

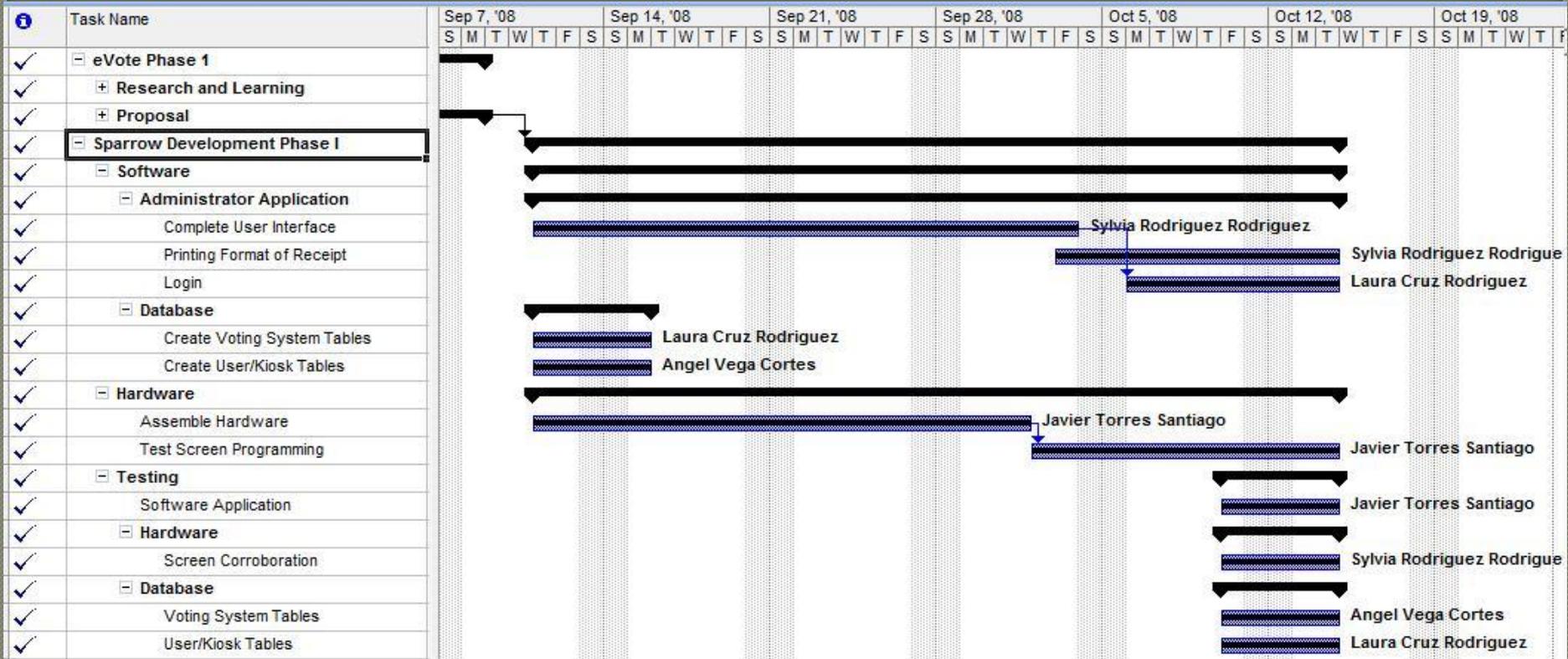


eVote
Progress Report

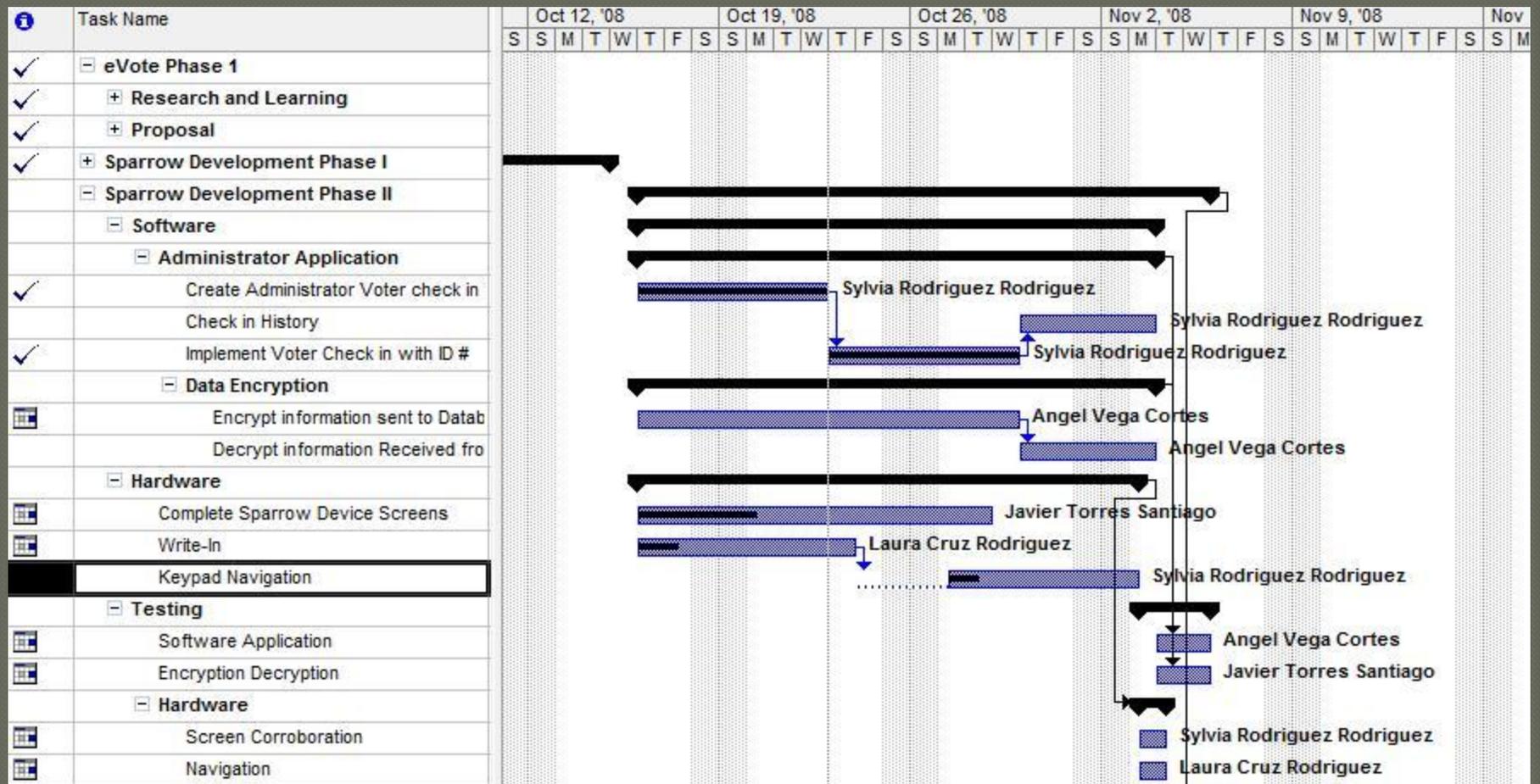
Overview

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

Gantt Phase 1



Gantt Phase 2



