Using Crowd-Sourcing to Identify and Solve Community Problems

–Heuristic Evaluation–

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User Tasks Analyzed:

- Connecting with Stakeholders
- Participating in Surveys
- Voting on Issues

1 Visibility of System Status

The design should always keep users informed about what is going on, through appropriate feedback within a reasonable amount of time.

Explanation of Compliance: The interface effectively keeps users informed about the current system status by providing:

- **Clear page titles** to indicate the user's location (e.g., "Votes", "My Issues", "Community Hub").
- **Toast messages** that display success or error statuses for user actions, such as submitting a vote or comment.
- **Dynamic content updates**, such as buttons and components that reflect the user's actions.
- **Relevant information displayed** on specific pages (e.g., `/vote/id` or `/issue/id`), ensuring users have all the necessary context for their actions.

Examples in the Three Tasks:

1. **Voting on Issues**
   When a user casts a vote, a toast message confirms the vote's success. The button's state then updates to "Signed" if the selected solution was chosen, or "Already Voted" if a different solution was previously chosen.
2. **Connecting with Stakeholders**
   In the chat application, the name of the other user is prominently displayed at the top of the page, as well as a slight tint to the background of the conversation in the sidebar.
3. **Participating in Surveys**
   The interface provides relevant information by clearly labeling each step in the survey process and explicitly marking required fields, ensuring users understand their progress and the necessary actions.

Identified Issues:

1. The toast messages may lack sufficient prominence, causing users to overlook them. Additionally, the clarity of the message may be inadequate, or the duration for which they are displayed might be too brief.
2. The progress bars, comment counts, and vote totals, and other data displayed on tha page, are not updated in real-time, which could lead to user confusion or a false impression of system status.

Proposed Solutions:

- **Solution for Issue 1:** Ensure that toast messages are visually distinct and use contrasting colors to draw attention. Extend the display time of toast messages to ensure users have ample time to read them. Implement clearer and more concise messaging that directly communicates the action or status update. Additionally, conduct user feedback sessions or A/B testing to gather insights on message visibility and effectiveness, allowing for data-driven adjustments to the design.
- **Solution for Issue 2:** Implement real-time data updates for progress bars, comment counts, and vote totals. This can be achieved through technologies like WebSockets or polling to provide users with up-to-date information without the need for manual refreshing.

User Experience Improvements:

- **For Issue 1:** By making toast messages more prominent and clear, users will have a smoother and more efficient experience. They'll be more likely to notice and understand system notifications, which will reduce frustration and improve task completion. User feedback or A/B testing will provide further insights to refine the message visibility and display timing for optimal user satisfaction.
- **For Issue 2:** Real-time updates will enhance user trust and engagement, as users will always have the most current information at their fingertips. This improvement will contribute to a sense of immediacy and responsiveness, resulting in a more seamless interaction with the system.

2 Match Between the System and the Real World

The design should speak the users' language. Use words, phrases, and concepts familiar to the user, rather than internal jargon. Follow real-world conventions, making information appear in a natural and logical order.

Explanation of Compliance: The interface aligns with real-world conventions by ensuring:

- **Familiar terminology** is used, such as "Vote," "Comment," and "Survey," which are terms users can easily understand.

- **Icons and visual cues** reflect familiar actions and objects (e.g., a "thumbs up" icon for voting or a "speech bubble" for messaging).
- **Logical groupings** of information and tasks that reflect real-world processes, such as survey steps or issue voting.
- **Real-world metaphors** are used, like the chat interface representing a conversation, with user names and messages clearly organized in a way that mimics other popular communication platforms.

Identified Issues:

1. Some terms and icons may still be unclear for new users who are not familiar with the platform or its terminology.
2. Certain actions or interactions may feel overly abstract or system-oriented, lacking enough real-world context to be fully intuitive.

Proposed Solutions:

- **Solution for Issue 1:** Clarify any ambiguous terms or icons by testing them with users and ensuring that labels are self-explanatory. Consider adding tooltips or brief explanations next to unfamiliar terms for better guidance.
- **Solution for Issue 2:** Incorporate more real-world metaphors and analogies where possible, such as using familiar images and actions to represent system tasks. For example, replacing abstract symbols with more widely recognized ones could make the interaction feel more intuitive.

