

Final Project Review

DuelReality

Jerry Charles
Hadi Ghantous
Xiaobin Liu

Advisor: Professor Jackson
April 23, 2018

Team Members

Hadi Ghantous
CSE



Jerry Charles
CSE



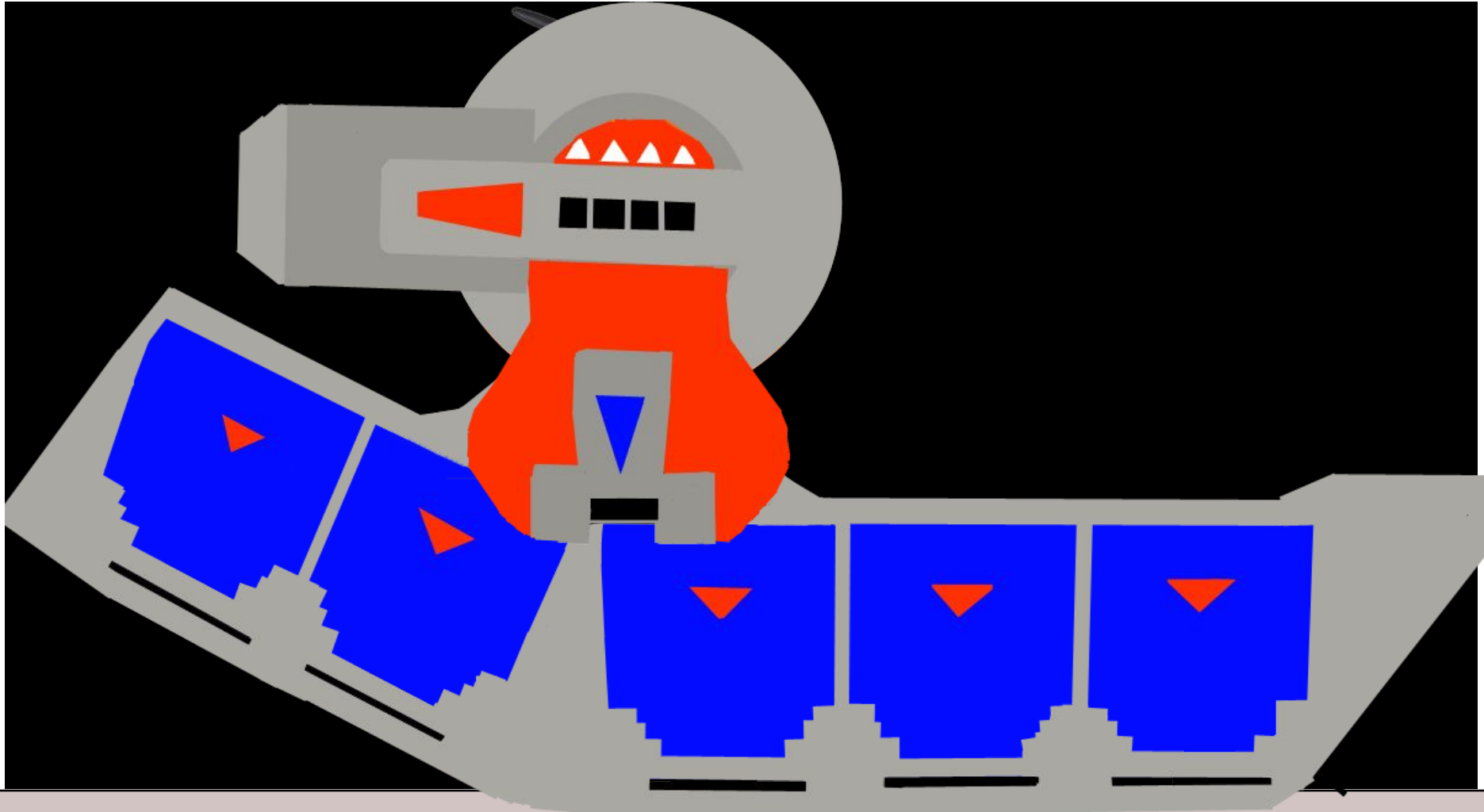
Xiaobin Liu
EE



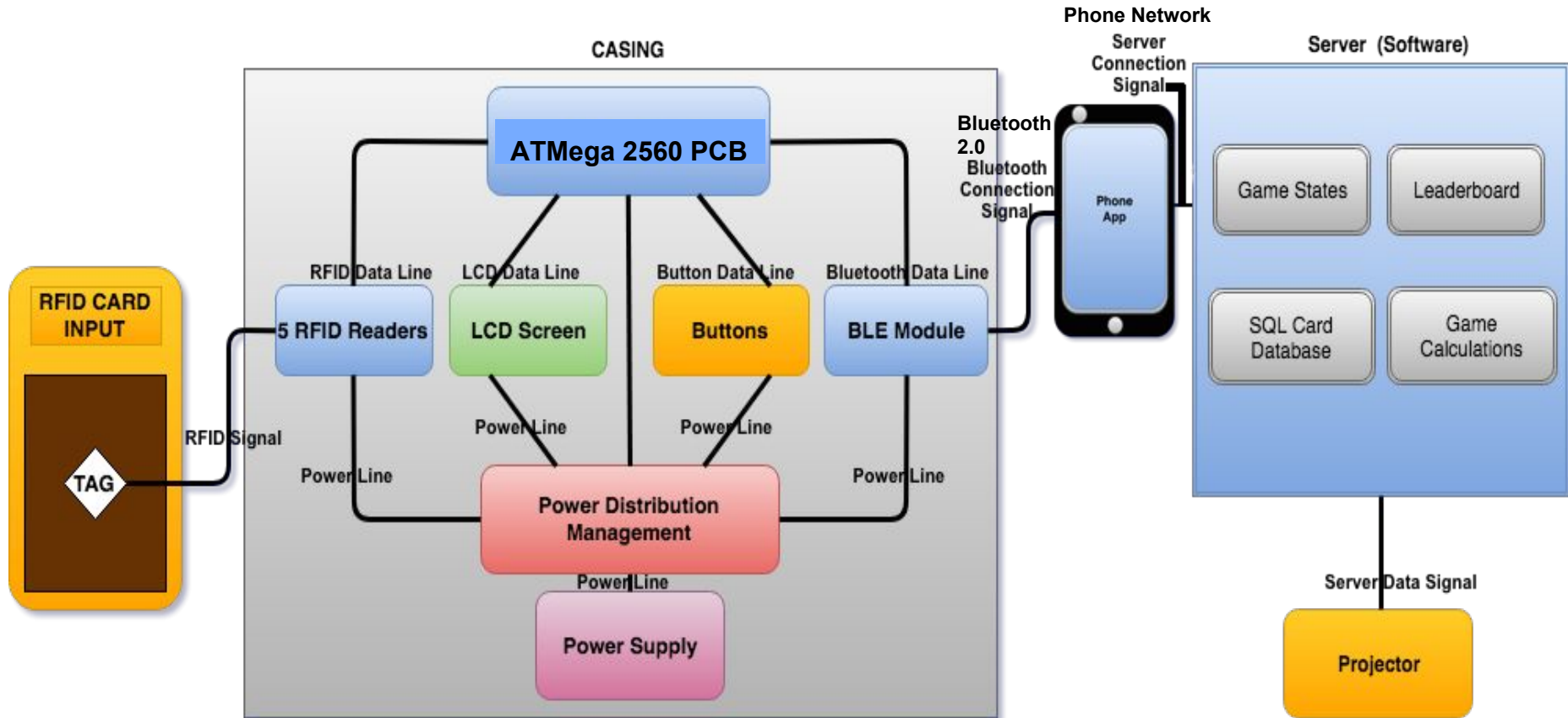
Agenda

- Review of Project
- FPR Deliverables
- Demo

Review of Project



System Block Diagram



Proposed FPR Deliverables

- Build 2 fully functional wristband device with power supply and integrated PCB Design.
- Users are able to start, play, and end a fully functioning game from their DuelReality systems.
- Project game actions into a user's Field-Of-View through a connected projector.
- System meet all design requirement.

Met FPR Deliverables

- ✓ 2 fully functional wristband device with with power supply and integrated PCB Design.
- ✓ Users are able to start, play, and end a fully functioning game from their DuelReality systems.
- ✓ Project game actions into a user's Field-Of-View through Hololens.
- ✓ System meet all design requirement.

System Requirement

- ✓ 1. Minimum of 20 cards needed for each player, RFID Tags attached to each card
- ✓ 2. Wristband device is light enough to wear and hold still
Per device weight less than 1.0kg(2.2 pounds)
- ✓ 3. Support 2 Player Mode (need 2 wristband devices)
- ✓ 4. Bluetooth as midway communication
- ✓ 5. 4+ hours battery life
Each device can work for 5+ hour in peak power dissipation.
- ✓ 6. Inexpensive for mass production **Less than \$60 per device**

Cost of Materials

ITEM	QTY	Unit Price	Unit Price per 1000
RFID Reader	10	\$8	\$2
RFID Card	40	\$0.50	\$0.40
LCD Screen	2	\$6	\$4
Bluetooth module	2	\$6	\$3
Buttons	14	\$0.20	\$0.10
PCB	2	\$20	\$8
Plastic casing	2	\$20	\$16
Power supply system	2	\$10	\$7
Price Per device		\$113	\$57
Total (2 device)		\$227	\$113

Demo

Thank You!

Questions?