Carrie Cai
6.831 HW 2

Prototype Evaluated: Secure Message (Android)
Usability Guideline used: Nielson's Ten Usability Heuristics

The heuristic evaluation below is ordered from negative to positive.

1. Catastrophic: User receives insufficient information regarding who receives messages in multi-user conversations. (visibility and system status)

If a message is sent to multiple people at once and a reply returns, there is no indication of whether the reply reaches only the user, only all "verified" users, or everyone in the thread regardless of verified status. This is a particularly important issue because the purpose of the application is to ensure secure communication between users.
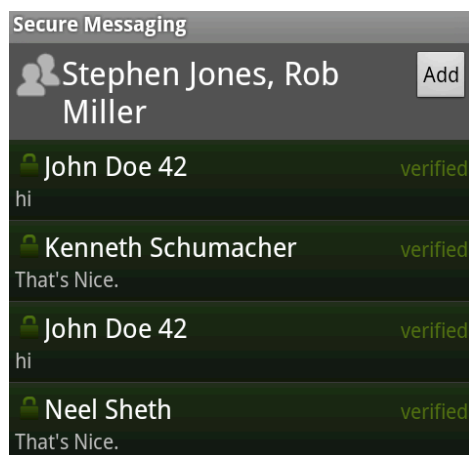
2. Major: User may misunderstand inbox functionality due to external inconsistency of terminology (consistency and standards, match the real world)

In the inbox tab, a new message is denoted by "no members," users add participants by clicking "add," and user-initiated messages are immediately displayed in the inbox. This terminology and functionality is more consistent with chatrooms or text messages rather than with email inboxes; users may initially expect inbox to hold only received messages, due to email convention.

Recommendation: change "inbox" to "conversations" (or something more consistent with chatrooms/texts), or change "no members" and "add" to email-specific terminology such as "To: ".
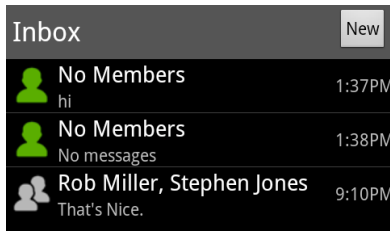
3. Major: Color mapping of green/grey user icons is internally inconsistent with green/orange verified status text (consistency and standards)

User icons (Figure 1) appear green or grey in conversations, even though verified/unverified status text (Figure 2) appears green or orange.

Recommendation: Either unify to one color mapping, or if they are intended to represent different mappings, make all four colors different so that they don't overlap on green.
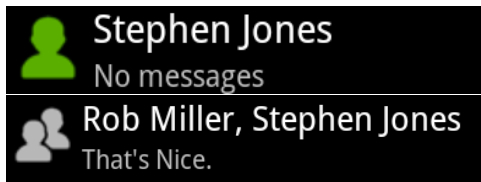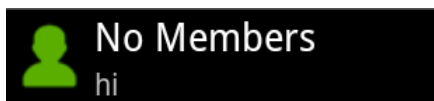

Figure 1: User Icons

Figure 2: Verified status

4. Major: Meaning of green color on user icon is ambiguous in the context of "no members" conversation header text (consistency and standards)

User icon appears green in member-less conversations. It is thus not immediately clear whether green maps to the user's online status, the user's verified status, or to nothing.


5. Minor: User may add a contact to a conversation without intending to do so, and have no way to undo this action. (error prevention, error recovery, user control and freedom)

No confirmation dialog appears after user has clicked on a contact to add. There is also no undo functionality if the user mistakenly adds the wrong contact to the conversation.

6. Minor: User receives no feedback when more than 2 contacts are added to a conversation (visibility and system status)

After 2 contacts are added to a conversation, the addition of more contacts changes neither the text nor the icon in the top bar interface. Hence, it is unclear to the user whether the contact was successfully added and how many members are currently in the message thread.

Recommendation: show text similar to "… + n others" after the two listed contacts.
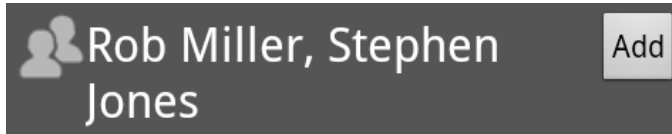
The screenshot above is what the user sees after adding 2 users as well as after adding more than 2 users.

