

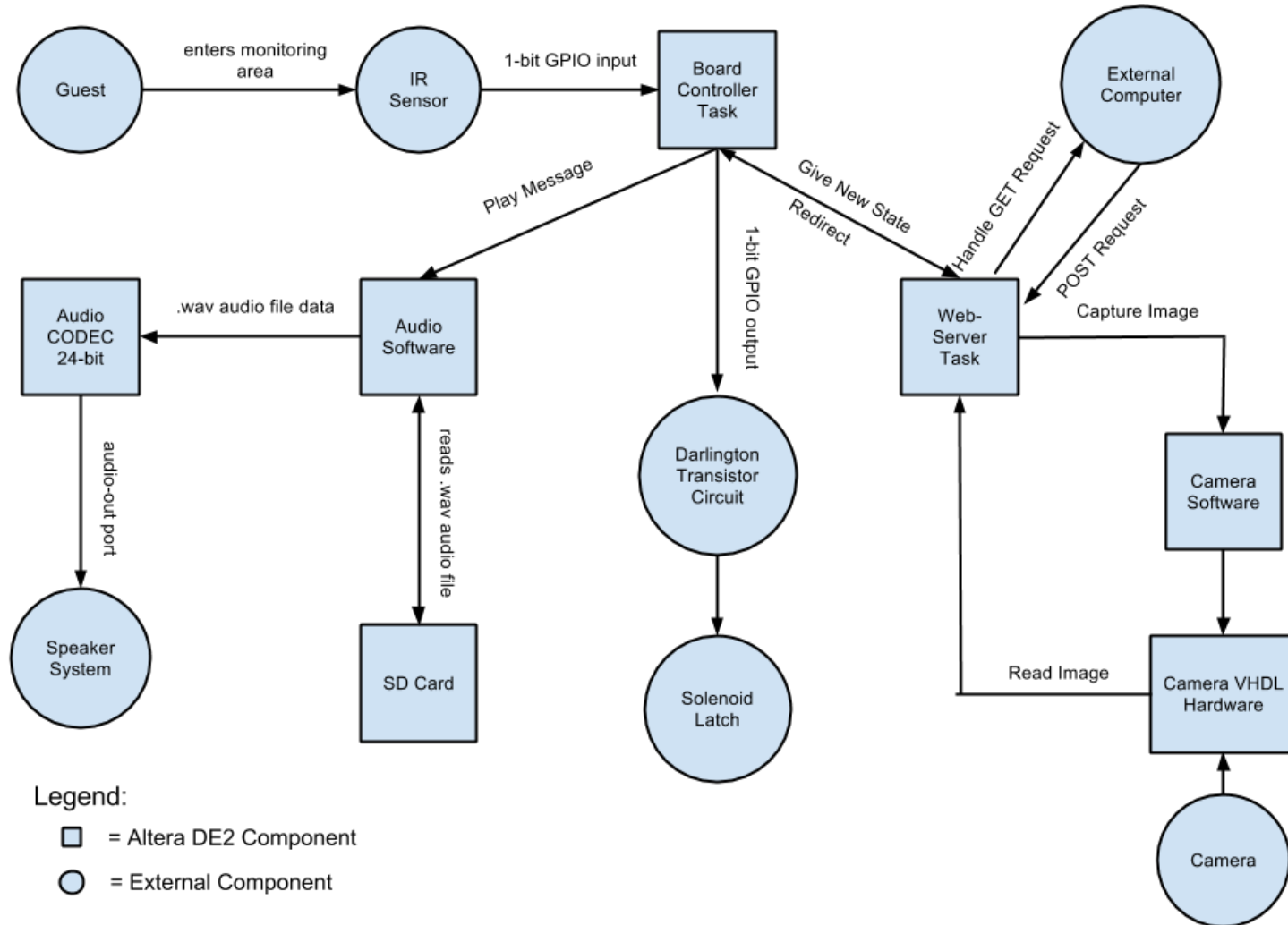
Automated Receptionist

Andrew Maier and Sila Luckanachai

Functionality

- Detects and plays an automatic greeting upon the arrival guests
- Photographs an image of the guest and passes it to the onboard web-server
- Updates the personnel-side browser to show guest image
- Prompts personnel to grant/deny access within a designated time interval
- Unlocks door upon access approval
Remains locked upon access denial

