1. Identify the Research Problem

With the increasing use of digital systems in local government services, many citizens rely on online platforms to submit concerns and feedback. However, several existing systems suffer from poor usability, unclear layout, lack of guidelines, unclear navigation, and lack of user feedback, which negatively affect user experience.

Research Problem:
Users experience difficulty in reporting city concerns through online platforms due to confusing interfaces, lack of guidelines, inefficient processes, and limited interaction between users and administrators.

2. Define the Research Objectives

The objectives of this study are:

- To evaluate the usability of the digital systems using Human Computer Interaction (HCI) principles.
- To identify interface and interaction problems encountered by users.
- To analyze user satisfaction while using the system.
- To propose and implement an HCI-based solution through the Feedback Portal.
- To expedite the process when the users using it.
- To improve efficiency in using a website or application by providing faster access anytime and anywhere.

3. Review Related Literature

Usability Challenges in E-Government Platforms

The transition to digital governance has highlighted significant barriers in how citizens interact with local government services. According to **Venkatesh et al. (2022)**, many online platforms suffer from poor usability, unclear layouts, and a lack of navigational guidelines, which directly discourage public engagement. When users encounter confusing interfaces and inefficient processes, the primary purpose of the feedback portal—to bridge the gap between the city and its residents—is undermined. Furthermore, **Alanezi (2023)** emphasizes that technical complexity often leads to "digital exclusion," where citizens abandon the platform due to frustration.

The Role of Human-Computer Interaction (HCI)

To address interaction problems, scholars emphasize the application of Human-Computer Interaction (HCI) principles. HCI focuses on optimizing the interface between people and technology to ensure that systems are not only functional but also intuitive (**Rogers, Preece, & Sharp, 2023**). By evaluating systems through the lens of **Nielsen's Usability Heuristics (2020)**, developers can identify specific interaction problems—such as lack of error prevention and poor system visibility—that hinder a user's ability to report concerns effectively. Implementing these solutions is essential for creating a "user-centric" portal that provides faster access anytime and anywhere (**Shneiderman et al., 2024**).

Enhancing User Satisfaction and Process Efficiency

A critical component of a successful digital portal is the level of user satisfaction. Literature suggests that efficiency is not just about the digital tool itself, but about how quickly a user can complete a task (**Harrison et al., 2021**). Without meaningful interaction between users and administrators, a system feels stagnant and unresponsive. Therefore, modernizing the Pasay Feedback Portal requires a design that prioritizes expedited processes and clear feedback loops to maintain high levels of user engagement and trust in local governance (**Bertot & Jaeger, 2022**).

Local Studies on Usability of Philippine E-Government Systems

A study conducted by **Dela Cruz, Santos, and Reyes (2021)** evaluated the usability of an online complaint and feedback system used by a local government unit (LGU) in Metro Manila. The findings revealed that users experienced difficulties due to unclear navigation menus, lack of instructional guidelines, and slow response mechanisms. The study emphasized that applying Human–Computer Interaction (HCI) principles, such as consistency and visibility of system status, significantly improved task completion time and user satisfaction. This local study supports the need to redesign government feedback platforms to enhance efficiency and citizen engagement.

User Experience and Accessibility in Philippine Government Portals

Another local study by **Garcia and Mendoza (2022)** examined user experience and accessibility issues in selected Philippine government websites. The researchers found that many platforms did not adequately support users with low digital literacy, resulting in high error rates and system abandonment. The study highlighted the importance of user-centered design and accessibility standards in improving usability and inclusivity. Their findings reinforce the relevance of implementing HCI-based solutions to ensure faster, more accessible, and user-friendly digital government services for Filipino citizens.

4. Select the HCI Method or Approach

The study will employ a dual-method HCI approach to ensure the Feedback Portal is both technically sound and user-friendly:

- **Heuristic Evaluation:** We will assess the interface using Nielsen's 10 Usability Heuristics. This allows us to pinpoint exactly where the design violates usability standards (e.g., lack of feedback or confusing navigation) before the final implementation.
- **Usability Testing:** We will observe actual users interacting with the portal. By measuring performance metrics, we can scientifically prove if the system successfully "expedites the process" and improves efficiency compared to current methods.

5. Identify Participants

To evaluate the front-end usability and accessibility of the Pasay Feedback Portal, the study focuses on the primary end-users who will be reporting concerns.

Local Residents (Citizens)

- **Quantity:** 40 participants.
- **Profile:** Ages 18–60 with varying digital literacy levels.
- **Role:** Participants are tasked with testing the front-end interface. Their involvement focuses on the ease of navigation, the clarity of the reporting process, and the overall user experience when submitting city concerns.

