Analyzing Requirements for Online Presence

Kids Help Phone Canada & University of Toronto

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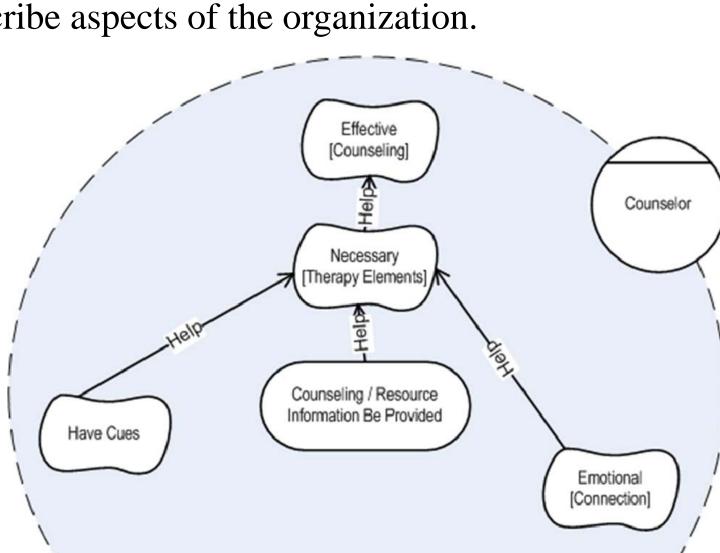
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Setting: Kids Help Phone Canada

- Kids Help Phone is a not-for-profit organization that has provided phone counseling for Canadian youth since 1989.
- Began transitioning to **online counseling** in 2002.
  - **Pros:** online counseling can reach more kids, provide comforting distance.
  - **Cons:** online counseling loses voice cues, raises concerns for confidentiality, protection from predators, public scrutiny over advice, and liability for misinterpreted guidance.
- **Challenge:** How can the organization explore and evaluate options for online counseling, balancing the conflicting concerns and the needs of multiple parties?

Stage 1: Organization Understanding

- i* models were created to describe aspects of the organization.
- Qualitative evaluation used to analyze and compare different technology options for online counseling.
- Model snippets presented to organization (see right)
- Results:
  - Better understanding of the organization.
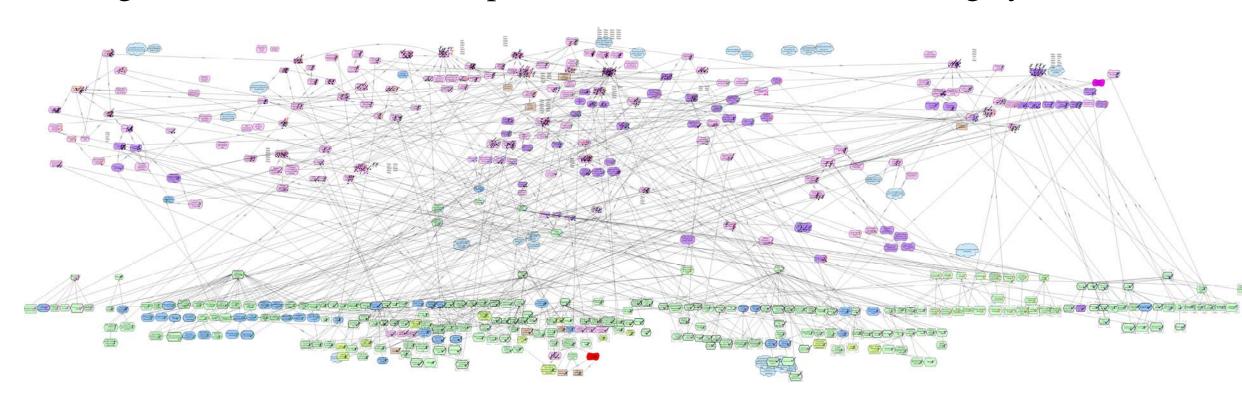 - Analysis brought to light several issues and provoked interesting discussions.

Stage 2: Efficiency of Existing Systems

- Existing online counseling system had difficulties handling volume of enquiries.
- Large i* model created to represent current online counseling system.

- Evaluation used to analyze changes and additions to current system.
- Results:
  - Options were validated by converting models to tabular form, example:

Feature: Optional Private Threads

Motivations	Concerns
• Allow kid to choose whether threads are public or private	• Kids won't see private responses to other kids
• Be able to reply privately to kid	• Might annoy kids by making their posts private
• Reduce amount of editing in second tier	• Kids won't learn from each other in private posts
• Confidential service	

- Created prioritized requirements specification.

Multi-Year Collaborative Research Project

- Collaborative research project between Bell University Labs at the University of Toronto and Kids Help Phone was launched in 2004 and completed in 2008.

Objective: Perform a strategic analysis of the information needs of Kids Help Phone, in light of their increased use of an dependence on technology to facilitate and support their counseling process.