Functionality

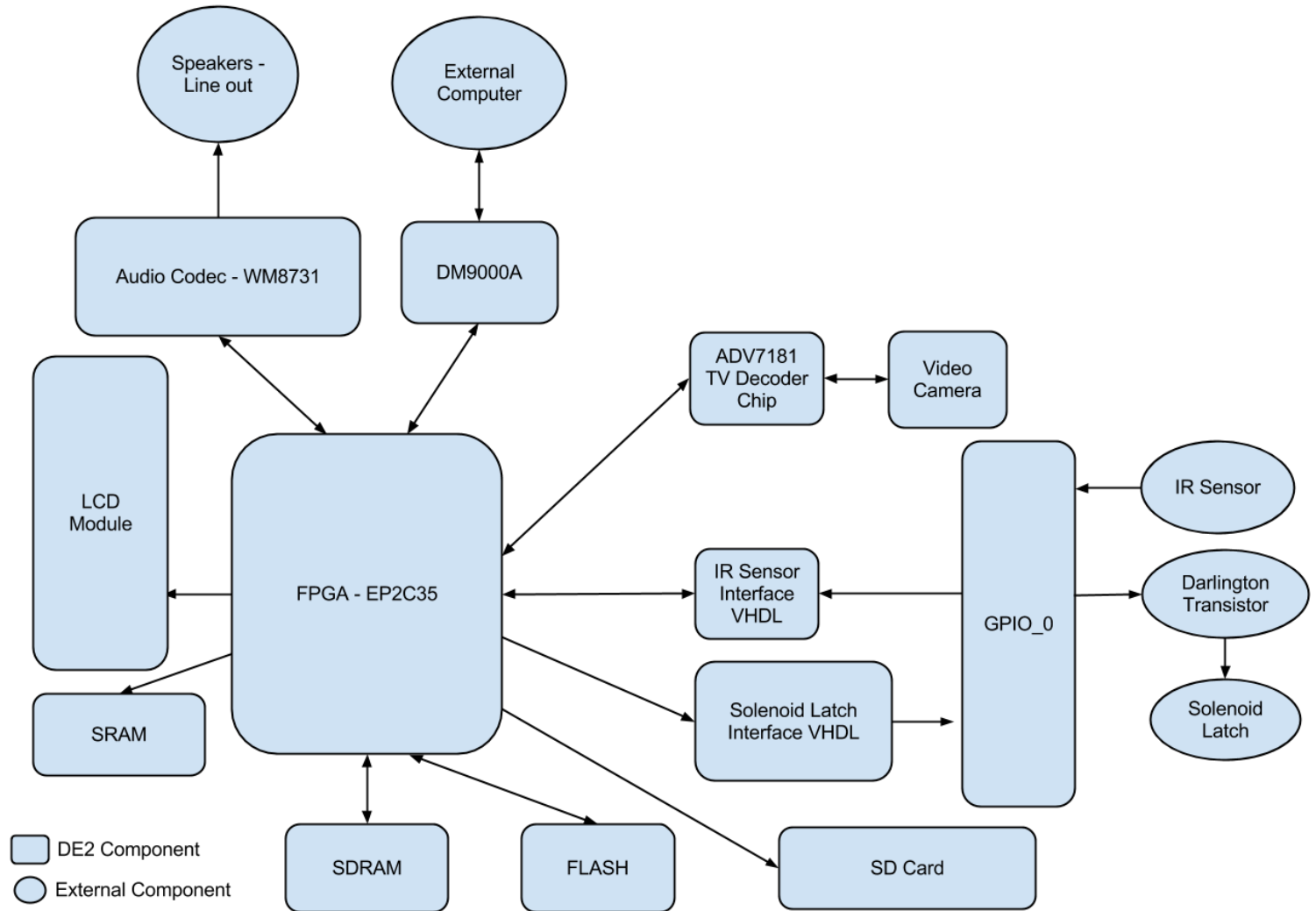


Hardware Design

Components

- Sharp IR Sensor -- 15 cm. range
- Solenoid Latch
- JVC Video Camera
- Kingston SD Card -- 2 GB.
- Logitech Computer Speakers

Hardware Design



Demonstration

- Scenarios:
 - Guest access approved
 - Guest access denied
 - Guest access timed-out

Key Challenges

- **Project Management**
 - successes / failures of divide and conquer approach
- **Project Integration**
 - non-standardized hardware setup during development and test
 - porting code between Verilog and VHDL
- **Downside to Moore's Law**
 - 2000 interrupts per second
- **Terasic Woes**
 - lack of [English] documentation
- **Software Tools Paradox**
 - simultaneously enabling and impeding progress

Conclusion

- Working with an engineer's mindset
 - requires self-motivated learning and research
- Operate with the worst-case-scenario in mind
 - always have a contingency plan
- Beyond classroom learning
 - a taste of what working in field would be like
 - stepping out of the sand-box mentality

Questions

Please speak slowly and use simple vocabulary.