7. Minor: Identity barcode has no accompanying documentation. (help and documentation)

For users who are not knowledgeable about security, the intended usage of the Identity page is not clear. Although the design of this page is aesthetically simple, users should be offered a way to get further information about the meaning of the barcode or how to use this page.

8. Minor: User has no alternative ways to select contact other than by tapping contact list item. (user control and freedom, flexibility and efficiency)

If contact list is long and the user recalls the specific user's name, scrolling through contacts and tapping on the desired item may be very time consuming.

Recommendation: Create a "frequent contacts" short list, or add search/autocomplete functionality.
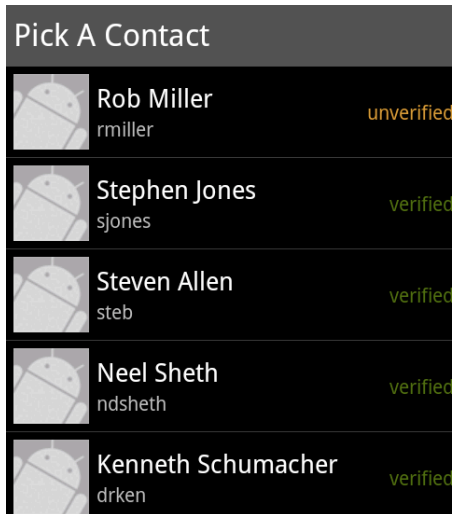
9. Minor: Contact list items react to touch but do not change the system's state when navigated to directly from the Contacts tab. (consistency and standards, visibility of system status)

When user navigates to the Contacts tab and tap on a contact, the list item visually responds to touch (the background highlights), but the user is not led to any other page or information after tapping the list item. This is contrary to conventions in which UI responses typically provide feedback regarding a change of state.
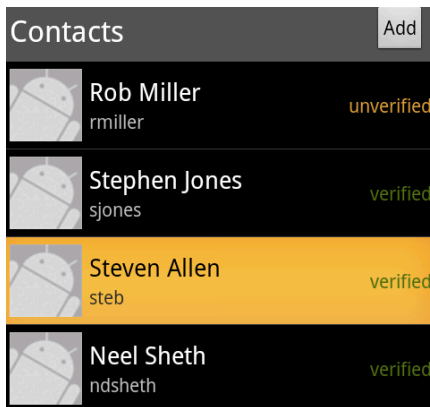

10. Cosmetic: "Add" button is narrower than the canonical add buttons seen in other mobile applications. (consistency and standards)

User may not recognize add/new buttons as immediately because they are more square-shaped than the typical add buttons in other mobile applications.
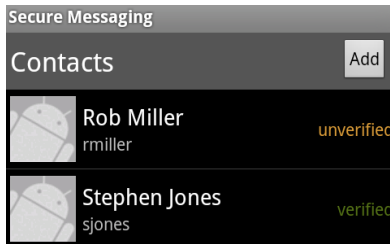
11. Good: All four major functions are visible immediately and stay visible throughout the duration of the user's interactions. (visibility of system status)
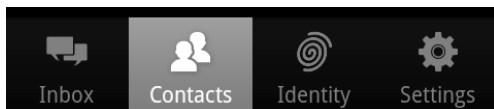

12. Good: bottom tab of icons and contact list reflect familiar icons/layouts seen in other applications. (consistency and standards [inbox, contacts, and settings icons], matches the real world [fingerprint icon])

13. Good: System allows users to add contact by selecting from a list. (recognition, not recall)

14. Good: Size of barcode is sufficiently large and affords scanning. (matches the real world)

15. Good: User sees message indicating that he/she has successfully added a contact. (visibility of system status)
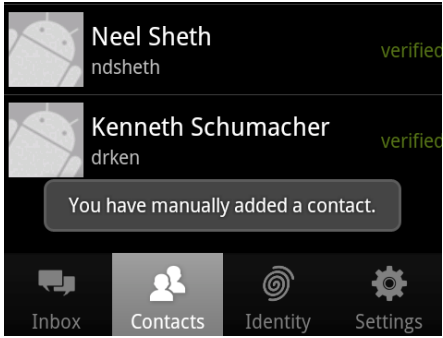
16. Good: Simple layout and icons. (aesthetic and minimalist design)

17. Good: User can see which tab he/she is currently on because the current tab is highlighted. (visibility of system status)