



Innovation Challenge SFHS

Team id: 3006

Project Name: *Silver Guard*

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Github:

The code of the basic version of Silver Guard with a few prominent features of the website is public on github:

<https://github.com/Nakshatrao707/SilverGuard>

Website:

The basic version of Silver Guard with a few prominent features is public and open for use:

<https://silverguard.streamlit.app/>

Introduction (Video):



SFHS Hackathon.mp4

As technology advances, managing personal finances and maintaining online security have become increasingly complex. This complexity can be particularly challenging for elderly individuals who may not be as familiar with digital tools and security best practices. Our website aims to address these challenges by providing a user-friendly platform specifically designed to help seniors manage their finances and maintain their online security effectively . *In the future, we aim to expand Silver Guard's reach to rural areas, ensuring that everyone, regardless of location, has access to essential financial management tools.* We hope to provide them with resources which they need to secure their financial well-being, bridging the gap between urban and rural financial literacy.

Problem Statement:

Our platform aims to combat the following challenges faced by the elderly:

- **Complexity of Financial Tracking:** Elderly individuals often struggle with managing multiple bank accounts, tracking expenditures, and organizing financial information. This can lead to difficulties in budgeting, paying bills on time, and understanding financial status efficiently.
- **Risk of Financial Mismanagement:** Without an effective system for tracking finances, seniors are at risk of mismanaging their funds, potentially leading to missed payments or unintended overdrafts.
- **Password Management:** Many elderly individuals use outdated or easily compromised passwords, which increases their risk of online fraud and identity theft. They may also find it difficult to keep track of and update passwords regularly.
- **Software Updates:** Failing to install updates on time can leave devices vulnerable to security breaches, which can be particularly damaging if personal and financial information is compromised.
- **Complex Financial Tools:** Many existing financial management tools and apps are designed with younger, tech-savvy users in mind and may not be intuitive for seniors. We combat this problem by providing a user-friendly interface suitable for the elderly (containing large text, easy icons, high-contrasting colors, large buttons etc.)

- **Security Awareness:** Elderly individuals may not be fully aware of the importance of regular password changes and software updates, or may find it challenging to implement these practices. We also plan to add a 'News page' to keep them informed about the latest types of scams and phishing attacks.
- **Need for Reminders:** Regular reminders for financial tasks, password changes, and software updates can help seniors stay on top of their responsibilities without feeling overwhelmed.

Our USP:

Silver Guard delivers specialized financial management for elderly users with unique features such as family oversight for large transactions, tailored AI-driven financial advice, and integrated routine and cybersecurity reminders. Unlike competitors, Silver Guard focuses specifically on elderly and disabled users, combining comprehensive support with proactive family involvement and scam alerts for enhanced security and peace of mind.

Details:

The front end as well as back end web app has been developed in python with the help of the *Streamlit API*. The users' data will be stored securely in a *MongoDB* database. This has been integrated into the python code using *pymongo*. The *deep_translator* package has been used to provide users with the option of Hindi and English. The *gtts* module allows users who may be visually impaired or unable to read with the option to convert the text into speech. Lastly, for giving financial advice, the *OpenAI API* has been integrated.

Components of our WebApp:

Log-in/Register page:

Log in: - This page requires the user to enter their name and password.

Register: - A user can register by providing their name, age, password, Bank Statement, Insurance Docs and Identity proof docs.

Homepage:

Transaction History: Provide a simplified view of recent transactions for each account, allowing users to review their spending and income.

Financial Details Page:

This allows the user to enter in their bank details across multiple banks. It includes information related to credit cards, debit cards, investments etc.

Bank Account Information:

- There is a summary of each bank account, including account type (checking, savings), account number (partially masked for security), and current balance.

Credit and Debit Cards:

- **Card Summary:** A list of their credit and debit cards, including card type, and the last four digits of the card number is displayed (based on the credit cards they have uploaded to the website).
- **Expiration Dates:** Display card expiration dates and provide reminders for upcoming expirations to ensure timely renewals.

Advice Page:

The Advice Page on our website offers personalized financial guidance using OpenAI API. Users can simply input their financial queries or describe their current situation, and the AI analyzes the information in real-time to deliver tailored advice. Moreover, the OpenAI API has been given a special prompt to give advice as Mike Ross would, the protagonist of the show 'Suits'!

Alerts and Reminders:

- **Cybersecurity Guidance:** The WebApp will provide cybersecurity guidance. It provides reminders to update passwords and install device security updates. Additionally, it educates users on phishing

awareness and secure online transactions, helping them manage finances while staying protected online.

