Putting multiple user-centered design techniques in combination to create one global information system

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April 14, 2008

Thanks to Chaitr Hiremath & HFE book club

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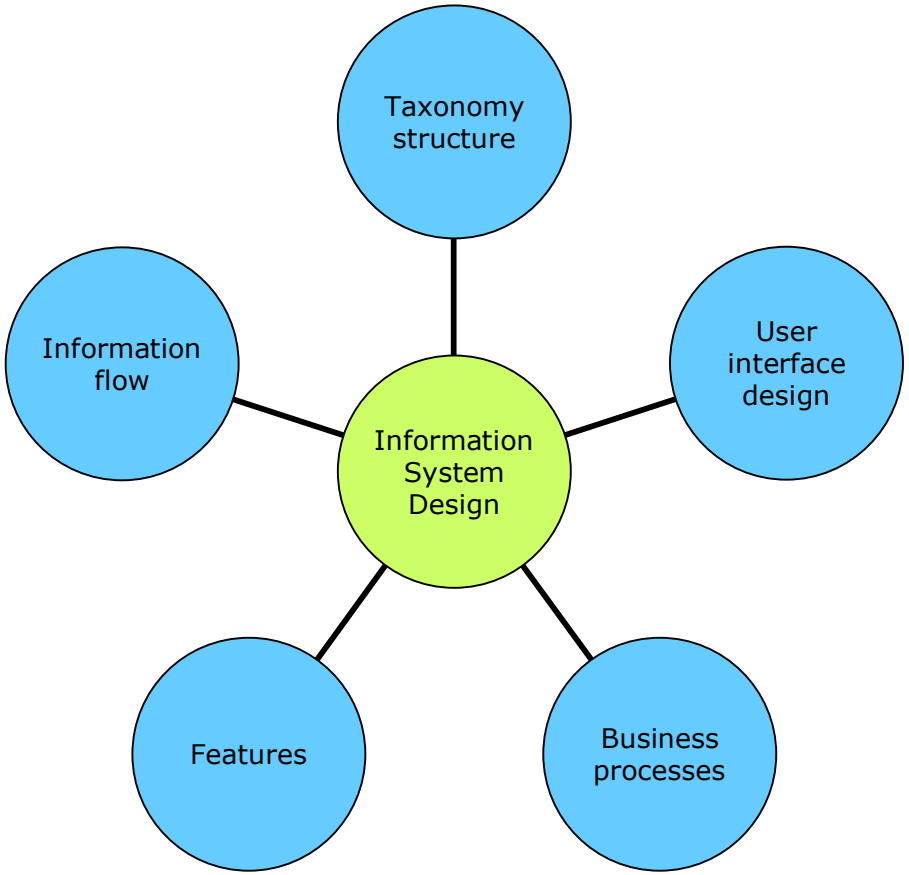
Outline

- Challenge:
  - Purpose of study
- Solution:
  - Usability Methodology
  - Description of each method
- Summary

Challenge



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What usability methodology can one apply that takes into account every aspect of system design as well as the cultural influences on data?

Challenge at Intel

- Intel employees worldwide have access to many different resources for help on the intranet
- Employees need to remember what type of support they need and which site supplies relevant information