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**

Materials Total	\$178.57
Overhead Cost	95%
Total	\$348.21

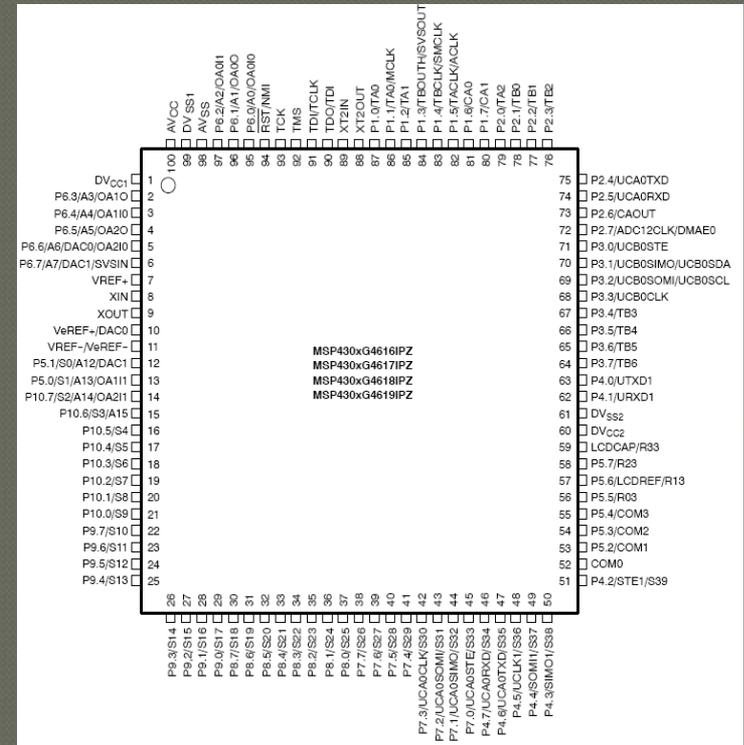
- **Additional personnel expenses**
 - \$360.60
 - **New Personnel Total \$33,546.07**

