Final Project Review

Team Castle Quest
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Team Castle Quest

David Lassalle
CSE

Devrim Dereli
EE

Eric Wybenga
CSE

Sarah Mangels
CSE

Project Overview

- Electronic entertainment is no longer group-centric
- Virtually multiplayer, physically singleplayer
- Market and psychological demand for group centric games, especially board games

- Castle Quest is a electronic 4-player fantasy board game centered around an electronic Castle
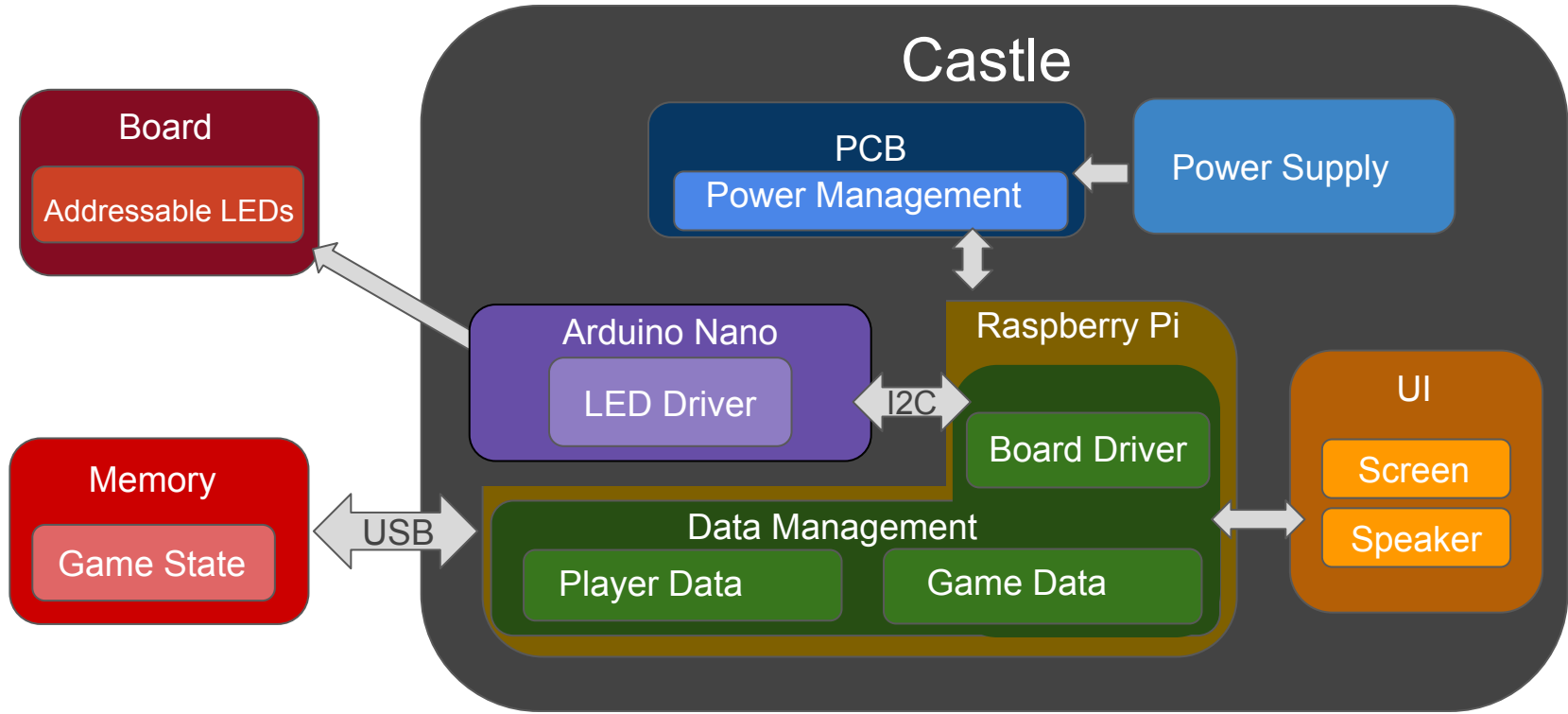
Requirements Analysis: Specifications

Specification	Accomplishment
Meet child safety standards of Consumer Product Safety Commission	-Uses under 5.5 Amperes -Technically could be described as a general use product rather than a child product (12 yrs or younger) -Doesn't tip over at a 15 degree angle -Real version would have more solid construction
Game should weigh < 5 lbs	7.5lbs
10+ hours battery life	4~5 hours
Durability to survive transport and repetitive construction/deconstruction	Can be transported easily and has survived personal testing
Support for up to 4 players	4 players can play
Simple, intuitive gameplay mechanics	Gameplay is relatively simple
Inexpensive	single unit: $250, mass production will be less

Cont.

Specification	Accomplishment
Fun to play	Yes
Game should fit into a 1ft3 container	Were told in MDR not to make the board foldable

Block Diagram

Castle

Board
Addressable LEDs

PCB
Power Management

Power Supply

Arduino Nano
LED Driver

Raspberry Pi
Board Driver

I2C

UI
Screen
Speaker

Memory
Game State

USB

Data Management
Player Data
Game Data

FPR Deliverables

- Final Game and Board Assembly
- Testing
  - Software
  - Hardware
  - Integration
- Aesthetics
  - Tower and Board
  - Player Guide

Sarah's FRP Deliverables

- Used GIMP to create final board graphic based on paper and pencil mock-up
- Added USB port and speaker holes to tower
- Painted tower

David's FPR Deliverables

- Worked with Eric to make gameplay more fun
- Updated, Sized and Printed Player's Manual
- Assisted in mounting components to tower
- Playtested singleplayer and multiplayer gameplay
- Attached final board graphics

Devrim's FPR Deliverables

- Found power consumption measurements
- Ordered a new battery
- Finished the pcb and mounted it inside the tower
- Made speaker amplifier and mounted it and the speaker inside the tower

Eric's FPR Deliverables

- Added LEDs to the front of the tower
- Attached lazy susan to the board
- Added rotation stoppers to the tower
- Fixed board LED holes and tower screen hole
- Playtested with 3 non-group members

Final Budget

Item	Cost
IO: LEDS, speaker, touchscreen	$191
Power supply/PCB	$45
Tower Aesthetics	$20
Total	$256

- Our total project budget remained under $500

Conclusions

Demo

Outline of demo:

a) Constructed castle
b) Using pcb/battery
c) Playing the game
d) Saving/Loading

QUESTIONS?