ID1110 Course Project

PROJECT TEAM MEMBERS:

Names of Project Teammates:	Hall Ticket No:
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Name of the Project:Online Grocery Store Shopping

Introduction:

a) Background & Context:

This Python script creates a virtual grocery shopping experience where users can set a budget, view available items within that budget, and make purchases accordingly. It utilizes the `pyttsx3` library for text-to-speech conversion, enhancing accessibility. The script includes predefined grocery items and their prices, guides users through the purchase process, and provides feedback on their selections. Overall, it offers a simple yet interactive simulation of grocery shopping, demonstrating input validation, logic handling, and auditory feedback integration.

b)Problem Statement:

Grocery shopping can be time-consuming and overwhelming, particularly for individuals with visual impairments who face accessibility challenges. Simplifying the process and enhancing accessibility are key issues.

Objectives:

Simplify Shopping: Develop a user-friendly interface for budget setting, browsing items, and making purchases.
Enhance Accessibility: Implement features like text-to-speech for users with visual impairments.
Budget Adherence: Provide real-time feedback to prevent overspending.
Engaging Experience: Create an immersive environment for enjoyable shopping.

Promote Independence: Empower users to navigate shopping independently.

c) Significance & Motivation:
The significance and motivation behind this solution lie in its commitment to accessibility, efficiency, and empowerment.It will be easy to access to all , Time saving , Financial Management , Empowerment , Engagement and Enjoyment,Social impact. By offering features like text-to-speech, the solution ensures that individuals with visual impairments can engage in grocery shopping independently, promoting inclusivity.

Project Overview :

1)Project Goals & Scope:
The project aims to develop an accessible and efficient grocery shopping solution, emphasizing user empowerment. Through features like text-to-speech and intuitive interfaces, inclusivity is ensured for users of all abilities. The shopping process saves time, while budget management tools and real-time feedback encourage responsible spending. Empowering users to navigate independently fosters confidence, complemented by an engaging environment for an enjoyable experience.

2) Project timeline:
The project timeline spans over a month, divided into phases for planning, development, testing, and refinement. Milestones are set for completing core functionalities, implementing the user interface, testing for bugs, and polishing the final product.

3) Project repository:
https://github.com/Varun02-Sai

d) Team members & Contributions:

i)J.Sai Varun : Responsible for logical implementation of code sequential output. Ensures the application is accessible to users with disabilities by implementing features like text-to-speech.

ii)U Ganesh : Conducts accessibility testing to identify and address usability issues, keyboard navigation, and compatibility with screen readers.

iii) J.Akhil : Responsible for online references and designing and implementing and making the project report.

Methodology :

a) Approach & Methodology Employed:

The approach and methodology for developing the grocery shopping solution involve several key steps like requirement analysis to understand user needs and accessibility requirements.Design Phase for creating a user-friendly and accessible interface.While conducting rigorous testing for functionality and accessibility compliance.This iterative approach ensures the creation of an inclusive and efficient grocery shopping solution that meets user needs and accessibility standards.

b) Tools, Technology's & frameworks used:

The grocery shopping solution utilizes Python for backend logic, and pyttsx3 for text-to-speech conversion. Database management relies on systems, with accessibility features including screen reader compatibility and keyboard navigation. Development and testing tools ensure functionality and accessibility compliance.

Results & Analysis :

a) Achieved results & Findings:

The grocery shopping solution was easy to use and understand. It helped people manage their money while shopping. It worked well and didn't have many issues. Suggestions will be considered to make the solution even better in the future.

b) Discussion of challenges & solution:

Designing a user-friendly interface and implementing accessibility features posed initial hurdles. Collaborating with team members, conducting different points of view, and employing efficient coding practices. Real-time feedback mechanisms and iterative improvements streamlined budget management.

Conclusion & Future work :

a) Summary:

The project delivered a user-friendly grocery shopping solution with enhanced accessibility and efficient budget management. Challenges like interface design and accessibility were overcome through collaborative problem-solving. Positive user feedback highlighted the solution's effectiveness. Continuous adaptation and user feedback drove ongoing improvements.

Contributions:

1. Simplified interface design based on user research.
2. Integrated accessibility features like text-to-speech and keyboard navigation.
3. Developed real-time budget tracking mechanisms.

4. Optimized performance through efficient coding practices.
5. Integrated user feedback for iterative improvements.
6. Ensured technical compatibility across devices and platforms.

b) Assessment of project success:

The project's success is evident in its positive user feedback, achievement of objectives, high user engagement, accessibility compliance, and commitment to continuous improvement. Users are satisfied with the solution's usability and effectiveness in managing budgets. Integration of accessibility features ensures inclusivity, while ongoing adaptation reflects a commitment to meeting evolving user needs.

c) Lessons learned and recommendations for future improvements:

Prioritize user needs through research and feedback.Accessibility Integration to Collaborate with team members .Continuously adapt based on user feedback.Performance Optimization that ensures smooth operation through efficient coding.Enhanced Engagement to Implement personalized features.Advanced Budget Management that Introduces predictive analytics.Emerging Technologies for explore AR and voice assistants can be achieved by continuous monitoring

d) Team members GITHub accounts:

i)J.Sai Varun -https://github.com/Varun02-Sai
ii)U.Ganesh -https://github.com/Nani-1437
iii)J.Akil -https://github.com/Akhil-1234567

References : Referred to some online sources like YouTube, Github,Pinterest etc.

Appendices:

```
Welcome to the Grocery Store! What is your shopping budget in rupees?
Enter your budget: ₹500
Available grocery items within your budget:
Apple: ₹35.00
Banana: ₹20.00
Orange: ₹25.00

What would you like to purchase? Enter the product name or 'finish' to complete your purchase.
Product: apple
How many apples would you like?
 6
You added 6 apple(s) to your cart for ₹210.00. Remaining budget: ₹290.00
Would you like to add more items or finish?
Add more items (yes/no): yes
What would you like to purchase? Enter the product name or 'finish' to complete your purchase.
Product: banana
How many bananas would you like?
 5
You added 5 banana(s) to your cart for ₹100.00. Remaining budget: ₹190.00
Would you like to add more items or finish?
Add more items (yes/no): no
Here is your purchase summary:
6 Apple
5 Banana
Total Cost: ₹310.00
Remaining Budget: ₹190.00
Thank you for shopping with us!
```