Personnel Total	\$33,185.47
Overhead Cost	95%
Total	\$64,711.67

Progress - Javier Torres

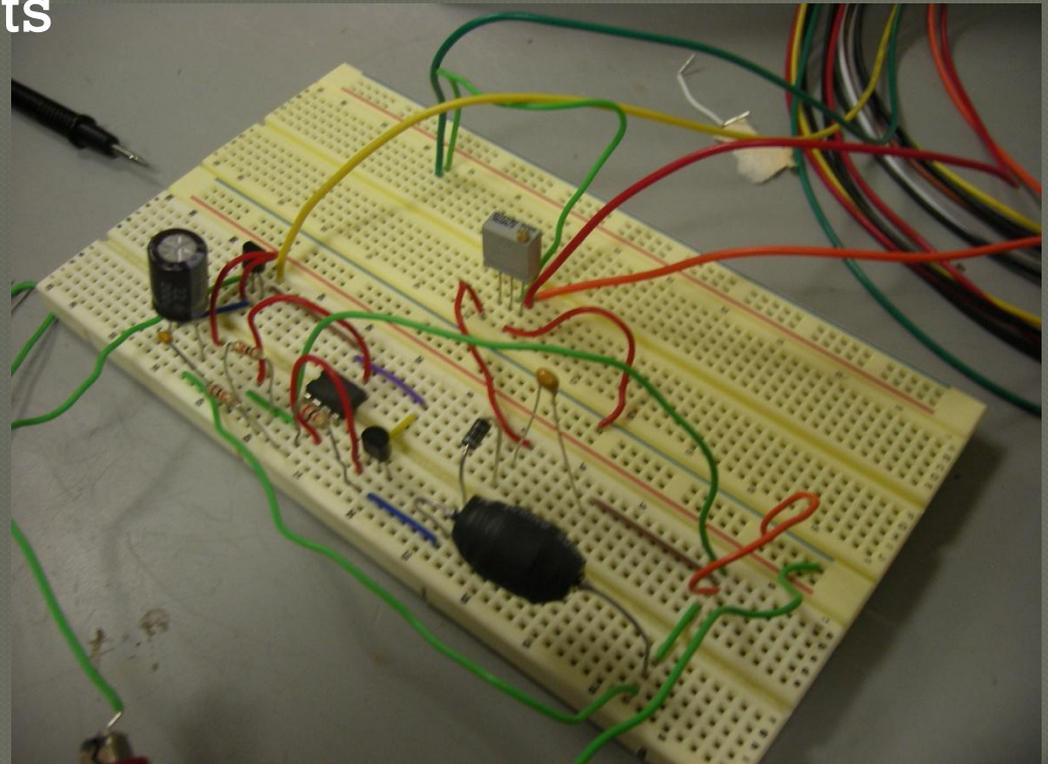
Microprocessor

- 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



LCD

- ❖ 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

Progress – Laura Cruz

- Phase 1:
 - Login Form

The image displays three sequential screenshots of a login form titled "Entrar al Sistema". Each screenshot shows the form with different fields filled or selected, illustrating the progression of data entry.

Screenshot 1: The "Precinto" dropdown menu is open, showing "San Juan 1" and "San Juan 2" as options. The "Unidad" dropdown menu is empty. The "Oficial" and "Contraseña" fields are empty. The "Someter" button is visible at the bottom.

Screenshot 2: The "Precinto" dropdown menu is closed, showing "San Juan 1". The "Unidad" dropdown menu is now filled with "1". The "Oficial" dropdown menu is open, showing "Violeta Ayala Aponte" as the selected option. The "Contraseña" field is empty. The "Someter" button is visible at the bottom.