Purpose of Study

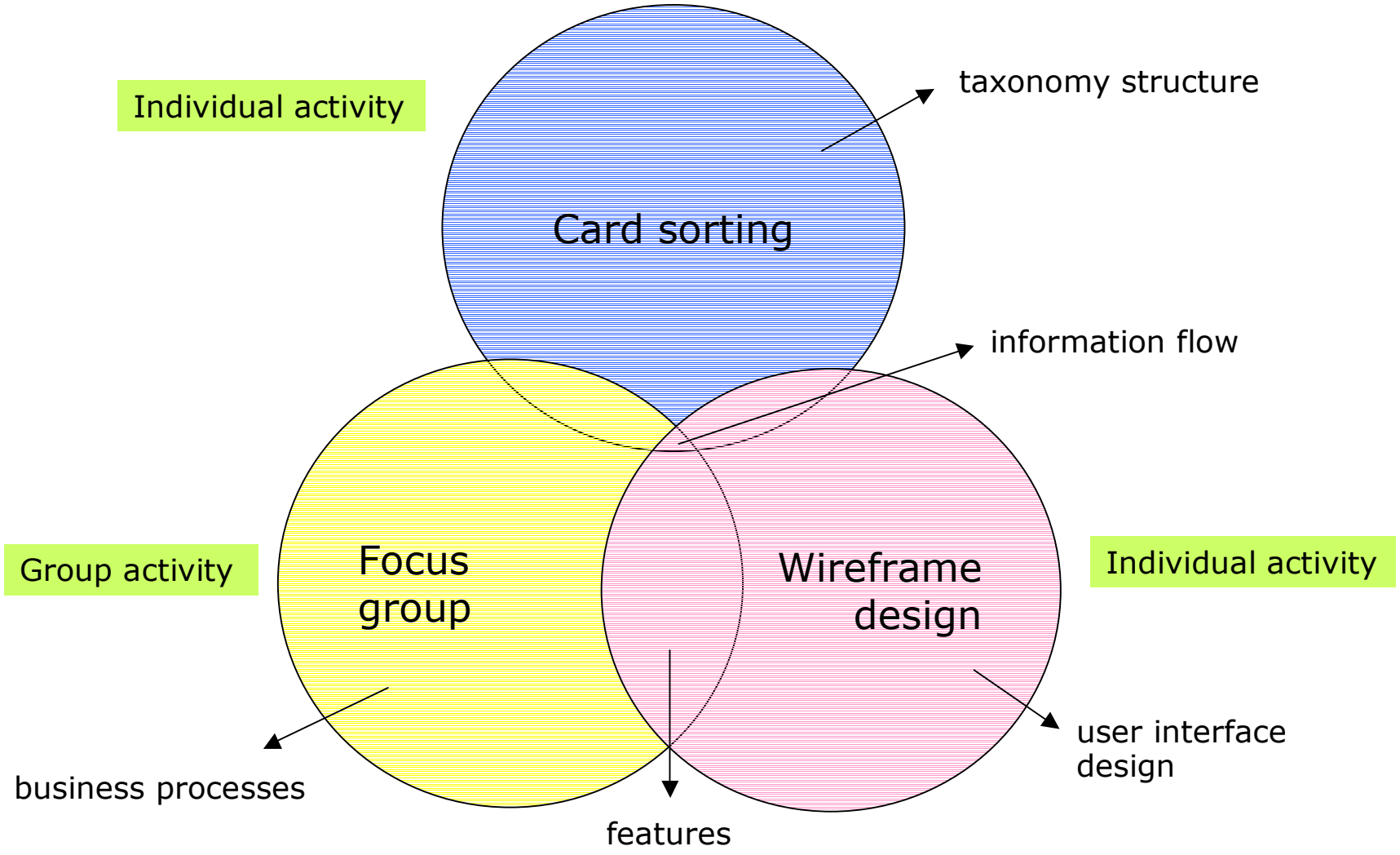
To provide a one-stop-shop for support by streamlining the process of searching, browsing for help content, and contacting a support agent when further assistance is required

Target Audience

- Targeted regions based on the local language, number of Intel employees and stakeholder input on regions that have highest number of support calls

- Intel employees from U.S., China, Malaysia, Costa Rica. At least 8 from every region.