User Experience Improvements:

- **For Issue 1:** By clarifying terms and icons, users will spend less time trying to figure out what each function does. This will reduce cognitive load, improve task completion times, and create a more comfortable experience for users who may not be familiar with the system.
- **For Issue 2:** Using more real-world metaphors will make the interface feel more natural and intuitive. Users will be able to engage with the system more easily, without needing to learn complex or abstract concepts, leading to a smoother and more enjoyable interaction.

3 User Control and Freedom

Users often perform actions by mistake. They need a clearly marked "emergency exit" to leave the unwanted action without having to go through an extended process.

Explanation of Compliance: The interface provides users with control over their actions by offering:

- **Clear navigation options** allowing users to move freely through different sections of the application.

Examples in the Three Tasks:

1. **Voting on Issues**
   Users can cast a vote, but there is no option to retract or change the vote once it has been submitted, which limits their control over their actions.
2. **Participating in Surveys**
   The survey interface allows users to go back to previous questions and modify their answers, giving them flexibility before submitting the final response.

Identified Issues:

- The system currently does not offer the ability to undo or redo actions, such as retracting or changing votes, limiting user control and freedom.
- There are no confirmation dialogs before critical, irreversible actions (e.g., submitting votes, deleting comments), leaving users with no chance to reconsider their choices.
- The chat interface does not provide a way to undo or change the user's messages once they have been sent.

Proposed Solutions:

- **Solution for Issue 1:** Implement an option for users to undo or change their vote within a certain time frame after submission. A "Retract Vote" button could appear after the vote is cast, allowing users to adjust their decision.
- **Solution for Issue 2:** Introduce confirmation dialogs before irreversible actions, such as submitting votes or deleting comments. This will give users an opportunity to review their decisions before they are finalized.
- **Solution for Issue 3:** Allow users to edit or delete messages they've sent in the chat interface. This could be done through an "Edit" or "Delete" button next to the message, enabling users to correct or retract their communication.

User Experience Improvements:

- **For Issue 1:** Allowing users to undo or modify their vote will enhance their sense of control and reduce anxiety about making permanent decisions. This will improve confidence in using the system and promote a more flexible user experience.

- **For Issue 2:** Adding confirmation dialogs will help prevent accidental actions, providing users with a safety net when performing irreversible tasks. This will lead to greater satisfaction and a sense of security while using the application.
- **For Issue 3:** Enabling users to edit or delete messages in the chat will empower them to correct mistakes or adjust their communication, reducing frustration and improving the overall user experience.

4 Consistency and Standards

Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform and industry conventions.

Explanation of Compliance: The interface maintains consistency by adhering to:

- **Familiar interface elements** that align with industry standards, such as buttons for submitting actions and dropdowns for selecting options.
- **Consistent visual styles** across different sections of the application, such as the use of icons, color schemes, and fonts to represent similar actions.

Examples in the Three Tasks:

1. **Voting on Issues**
   In the voting section, familiar "thumbs up" and "thumbs down" buttons are used to indicate approval or disapproval of comments, mimicking common voting interactions.
2. **Connecting with Stakeholders**
   In the chat interface, standard user conventions are followed, displaying elements like the user's name, profile avatar, and the most recent message, making it easy to recognize ongoing conversations.
3. **Participating in Surveys**
   The survey interface features a progress bar to show the user's advancement through the survey. Form fields are clearly organized, with labels for inputs, radio buttons, dropdown menus, and text fields, all adhering to common design practices.

Identified Issues:

1. Visual elements, such as buttons, may differ slightly across pages, causing minor confusion regarding their function.
2. Some interactions might not follow industry conventions, which could lead to misunderstandings or a steeper learning curve for new users.

Proposed Solutions:

- - **Solution for Issue 1:** Align the visual design of buttons, icons, and other UI elements across different sections of the platform. Ensure consistent use of colors, typography, and button styles to create a unified experience. - **Solution for Issue 2:** Conduct a review of the interface to identify any non-standard interactions, and replace them with more familiar, more conventional elements. Where possible, align interactions with industry-standard patterns.

User Experience Improvements:

- **For Issue 1:** Consistency in visual design will create a sense of familiarity across different parts of the platform, helping users navigate the interface with greater confidence.
- **For Issue 2:** Aligning interactions with platform conventions will make the interface feel more predictable and reduce the learning curve for new users, improving overall usability and satisfaction.