- Evolving research goals resulted in three major project stages:
  - Stage 1: Organization Understanding,
  - Stage 2: Efficiency of Existing Online Systems, and
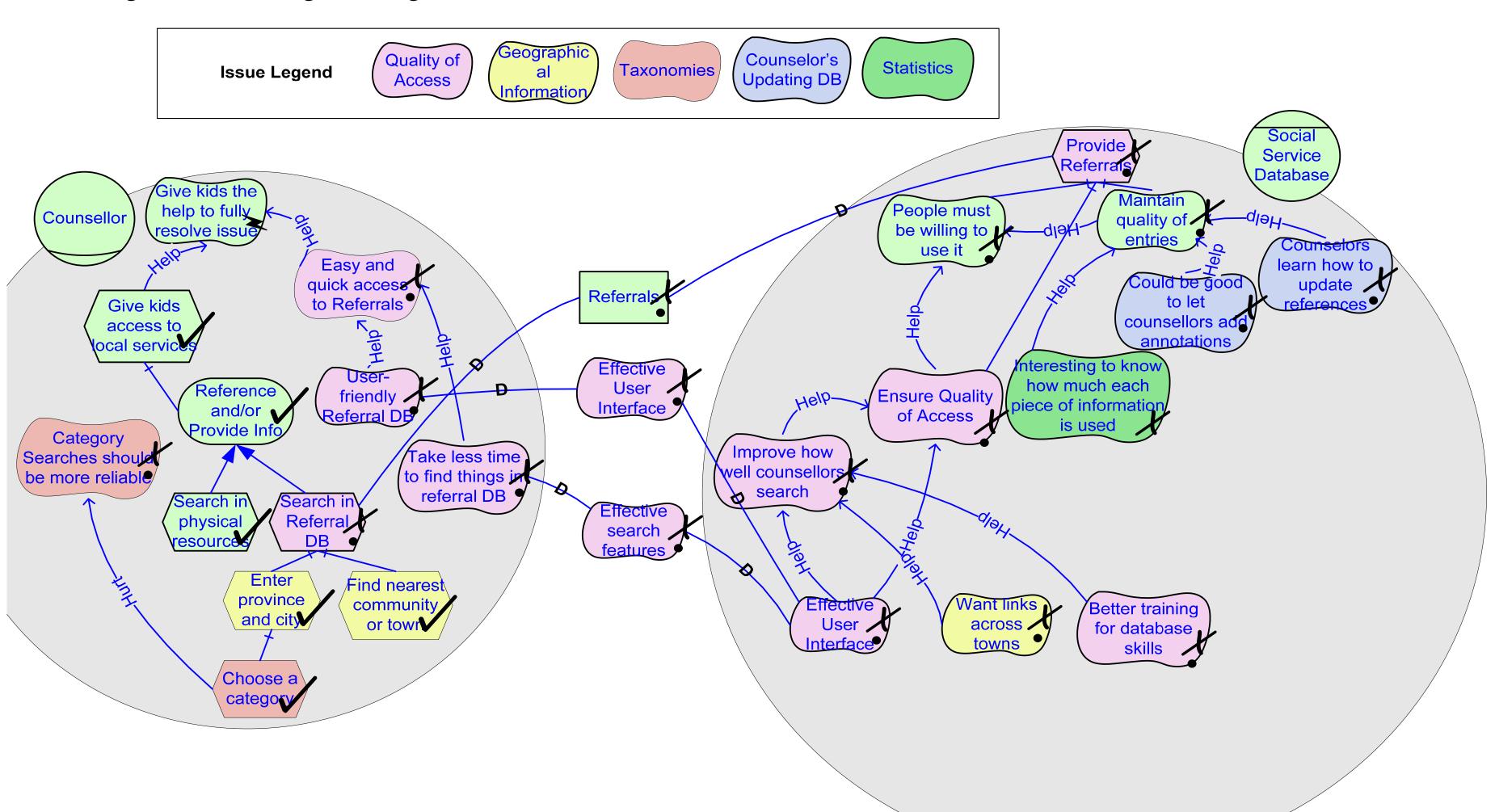 - Stage 3: Knowledge Management.