Usability Methodology

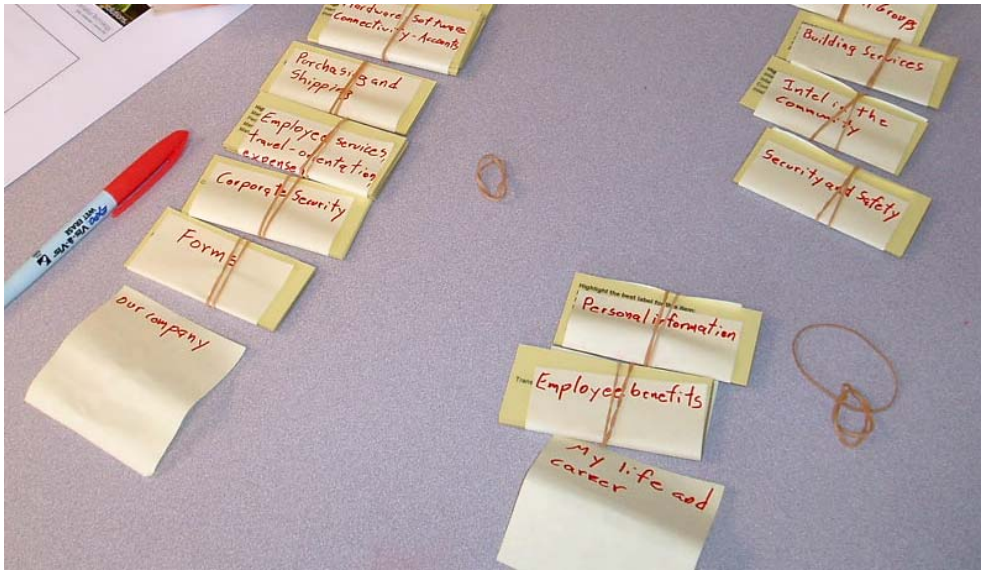


Card Sorting Activity

Goals:

- To create a unified taxonomy structure
- To understand the difference in how users sort items based on their own mental model and the existing taxonomy structure in the portal

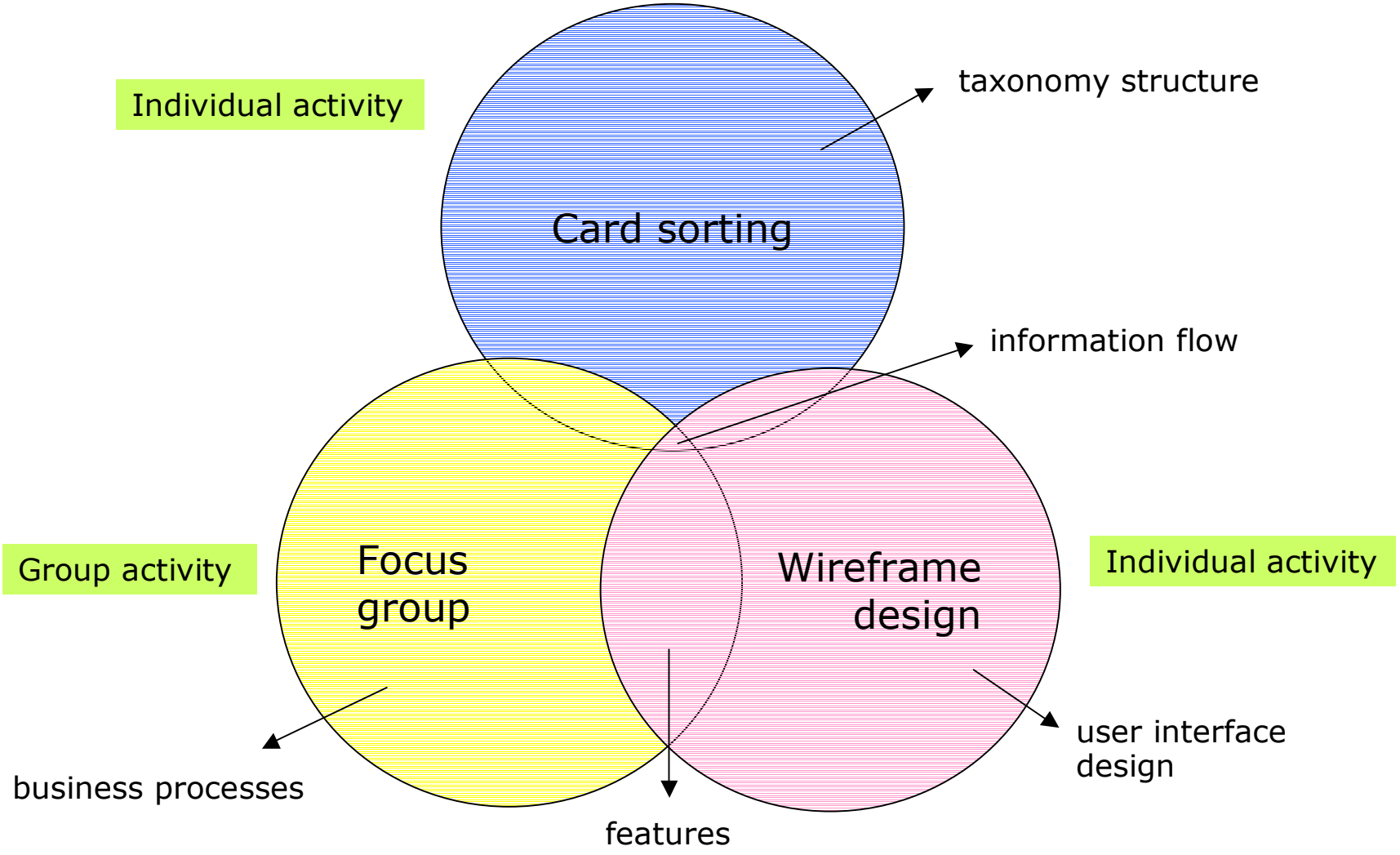
Each participant had to sort 62 cards to sort for an open and closed activity.