5 Error Prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and present users with a confirmation option before they commit to the action.

Explanation of Compliance: The interface minimizes errors by:

- **Validating inputs** in forms and individual fields, ensuring that users can't submit invalid data. Each form and input field is checked against a schema to ensure correctness.

Examples in the Three Tasks:

1. **Connecting with Stakeholders**
   In the chat interface, users are warned if they try to send an empty message, preventing the user from submitting an empty message.
2. **Participating in Surveys**
   Each form field in the survey is checked to ensure valid input (e.g., text fields are not left empty, and radio buttons are selected) before the user can move to the next step. Invalid inputs trigger an error message requesting correction.

Identified Issues:

1. **Server-side errors** may occasionally occur (e.g., issues with data submission), but they are not a primary concern for this UI design, as they do not directly affect the user interface.

Proposed Solutions:

- **Solution for Issue 1:** While server-side errors are beyond the scope of UI design, ensuring the interface provides clear error messages when such issues occur will help users understand the problem.

User Experience Improvements:

- **For Issue 1:** While server-side issues may still arise, ensuring clear error messaging at the UI level will provide users with the context they need to understand the problem and prevent frustration.

6 Recognition Rather than Recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

Explanation of Compliance: The interface minimizes the user's memory load by ensuring that:

- **Labels and instructions** are clearly visible next to input fields or interactive elements, so users don't have to remember what information they need to provide.
- **Actions and options** are presented in a straightforward and discoverable way, ensuring users can easily find the features they need without relying on memory.
- **Consistent layouts** and navigation structures make it easy for users to locate key actions across different sections of the interface.

Examples in the Three Tasks:

1. **Voting on Issues**
   The vote options are clearly visible, with labels for the solution and each alternative, so users can easily recognize and understand the actions they are about to take.
2. **Connecting with Stakeholders**
   In the chat interface, recent conversations are displayed in the sidebar with the corresponding names and avatars, reducing the need for users to remember which conversation they were engaged in last.

3. **Participating in Surveys**
   Survey questions and options are displayed with clear labels, and users can easily navigate between questions using the visible "Next" or "Previous" buttons, eliminating the need to recall information from earlier sections.

Identified Issues:

1. **Lack of easily retrievable information** in certain sections, such as when a user needs to refer to a previous vote or comment but cannot find this information quickly.

Proposed Solutions:

1. **Solution for Issue 1:** Implement persistent elements that display relevant information from previous actions (e.g., a user's last vote or comment) so they don't need to recall or search for it.

User Experience Improvements:

- **For Issue 1:** Providing easily accessible information from previous interactions will reduce users' need to search or recall details, leading to a more efficient and fluid experience.

7 Flexibility and Efficiency of Use

Shortcuts — hidden from novice users — may speed up the interaction for the expert user so that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Explanation of Compliance: The design **does not fully comply** with this principle, as it does not currently provide shortcuts, customizability for frequent actions, or an adaptive layout to cater to both novice and expert users. This was not considered in the initial implementation, and there is room for improvement in this area to accommodate both inexperienced and experienced users.

Identified Issues:

1. **Lack of customizable shortcuts** for expert users, limiting the ability to quickly perform common actions.
2. **No advanced mode** for experienced users, where they could skip certain steps or interact with the platform more efficiently.
3. **Limited options for tailoring frequent actions**, such as voting or navigating through sections, resulting in repetitive actions for users who are familiar with the platform.

Proposed Solutions:

- **Solution for Issue 1:** Implement customizable keyboard shortcuts or quick actions for common tasks (e.g., voting, sending messages) that can be activated by experienced users.
- **Solution for Issue 2:** Introduce an "Advanced Mode" or settings that allow users to bypass certain steps or automatically fill in frequent actions, enhancing efficiency for power users.
- **Solution for Issue 3:** Provide options for users to save their preferences or frequently accessed sections, allowing them to quickly navigate to their desired tasks without redundant actions.

User Experience Improvements:

- **For Issue 1:** Offering shortcuts or quick actions will allow expert users to complete tasks faster, increasing their overall efficiency and satisfaction with the interface.
- **For Issue 2:** By enabling an advanced mode, users who are familiar with the platform will feel more in control, as they can navigate more freely and complete actions with fewer interruptions.
- **For Issue 3:** Giving users the ability to tailor frequent actions will make the interface more efficient, reducing frustration and improving task completion times for experienced users.