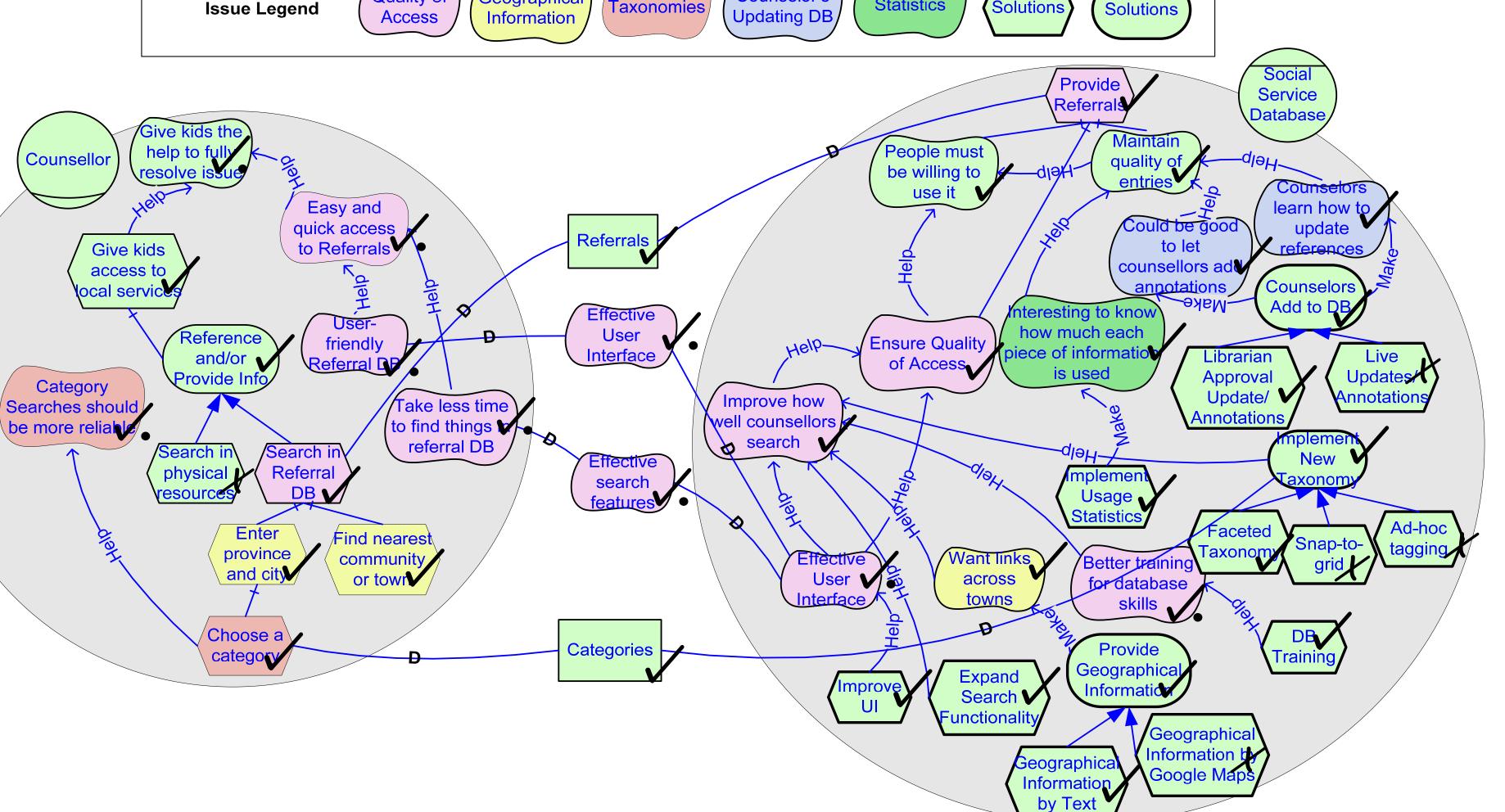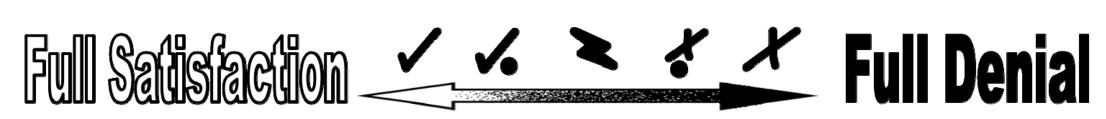**Figure 1:** Referral Database As-is Model Showing Analysis Results (Stage 3)

Figure 2: Referral Database To-Be Model Showing Analysis Results (Stage 3)

Use of i* Modeling

- Applied i* modeling as a means of explicitly considering organization actors, roles, goals and dependencies.
  - Aimed to understand how the organizations goals were currently being met (as-is), and how they could be met in the future (to-be).
- Applied the i* Framework as described by Yu (1997).
  - Used all types of i* syntax (actors, goals, softgoals, tasks, resources, contributions, decompositions, dependencies).
  - Made extensive use of qualitative forward i* analysis described by Horkoff & Yu (2010).

Qualitative Evaluation Labels

Full Satisfaction ... **Full Denial**

Stage 3: Knowledge Management

- Used i* models to explore solutions which focused on the knowledge management needs of the organization.
- Created first draft of models on the fly.
- Focused on editing models based on clear scope.
- Example: (left) Referral Database as-is and to-be models showing the evaluation of potential technology solutions.
  - Colors used to assign intentions to organizational issue categories.
- Results:
  - Evaluated situational effectiveness of technologies for storing and distributing knowledge, including wikis and discussion forums.

Lessons Learned

- Initial stage models were too large and complex.
  - Tried to model everything.
- Later stages focused on clearly defined model scoping.
  - Each model focused on one specific issue.
  - Models were easier to understand, modify and evaluate.
- Modeling and analysis were helpful in understanding the organization and evaluating alternatives.
  - Demonstrated the ability of i* to aid in domain understanding, analysis, communication, and decision making.
  - i* modeling helped to describe opposing and complex viewpoints.
  - i* modeling and analysis helped to compare technology options.

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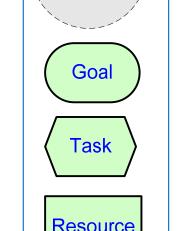
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