Findings:

- The results were very similar to the existing taxonomy structure.
- Users prefer to have a separate single entry point for all support items.

Fairly equal level of participation - individual hands-on activity



Focus Group

40 participants in 4 different regions

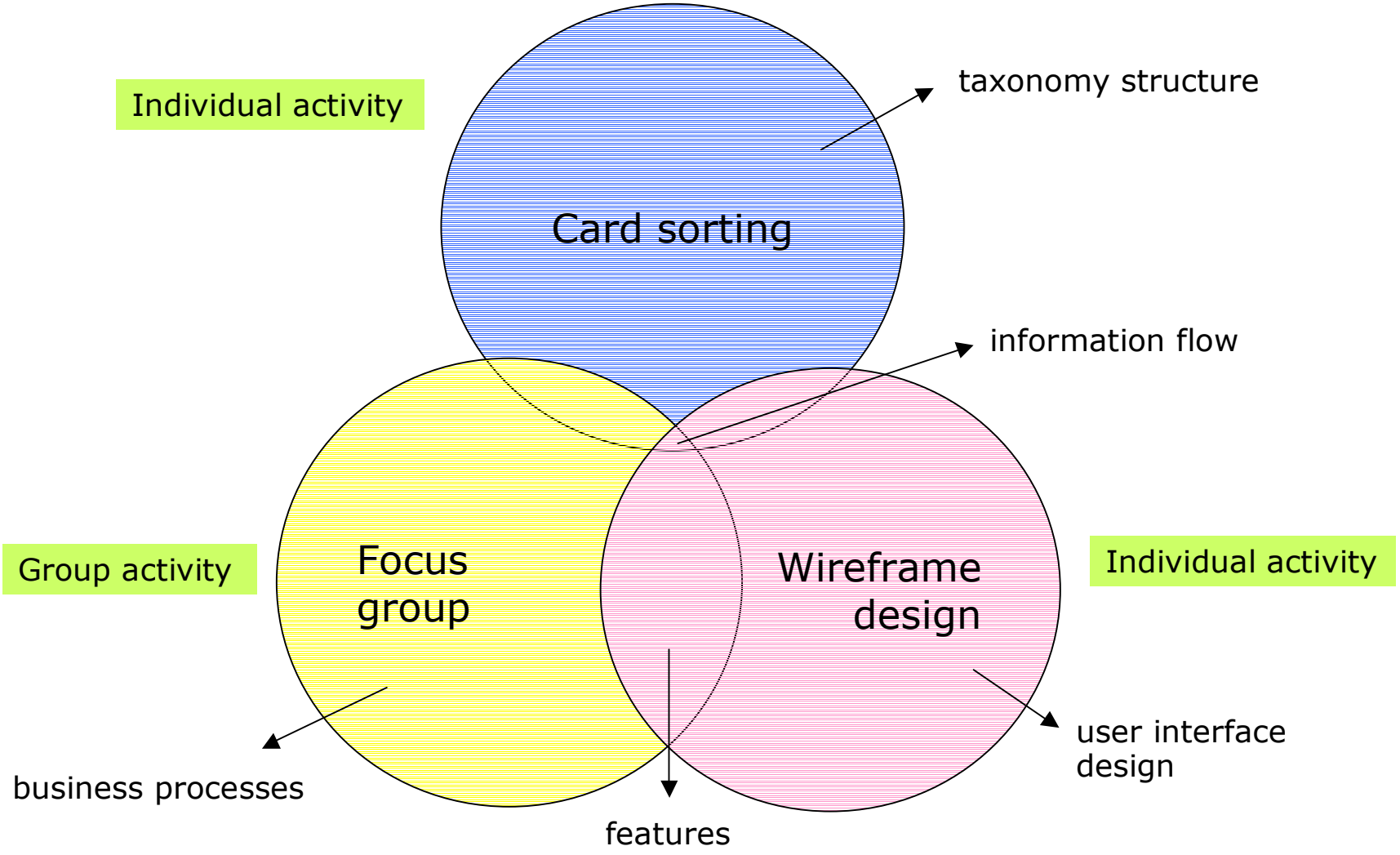
Goals:

- To understand how users get help today, difficulties, recommendations for improvement.
- To get their feedback on the advantages and disadvantages on the idea of integration of support services into the portal content

Focus Group Findings

- In general, people try to be self-reliant first by searching or browsing for information on-line.
- Logical integration of support content and reliable search capability are important
- Regular email updates, agents should foster a sense of ownership, recommendation features, help forums, chatting capability with agents etc.

Difference in level of participation – group discussion



Wireframe Design

40 participants in 4 different regions

Goals:

- To understand desired features
- To understand expected page flow
- To understand expected user interaction to get help if support services were integrated into the portal

Wireframe Design Methodology

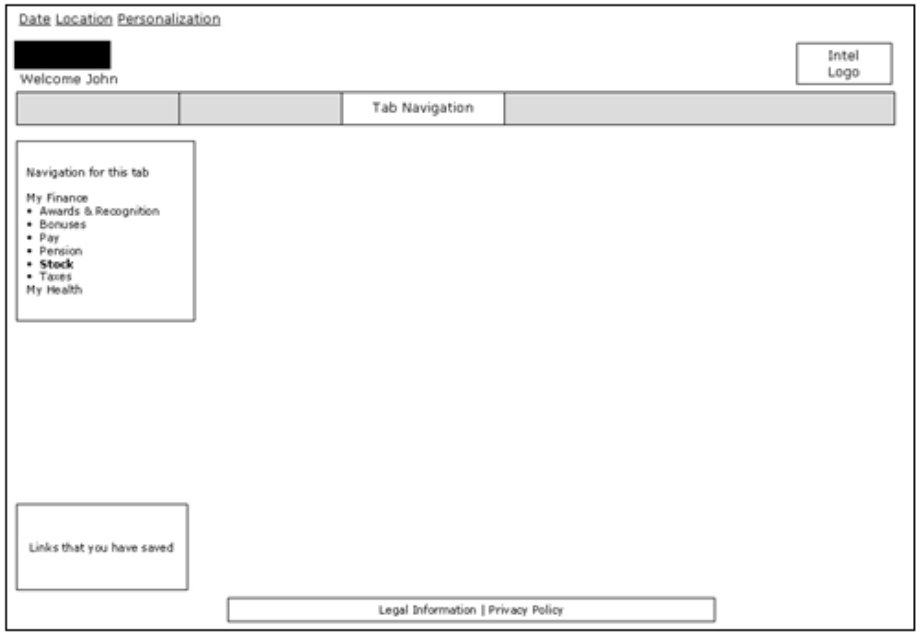


Figure 1. Poster board displaying basic features of Intel Employee Portal template