6. Design the Research Instruments

We will use industry-standard tools to collect reliable data:

- **Usability Test Task Scenario & Observation Checklist:** A structured guide where users perform specific actions (e.g., reporting a broken streetlight). We will record Success Rates, Time on Task, and Error Rates.
- **System Usability Scale (SUS) Questionnaire:** A 10-item Likert scale survey to quantitatively measure user satisfaction. This will provide a "Usability Score" to validate if the system is easy to use or unnecessarily complex.

7. Conduct the Data Collection

Table 1

Observation

User Action/ UI Component	Success Tally	Total Success	Success Rate	Average Time Seconds
Registration: Found the "Register here" link.	40	40	100%	15
Privacy: Opened and closed the Privacy Modal.	36	36	90%	16.6
Location: Successfully selected Barangay 183 to unlock the Street list.	40	40	100%	17.3
Submission: Provided Title, Category, and Description.	40	40	100%	59.2
Tracking: Identified the PID (Tracking ID) on the dashboard.	39	39	98.5%	14.7
Support: Found the Tutorial or Emergency Floating buttons.	35	35	87.5%	19.5

Table 2

System Usability Scale (SUS)

Profile of the Respondents

Literacy Level	Frequency (f)	Percentage (%)
Beginner	18	45%
Intermediate	20	50%
Advanced	2	5%
Total	40	100%

Table 3

System Usability and Efficiency Tally

Rating Scale	Verbal Interpretation	Frequency (f)	Percentage (%)
9 – 10	Outstanding / Very Satisfied	36	90%
7 – 8	Very Satisfactory	4	10%
5 – 6	Satisfactory	0	0
1 – 4	Needs Improvement	0	0
Total Responses		40	100%

8. Analyze the Data

1. High Success Rates Across Core Tasks

The data shows that the majority of users successfully completed the essenstial functions of the portal.

- **Critical Navigation:** Both registration and location selection achieved a 100% success rate.
- **Submission Process:** Every participant was able to provide a Title, Category, and Description, indicating that the core reporting form is intuitive.
- **Tracking and Support:** Identifying the Tracking ID and lcoating support buttons also saw high completion, though the slightly lower rate for support buttons suggests these UI elements might need minor visibility adjustments.

2. Efficient Task Completion Time

The portal successfully addressed the objective of "expediting the process".

- **Quick Interactions:** Most navigation and identification tasks (Registration, Privacy, Location, and Tracking) were completed in under 20 seconds on average.
- **Complex Tasks:** The most time-consuming task was report submission (59.2 seconds), which is reasonable given it requires manual data entry (Title, Category, and Description).

3. Usability Across Digital Literacy Levels

The system demonstrated strong inclusivity, a key factor in preventing "digital exclusion".

- **Diverse User Base:** The participants were primarily Beginners (45%) and Intermediate (50%) users.
- **Effective Design:** Despite 95% of the group not being "Advanced" users, the high success rates and satisfaction scores prove the HCI-based design is accessible to those with lower digital literacy.

4. Exceptional User Satisfaction

The quantitative data from the System Usability Scale (SUS) and satisfaction tally indicates a highly successful implementation.

- **Top-Tier Ratings: 90% of respondents** rated the system as "Outstanding / Very Satisfied" (9–10 range).
- **Positive Reception:** The remaining 10% rated it as "Very Satisfactory" (7–8 range), with zero participants reporting that the system "Needs Improvement".

9. Discuss the Findings

The evaluation of the Pasay Feedback Portal demonstrates a highly successful application of Human-Computer Interaction (HCI) principles, effectively addressing the usability barriers identified in previous local and international studies.

1. Identified Usability Problems
While the portal achieved high overall success, specific minor interaction issues were identified through user observation:

- **Support Visibility:** The "Support" task (finding Tutorial or Emergency buttons) had the lowest success rate at **87.5%**. This suggests these floating buttons may occasionally be overlooked or obscured on the interface.
- **Privacy Engagement:** Roughly 10% of users struggled or failed to open and close the Privacy Modal correctly.
- **Tracking ID Recognition:** A small margin of users (1.5%) experienced a slight delay or failure in identifying their Tracking ID (PID) on the dashboard.

2. Impact on User Experience

These issues, though minor, affect the user experience in the following ways:

- **Reduced Self-Help Efficiency:** Lower success in finding support buttons could lead to user frustration or an increase in direct inquiries to administrators if users cannot find the built-in tutorials.
- **Data Entry Friction:** The report submission task took the longest to complete (average 59.2 seconds). While expected for manual entry, any lack of clarity in this stage could discourage users with lower digital literacy from completing their reports.