News Page:

The News Page in Silver Guard provides real-time updates on financial scams, cybersecurity threats, and best practices for online safety. It features current scam alerts, threat updates, educational articles, and interactive content, all presented in a user-friendly design to keep elderly users informed and secure.

Tutorials Page (Future prospect):

- Another part which focuses on providing tutorials on net banking which can save the users from visiting the bank in person.
- **Support Contact:** Offer a support contact option for users who need assistance with managing their financial information.
- **Help Section:** Provide a dedicated help section with FAQs and guidance on how to enter and manage financial details.

Functioning:

User Onboarding and Financial Data Integration:

Silver Guard makes setup easy by guiding users to link their bank accounts and enter personal details. It then brings all their financial info—balances, loans, and bills—into one simple dashboard, making it easy to see and manage everything in one place.

Transaction Management and Financial Advice:

Silver Guard monitors all transactions and flags any that exceed a specified amount, requiring approval from a registered family member or caretaker. This feature adds a layer of security by ensuring that large transactions are reviewed and authorized, preventing unauthorized or potentially problematic expenses.

Users receive notifications for pending approvals, enabling prompt review and action.

Family and Caretaker Involvement:

Family members or caretakers can access Silver Guard to help oversee finances. This ensures users get the support they need, with trusted people keeping an eye on transactions and offering advice.

Routine Management and Cybersecurity:

Silver Guard includes reminders for important tasks like paying bills and updating passwords. It also provides routines for best practices in cybersecurity, helping users stay organized and secure.

News Section and Scam Alerts:

The app has a news section that updates users on the latest scams and security threats, helping them stay informed and protect their finances.

Tutorial for Online Transactions:

Silver Guard includes a user-friendly tutorial to familiarize elderly users with online transactions. This feature guides them through the process of managing their finances digitally, making the transition from traditional banking methods to online financial management easier and more comfortable.

Design Considerations:

- **Simplicity:** The interface is clean and easy to navigate, with clear labels and intuitive controls for entering and managing information.
- **Accessibility:** Ensure that text is large enough to read easily, and that interactive elements are easy to tap or click.
- **Visual Clarity:** Use high-contrast colors and straightforward buttons to make important information stand out and facilitate quick understanding.

Cost Analysis:

Category	Y0	Y1	Y2	Y3	Y4	Y5	Y6	Notes
Per User Pricing (Annual)	1,000	1,100	1,210	1,331	1,464	1,611	1,771	10% annual inflation
Sales Staff	1	2	4	8	12	16	20	Increased for growth
Users Pitched Annually	1,000	3,000	6,000	10,000	14,000	18,000	24,000	Increased outreach efforts
Users Acquired	100	300	900	2,000	4,000	7,200	12,000	Accelerated acquisition
Total Users	100	400	1,300	3,300	7,300	14,500	26,500	
Revenues	1,00,000	4,40,000	15,73,000	43,92,300	1,06,87,930	2,33,52,395	4,69,31,500	Aggressive revenue growth
Direct Costs %	80%	80%	80%	80%	72%	68%	64%	
Direct Cost	80,000	3,52,000	12,58,400	35,13,840	76,95,310	1,58,79,629	3,00,36,160	Proportionate to revenues
Gross Margin	20%	20%	20%	20%	28%	32%	36%	Improvement in efficiency
Organization Setup Costs (One Time)	2,00,000							Amortized over first year
Employees	5	8	12	16	20	24	30	Increased with user growth
Employee Costs per Annum	5,00,000	8,80,000	14,52,000	21,29,600	29,28,200	38,65,224	53,14,683	10% annual increase
Other Expenses per Annum	5,00,000	6,00,000	7,20,000	8,64,000	10,36,800	12,44,160	14,92,992	20% annual increase
Capex	3,00,000	2,00,000	2,00,000	1,50,000	1,00,000	50,000	25,000	Decreased as setup completes
Total Costs	15,80,000	20,32,000	36,30,400	66,57,440	1,17,60,310	2,10,39,013	3,68,68,835	
Profit/Loss	-14,80,000	-15,92,000	-20,57,400	-22,65,140	-10,72,380	23,13,382	1,00,62,665	Profit starting in Y6
Profit & Loss %	-1480%	-362%	-131%	-52%	-10%	10%	21%	Profit achieved by Y6
	-61,53,537							
Investment Needed	1.2 crore	12% equity						

Our aim:

We aim to make the elderly independent in managing all sensitive information.

We are not only focusing on cyber security and awareness but also providing them with a one stop WebApp to store their financial information.