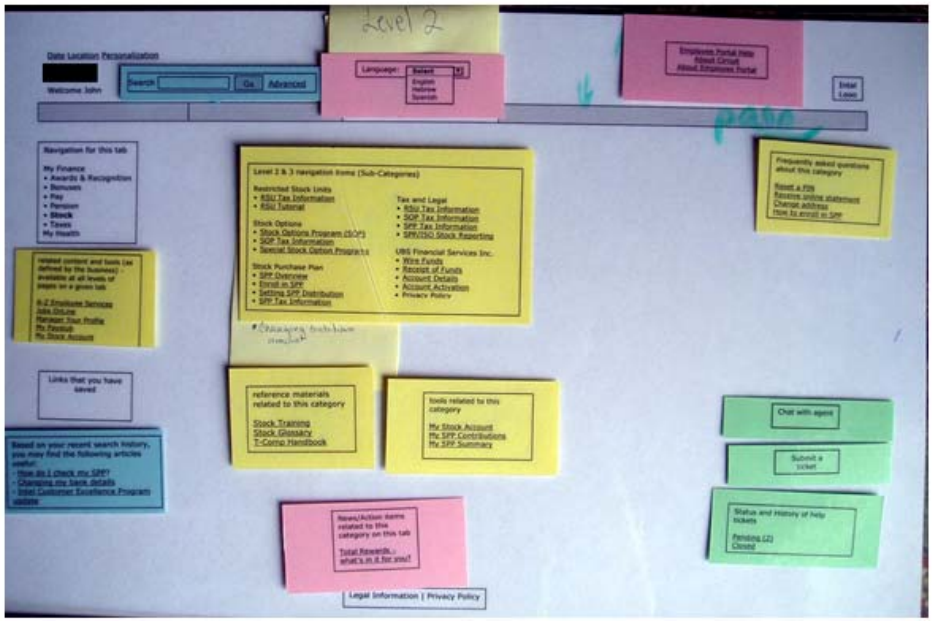


Figure 2. Example of a page design created by a participant with the different colored cards

- Participants were given three typical scenarios, a pile of cards that had different stakeholder desired features, and poster board.
- Task: Create as many wireframes to demonstrate scenarios

Wireframe Design Findings

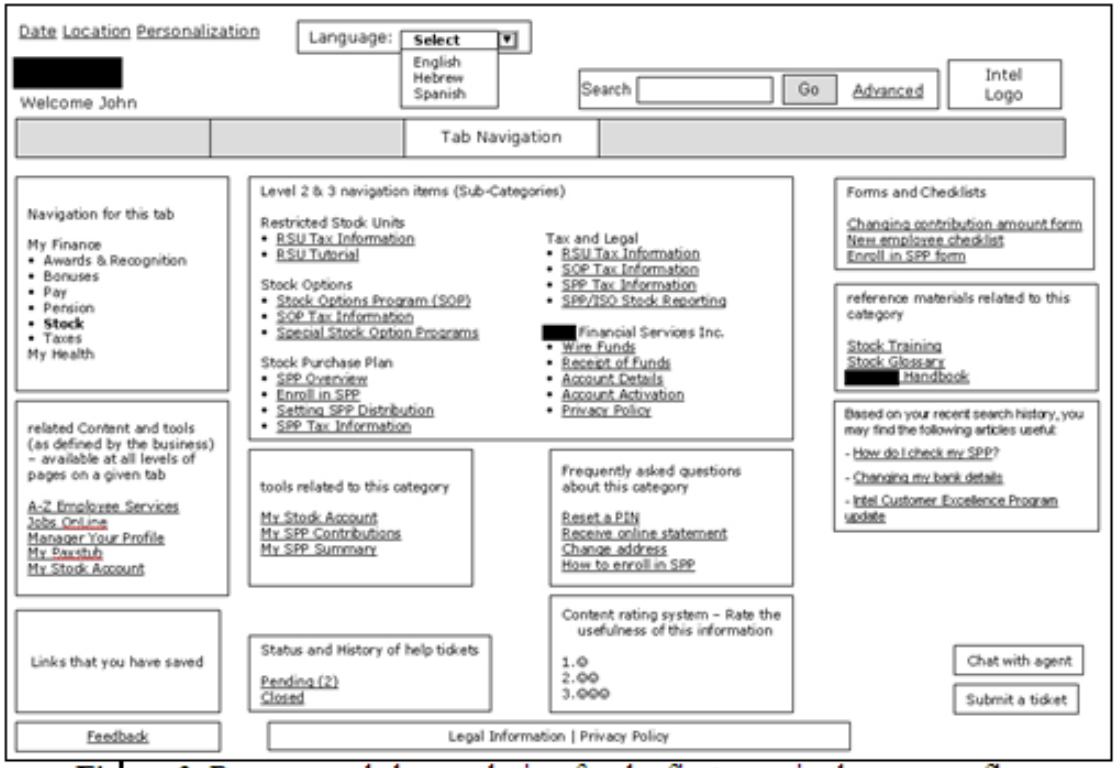
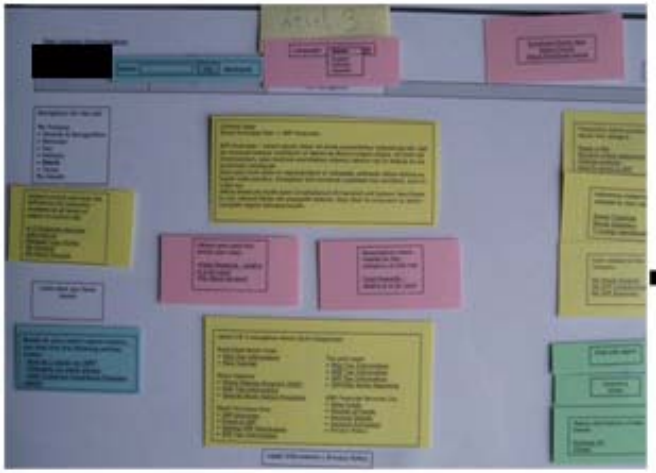


