Weekly Update – Password Manager

Mario Getaw, Joshua Moore, Jarrett Wilson

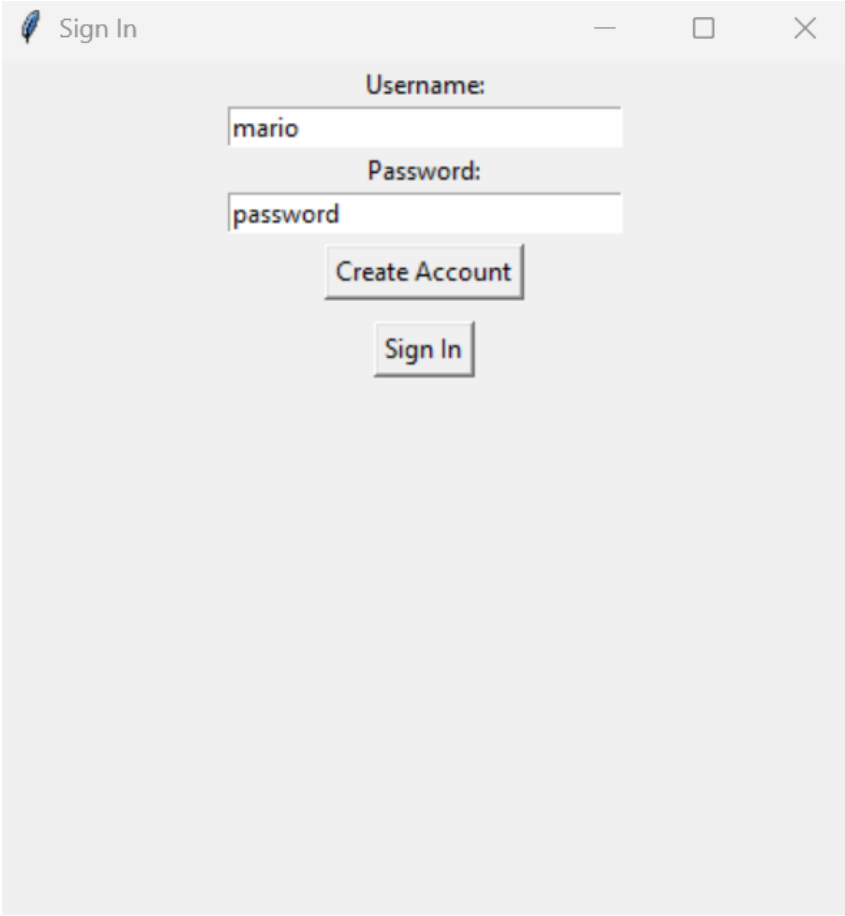
Encryption Code

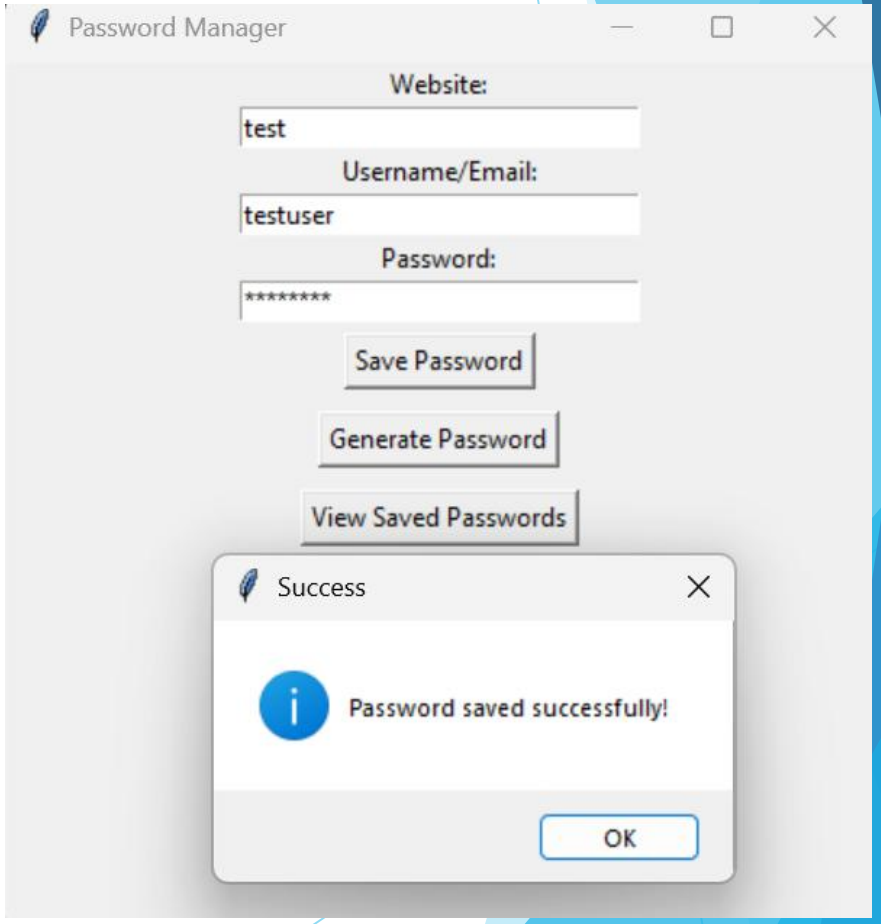
```python
# Function to load or create a key for encryption
def load_key():
    if os.path.exists("password_manager.key"):
        with open("password_manager.key", "rb") as key_file:
            return key_file.read()
    else:
        key = generate_key()
        with open("password_manager.key", "wb") as key_file:
            key_file.write(key)
        return key

# Encrypt password before saving
def encrypt_password(password, key):
    f = Fernet(key)
    encrypted_password = f.encrypt(password.encode())
    return encrypted_password.decode() # This fixes the binary bytes to JSON issue

# Decrypt password when retrieving
def decrypt_password(encrypted_password, key):
    f = Fernet(key)
    decrypted_password = f.decrypt(encrypted_password.encode())
    return decrypted_password.decode() ####
```

Results


Sign In
Username:
mario
Password:
password
Create Account
Sign In


Password Manager
Website:
test
Username/Email:
testuser
Password:
****
Save Password
Generate Password
View Saved Passwords
Success
Password saved successfully!
OK

Results Continued

passwords_mario.json > ...


```
{
    "test": {
        "username": "testuser",
        "password": "gAAAAABn5L0iYPTAKJAnbCk8h2GoEv-OAN1vc36ktWqdJgOJCIQknHVcc1zb1VQ2yW0xSMTLT-gAVSYlIza6i84VzMWfbZPLew=="
    }
}
```

Schedule

- Week 3 (1/30) - Research secure password management practices and encryption methods
- Week 4 (2/6) - Compile research findings and outline code
- Week 5 (2/13) - Create the GUI for the application
- Week 6 (2/20) - Create a login for users to view their saved passwords
- Week 7 (2/27) - Write code to ensure all passwords meet the specifications above
- Week 8 (3/6) • F.I.RE Week
- Week 9 (3/13) • Spring break
- Week 10 (3/20) - Create a method for storing user data
- Week 11 (3/27) - Implement data encryption
- Week 12 (4/3) - Add password strength analysis
- Week 13 (4/11) - Test project
- Week 14 (4/18) - Create a project presentation
- Week 15 (4/25) Present project

Next Steps To Wrap off This Weeks Goal

- Securely allow the user to view their plaintext password
- Encrypt the actual password for the account
- Make JSON file secure and not named password

- Move to next weeks scheduled goal – password strength analysis