Screenshot 3: The "Precinto" dropdown menu is closed, showing "San Juan 1". The "Unidad" dropdown menu is closed, showing "1". The "Oficial" dropdown menu is closed, showing "Violeta Ayala Aponte". The "Contraseña" field is filled with "xxxxx". The "Someter" button is visible at the bottom.

Progress-Laura Cruz

Phase 1:

- Database Tables Creation
 - Candidate, History, Official, Position

Phase 2:

- Database Changes and new table

Candidate

Barcode
G01AACEVEDO
G02LFORTUNO
G03EIRRIZAR
G04RFIGUERO
C01ASALAZAR
C02PPIERLUI
C03JMARTINE
C04CVELAZQU

Party

pID	pName	Votes	Barcode
1	PPD	0	PPD
2	PNP	0	PNP
3	PIP	0	PIP
4	PPR	0	PPR

History

OfficialID	ElectoralNumber

Kiosk (local ID added)

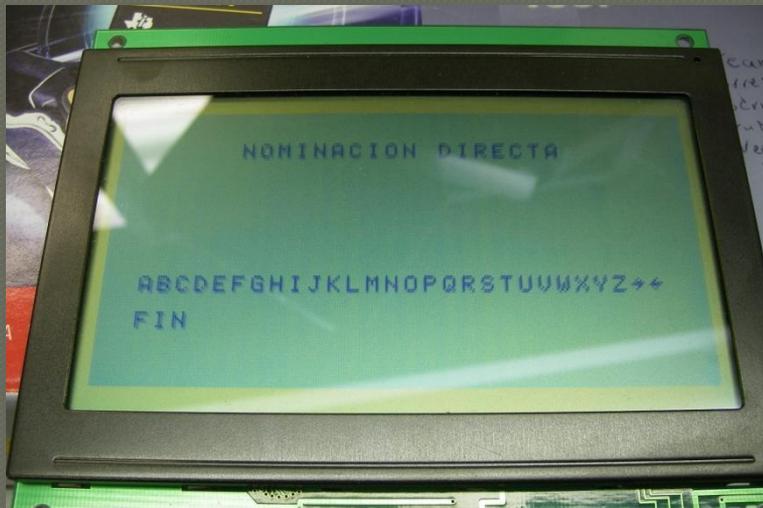
kID	Unit	Precinct	Occupied	LocalID
1	1	San Juan 1	0	1
2	1	San Juan 1	0	2
3	1	San Juan 1	0	3
4	2	San Juan 1	0	1
5	2	San Juan 1	0	2
6	1	San Juan 2	0	1
7	1	San Juan 2	0	2
8	1	San Juan 2	0	3
9	2	San Juan 2	0	1
10	2	San Juan 2	0	2
11	3	San Juan 2	0	1