8 Aesthetic and Minimalist Design

Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.

Explanation of Compliance: The design follows an aesthetic and minimalist approach by keeping the interface clean and free of unnecessary elements. The layout focuses on displaying only the most relevant content to users, ensuring clarity and simplicity. However, the use of a pre-existing, general design system with styled components led to some inconsistencies, where hand-modified elements may not always align with the design system, potentially creating minor visual distractions.

Identified Issues:

1. **Inconsistent use of components** from the pre-existing design system, where some elements might not align perfectly with the overall aesthetic, causing minor visual disruptions.

2. **Minor visual clutter** in certain areas due to hand-modified elements that were not fully harmonized with the design system.

Proposed Solutions:

- **Solution for Issue 1:** Ensure that all custom components are aligned with the design system's guidelines. If necessary, update or adjust the hand-modified elements to match the existing components more consistently.
- **Solution for Issue 2:** Perform a design audit to identify any areas where visual inconsistencies arise and make adjustments to ensure the design remains clean and cohesive.

User Experience Improvements:

- **For Issue 1:** Ensuring design consistency will improve the visual flow and coherence of the interface, making the overall experience feel more polished and professional.
- **For Issue 2:** Reducing any visual clutter will help users focus on the most important elements, improving usability and reducing distractions.

9 Help Users Recognize, Diagnose, and Recover from Errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

Explanation of Compliance: The design aims to help users recognize, diagnose, and recover from errors by providing clear, concise error messages. When an error occurs, the message is communicated in plain language, without technical jargon or error codes, making it easily understandable.

Examples in the Three Tasks:

1. **Connecting with Stakeholders**
   In the case of a failed message send (e.g., network error), the system will display an error message such as, "Message failed to send. Please try again." giving the user clear guidance on what to do next.
2. **Participating in Surveys**
   If a required field is missed or there's a submission error, the interface will display a message like, "Please fill in all required fields." clearly indicating what needs to be corrected.

Identified Issues:

1. **Lack of specific solutions or guidance** in some error messages, especially when the error is caused by a network or server issue. These messages do not provide clear next steps or recovery options for the user.
2. **Some error messages could be more user-friendly**, especially for non-technical users, to ensure that they can easily understand the cause of the problem and how to fix it.

Proposed Solutions:

- **Solution for Issue 1:** Add more specific guidance in error messages, especially for situations like network or server issues, such as "Please check your internet connection and try again" or "If the issue persists, contact support."
- **Solution for Issue 2:** Reword error messages to make them more user-friendly and less technical. Use plain language to ensure users, regardless of their technical background, can understand the problem and the solution.

User Experience Improvements:

- **For Issue 1:** Providing more specific recovery actions in error messages will empower users to resolve issues on their own, enhancing their sense of control and reducing frustration.
- **For Issue 2:** By making error messages clearer and more approachable, users will feel less confused and more confident in their ability to address the issue, leading to a smoother overall experience.

10 Help and Documentation

It's best if the system doesn't need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks.

Explanation of Compliance: The design **does not currently comply** with this principle, as no dedicated help or documentation is provided to users within the interface. Users are expected to navigate the system without additional support or instructions, which may lead to confusion for some users, especially those unfamiliar with the platform or its features.

Identified Issues:

1. **Absence of in-app help or documentation**, leaving users with no guidance on how to complete tasks or recover from potential errors.
2. **No onboarding or tutorial** for new users to learn how to use the system effectively, which could lead to a steeper learning curve for unfamiliar users.

Proposed Solutions:

- **Solution for Issue 1:** Introduce an easily accessible help section or FAQ page within the interface that provides explanations on common tasks, error recovery steps, and general system use.
- **Solution for Issue 2:** Implement an onboarding tutorial or guided tour to help new users familiarize themselves with the interface and its key features. Consider tooltips or interactive tutorials that provide contextual help at relevant stages.

User Experience Improvements:

- **For Issue 1:** Providing in-app help will ensure that users can easily find the information they need without having to leave the interface or search online, enhancing their confidence and ability to complete tasks.
- **For Issue 2:** An onboarding tutorial or guidance system will reduce user confusion and make the interface more approachable for new users, improving overall satisfaction and reducing friction in the user journey.