eVote
Progress Report
Overview

- Gantt
- Changes
- Budget
- Progress
  - Javier Torres
  - Laura Cruz
  - Sylvia Rodriguez
  - Angel Vega
- Future Work
- Questions
eVote Design Changes

- Write-in
  - Resource Reassignment
  - Additional work hours
  - Optimization of firmware
  - Code space restraints
## Budget Analysis

- **Additional hardware expenses**
  - $50.46
  - **New Materials Total $229.03**

<table>
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<tr>
<th>Description</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Materials Total</td>
<td>$178.57</td>
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<td>Overhead Cost</td>
<td>95%</td>
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<tr>
<td>Total</td>
<td>$348.21</td>
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</tbody>
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- **Additional personnel expenses**
  - $360.60
  - **New Personnel Total $33,546.07**

<table>
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<th>Amount</th>
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<td>Personnel Total</td>
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<td>Overhead Cost</td>
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<tr>
<td>Total</td>
<td>$64,711.67</td>
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Microprocessor
- 19 I/O pins currently used
- 80 I/O pins
- 3 volts is a logic 1
Inverter

- Regulator used for 5 volts input
  - 5k potentiometer
- Output -10 to -15 volts
  - Common ground
  - Common voltage source
- 17 pins in total used
  - 5 Control Signals pins
  - 2 ground pins
  - Backplane pin
  - +5 volt input pin
  - 8 data pins
- 512 characters
  - 32 per row
  - 16 rows
- 4096 pixels
Firmware

- **Initialize LCD**
  - Text size
  - Clear internal memory

- **Implementation of Screens**
  - Calculate addresses for text
  - Screen function parameters user parameters

- **Code optimization**
  - Optimize code space
  - Optimize text typing functions
    - `typeText(“text”,4);`
  - Removing unnecessary code
Phase 1:
- Login Form
Phase 1:
  • Database Tables Creation
    • Candidate, History, Official, Position

Phase 2:
  • Database Changes and new table
Phase 2

- Write-In Design
Administrator Form

- Registration
History
Administrator Form

- Print Test
Navigation keypad

- 14 pins
  - 6 used
    - Voltage input pin
    - 5 navigational pins
- Port 8 of MSP430FG4619
  - Initialized keypad as input
- 3.3 Volt regulator
- Tested keypad with led and firmware code
Design/Create the Voter & Kiosk tables in the database.
Implement a Database Connection Test application in C#.
Sparrow ER Diagram

Progress – Angel Vega
Database Data Encryption

- AES algorithm a.k.a. Rijndael algorithm
- Symmetric Block Cipher
- Approved by NSA and NIST
- Integrated MySQL encryption functions:
  - AES_ENCRYPT(string, key_string)
  - AES_DECRYPT(encrypted_string, key_string)
Future Work

- Implement database security
- Hardware and software communication
- Casing of project
- Scalability Simulation
- Project Wrap-up
  - User Manuals
  - Final Presentation
Questions?