Progress-Laura Cruz

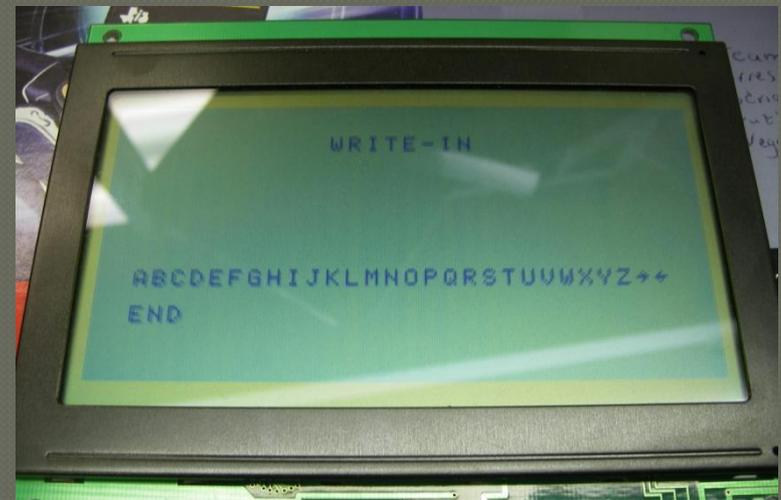
○ Phase 2

- Write-In Design

Spanish

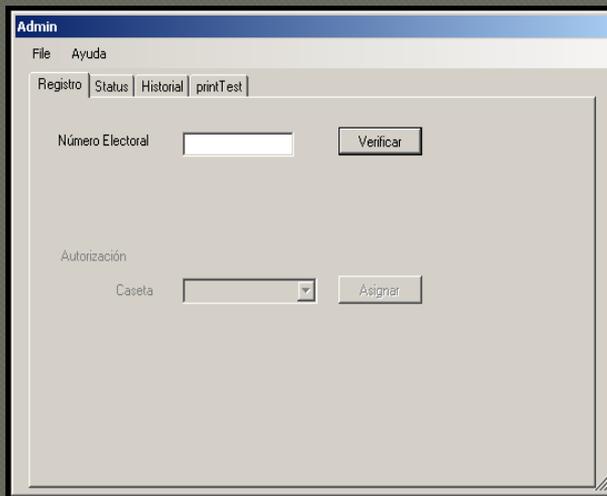


English

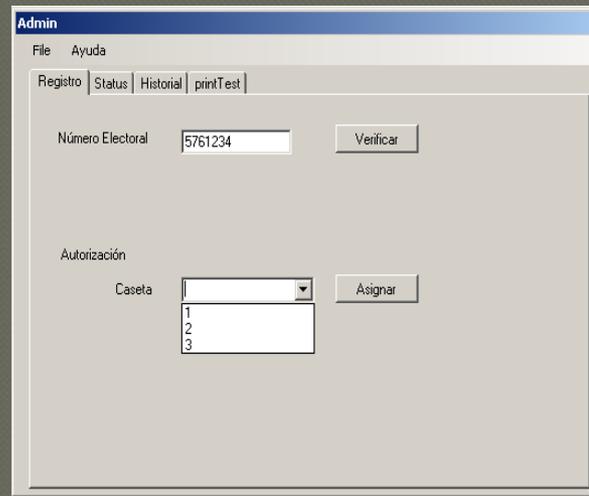


Progress – Sylvia Rodriguez

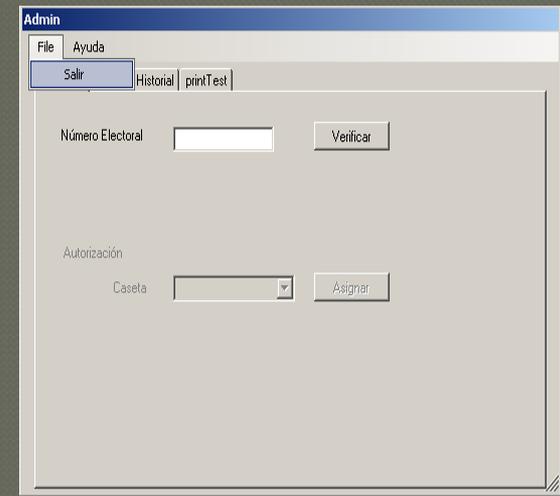
- Administrator Form
 - Registration



The screenshot shows the 'Admin' application window with a menu bar (File, Ayuda) and tabs (Registro, Status, Historial, printTest). The form contains a 'Número Electoral' text box, a 'Verificar' button, an 'Autorización' section with a 'Caseta' dropdown menu, and an 'Asignar' button.



