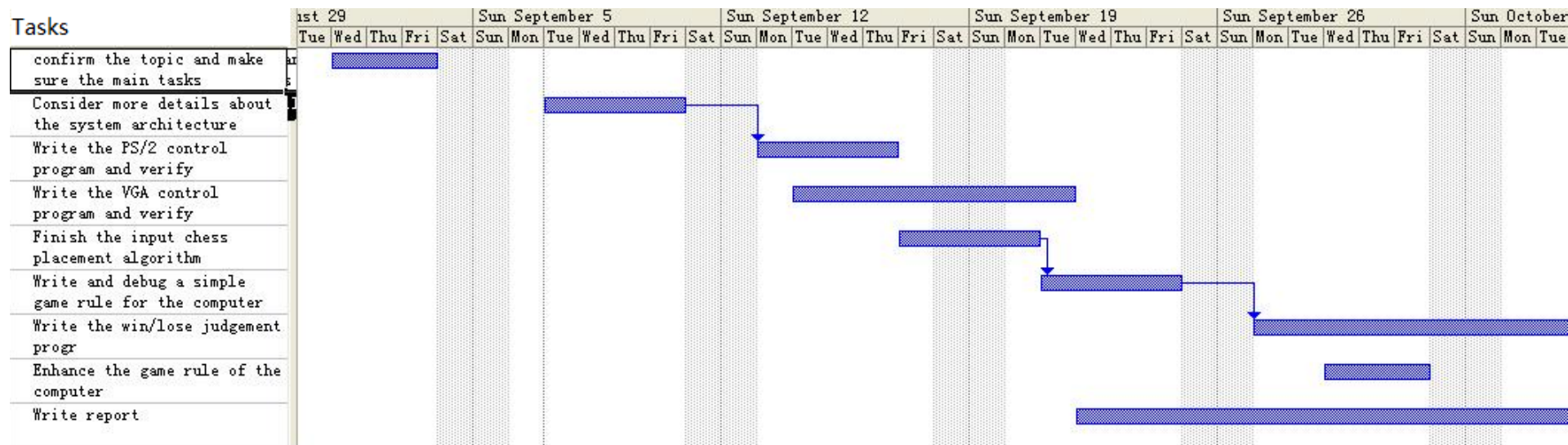
I/O processes – interaction points

- VGA display
 - Resolution: 640*480
 - Frequency: 60 Hz
 - Data rate: $640*480*60*3$ bits/s
 - Implementation: OPB-based VGA controller (IP)
- PS/2 – keyboard
 - Frequency: 10 ~ 30 kHz
 - Implementation: OPB-based PS/2 controller (IP)

Possible Improvement

- Better visualization
- More intelligent machine – advanced algorithm
- Communication for a multi-board game

Project Schedule



Q & A