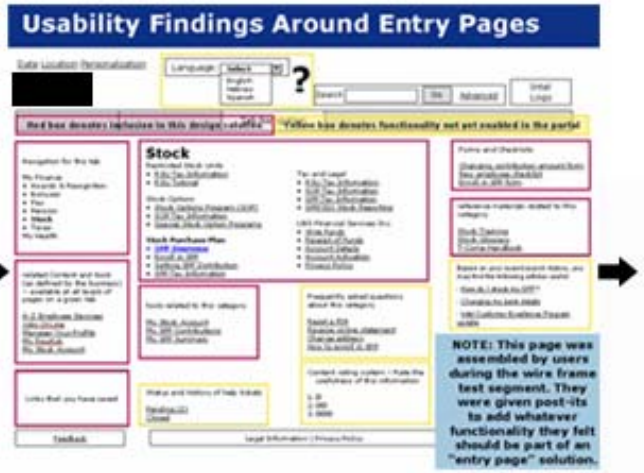
Figure 3. Recommended page design for the first page in the process flow

- Page flow does not have to go beyond 3 pages to accommodate all the information necessary.
- Identified 11 features that were chosen by 66-100% of the participants
- Using this non-verbal form of communication allowed us to overcome the language barriers and easily understand what the participants had in mind.

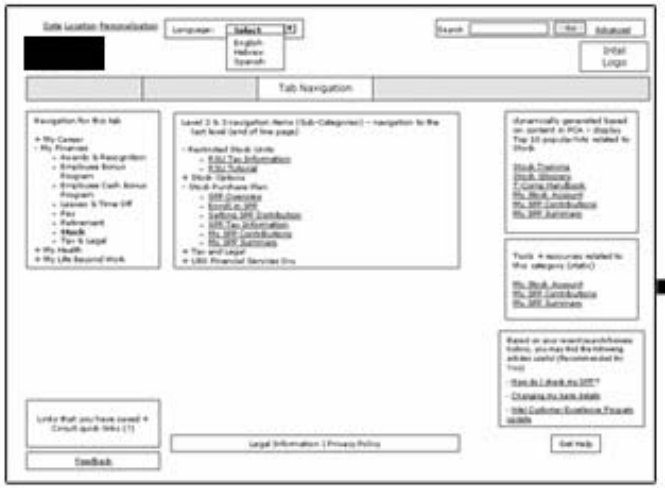
Evolution of the page design



1. User Research: Example of a low fidelity portal page created by a user during a participatory design activity



2. Data Analysis: Outcome of majority user input on the portal page design



3. Revision of Design: Outcome of input from business and technical teams on portal page design

4. Final Design: Screenshot of developed portal page

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Summary

- Utilize different usability methods to address different parts of system design
- Equally important to take into account variances in data that may come from a multi-cultural audience.
- This particular set of group, individual and participatory design techniques encompasses all facets of the system design and is a suitable way to counterbalance the cultural effects on the usability study data.

For further research…

- What are the other combinations of usability study methodologies one can use to create a vast information system?
- Are there other usability evaluation methods that will take into account the cultural influences?
- Are there other combinations of group, individual and participatory design activities that are a suitable way to counterbalance cultural affects on usability study data?
- Are there other cultural influences that should be factored in? How?