The screenshot shows the 'Admin' application window with the 'Número Electoral' field containing the value '5761234'. The 'Caseta' dropdown menu is open, displaying a list of options: 1, 2, and 3.



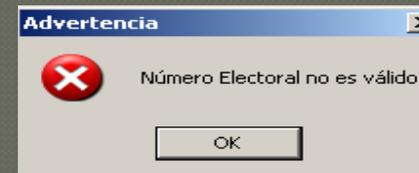
The screenshot shows the 'Admin' application window with the 'Salir' button highlighted in the menu bar. The form fields are empty.



A dialog box titled 'Autorización' with a close button (X) in the top right corner. The message reads 'Autorización Procesada' and there is an 'OK' button at the bottom.



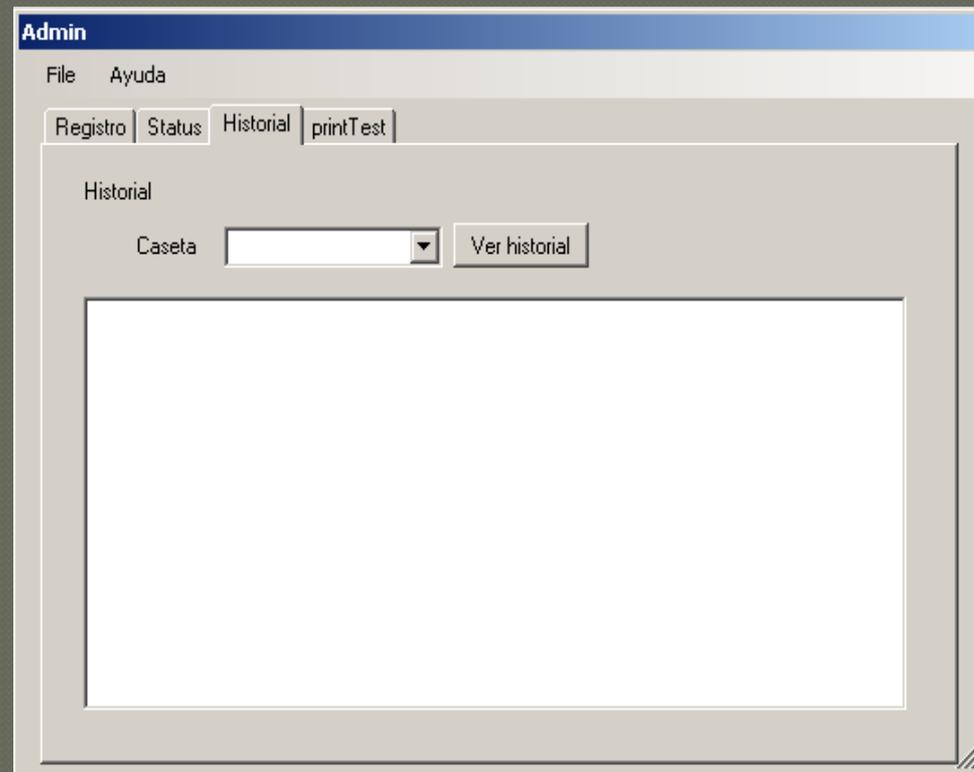
An error dialog box titled 'Error' with a red 'X' icon. The message reads 'Todas las casetas estan ocupadas en este momento' and there is an 'OK' button at the bottom.