- **Minor Navigation Lag:** The slight difficulty in interacting with the Privacy Modal or finding the PID can interrupt the "flow" of the interaction, though the 90% "Outstanding" satisfaction rating suggests these did not lead to system abandonment.

3. HCI Principles Followed and Violated

HCI Principle	Status	Evidence
Visibility of System Status	Followed	Users achieved a 98.5% success rate in identifying their Tracking ID, ensuring they knew their submission was processed.
Flexibility and Efficiency of Use	Followed	The system successfully "expedited the process," with core navigation tasks like registration and location selection taking under 20 seconds.
User-Centric Design / Accessibility	Followed	The portal remained effective for Beginners (45%) and Intermediate (50%) users, effectively preventing "digital exclusion".
Consistency and Standards	Followed	100% success in registration and location selection suggests a predictable and standard layout.
Aesthetic and Minimalist Design	Minor Violation	The lower success rate for support buttons (87.5%) indicates that these UI elements might violate the principle of prominence or "system visibility".

10. Provide Recommendations

Based on our research findings and the evaluation of HCI principles, the following improvements are recommended to further enhance the platform's usability and accessibility:

1. Enhance UI Component Visibility

- **Reposition Support Buttons:** Since the support and tutorial buttons had the lowest success rate (87.5%), they should be moved from a floating position to a fixed, more prominent location in the top navigation bar or sidebar.

- **Highlight Tracking IDs:** Although the success rate was high, the Tracking ID (PID) should be displayed in a larger, bold font or high-contrast color immediately after submission to ensure all users notice it instantly.

2. Streamline Navigation and Interaction

- **Simplify the Privacy Modal:** To address the 10% failure rate in interacting with the privacy section, the modal should be replaced with a simplified checkbox or a clearer "Close/Accept" button that remains visible on all screen sizes.

- **Optimize the Submission Form:** Given that report submission is the most time-consuming task (59.2 seconds), implementing auto-fill features or a "Save Draft" option would help expedite the process for users.

3. Improve Accessibility and Guidance

- **Incorporate Visual Instructions:** To better support the 45% of users who are beginners, adding short tooltips or a "walkthrough" overlay during the first login would reduce reliance on the tutorial buttons.

- **Refine Instructional Guidelines**: Following the findings of local studies, adding more descriptive labels and clearer step-by-step instructions within the submission form will reduce errors and cognitive load.

4. Strengthen Feedback Loops

- **Automate Status Notifications**: To improve the "Visibility of System Status," the portal should provide immediate visual feedback (e.g., a progress bar or automated SMS/email) once a report is successfully submitted.

- **Real-time Interaction:** To prevent the system from feeling "stagnant," a live status tracker or a simple chat interaction between users and administrators should be integrated.

11. Write the Conclusion

The study successfully evaluated the Pasay Feedback Portal, demonstrating that a design rooted in Human-Computer Interaction (HCI) principles can effectively bridge the gap between local government and its citizens. By moving away from confusing layouts and inefficient processes, the platform establishes a more inclusive digital environment for residents of Pasay.

Main Findings

- **High Usability and Efficiency:** The research revealed exceptional success rates, with core tasks like registration and location selection achieving 100% completion. Most navigation tasks were completed in under 20 seconds, meeting the objective of expediting city reporting.
- **Exceptional User Satisfaction:** Quantitative data from the System Usability Scale (SUS) showed that 90% of respondents rated the system as "Outstanding," with no participants reporting a need for improvement.
- **Inclusivity for All Literacy Levels:** Despite 45% of users identifying as beginners, the system's intuitive design ensured high success across all digital literacy levels, successfully mitigating the risk of "digital exclusion".

Importance of the Research

This research is critical because it addresses the common failures of e-government platforms, such as unclear navigation and lack of guidelines, which often discourage public engagement. By applying Nielsen's Usability Heuristics, the study proves that technical complexity can be managed to create a "user-centric" portal that provides faster access to government services.

Contribution to Improving User Experience

The study contributes a validated framework for local government units to:

- **Reduce Friction:** By optimizing the interface, the portal minimizes task completion time and error rates, particularly for complex reporting tasks.
- **Build Trust:** Implementing clear feedback loops and visible system statuses (such as Tracking IDs) ensures citizens feel heard and their concerns are being addressed.
- **Enhance Accessibility:** The transition to an HCI-based solution ensures that even those with limited technical skills can participate in local governance, fostering a more connected and responsive city.