A warning dialog box titled 'Advertencia' with a red 'X' icon. The message reads 'Número Electoral no es válido.' and there is an 'OK' button at the bottom.

Administrator Form

- History



The image shows a screenshot of a web application window titled "Admin". The window has a blue header bar with the title "Admin". Below the header, there is a menu bar with "File" and "Ayuda". The main content area has four tabs: "Registro", "Status", "Historial", and "printTest". The "Historial" tab is currently selected. Below the tabs, the word "Historial" is displayed. There is a label "Caseta" followed by a dropdown menu and a button labeled "Ver historial". The dropdown menu is currently empty. Below these elements is a large, empty rectangular area, likely intended for displaying a list of history records.

Administrator Form

- Print Test

Admin

File Ayuda

Registro | Status | Historial | printTest

Partido	<input type="text" value="PNP"/>
Gobernador	<input type="text" value="Luis Fortuno"/>
Comisionado Residente	<input type="text" value="Alfredo Salazar"/>

Resultados de su votación

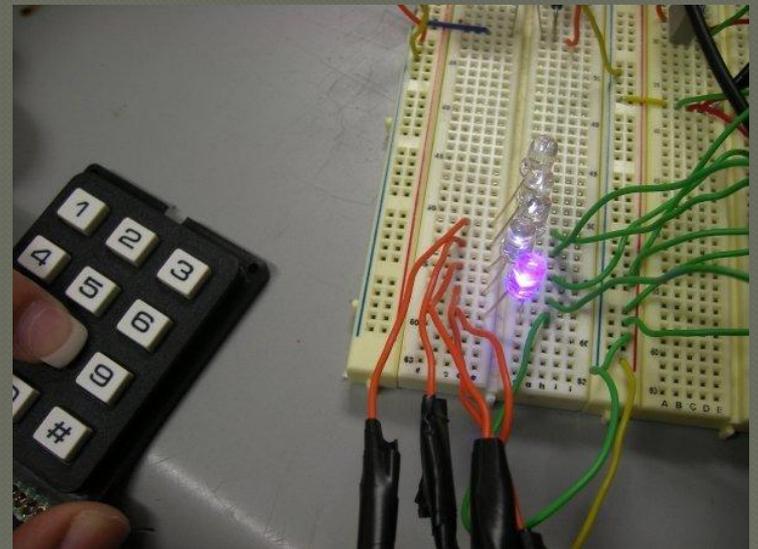
BOLETO ESTATAL

PARTIDO	<i>PNP</i>	 PNP
GOBERNADOR	<i>Luis Fortuno</i>	 G02LFORTUNO
COMISIONADO RESIDENTE	<i>Alfredo Salazar</i>	 C01ASALAZAR

Keypad

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



Progress – Angel Vega

- Design/Create the Voter & Kiosk tables in the database.
- Implement a Database Connection Test application in C#.

Voter Table									
ElectoralNumber	FirstName	FirstLastName	SecondLastName	AlreadyVoted	Precinct	Unit	kID	MiddleName	
1122334	Emmanuel	Gonzalez	Gonzalez	0	San Juan 2	1	8		

Kiosk Table					
kID	Unit	Precinct	Occupied	LocalID	
1	1	San Juan 1	0	1	

Voter and Kiosk

Step 1: Select a Voter and assign a kiosk

Select a Voter:

Assigned Precinct:

Assigned Unit:

Select a Kiosk:

Step 2: Verify Selection

Select a Voter:

Assigned Kiosk:

Occupied:

Voter and Kiosk

Step 1: Select a Voter and assign a kiosk

Select a Voter:

Assigned Precinct:

Assigned Unit:

Select a Kiosk:

Step 2: Verify Selection

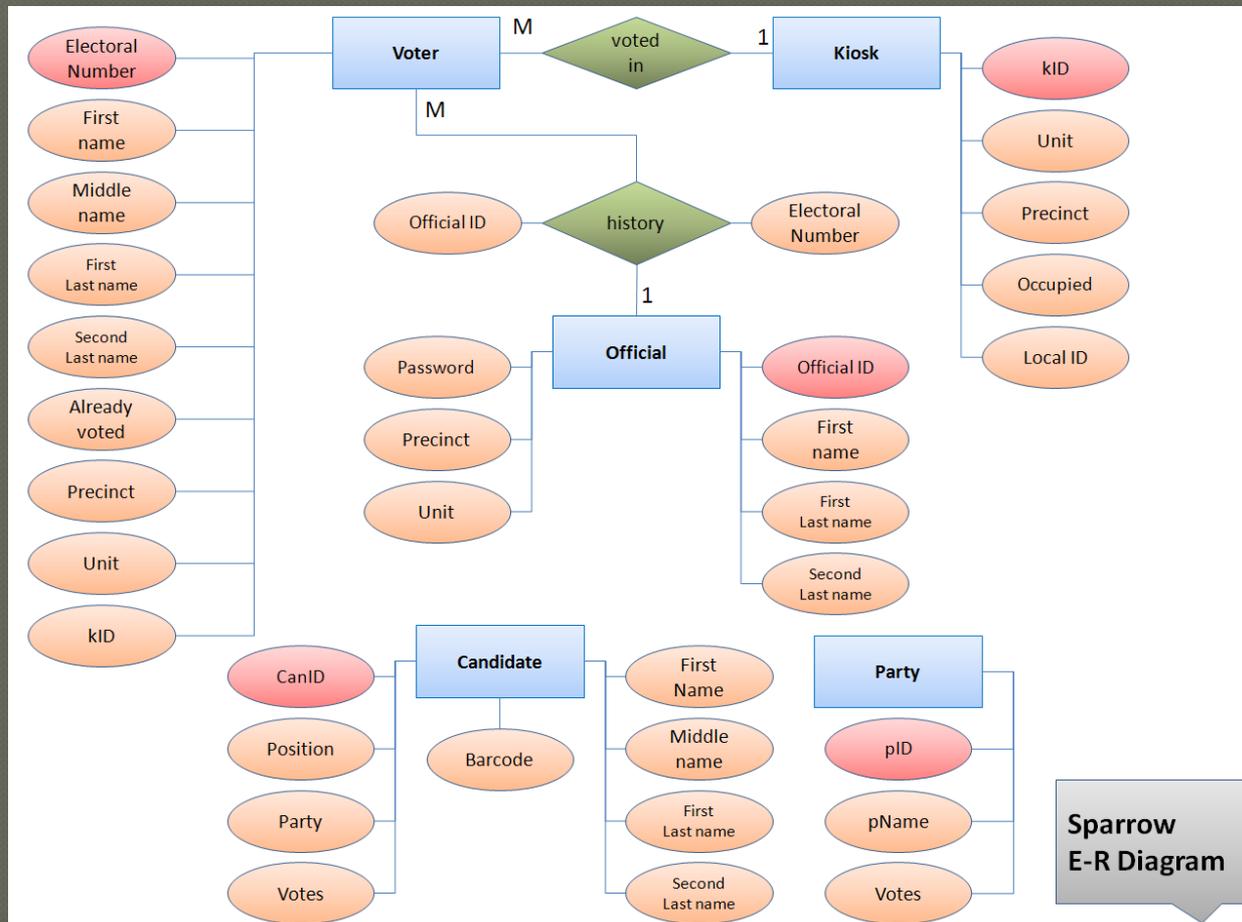
Select a Voter:

Assigned Kiosk:

Occupied:

Progress – Angel Vega

○ 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?

