Case Sharing and Ontology Structuring in an Online Oral Medicine Community

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Overview

- Oral medicine in Sweden: SOMNet and SOMWeb
- Studying participants’ use and perceptions
- Opinions about case entry
- Towards community ontology editing and structuring, and incentives for user contributions
The Swedish Oral Medicine Network (SOMNet)

- Functions as a *community of practice* within oral medicine in Sweden since mid 90’s.
- Promotes the *collection of diverse and numerous cases* for subsequent analysis and *harmonization* within the field.
- Provides means for *distance consultations* and *learning* for a broader audience.
- **Teleconference meetings** are held regularly 9 times a year, with 10–16 clinics participating each time with 1–10 clinicians each.
- **SOMWeb**: 101 members late September 2008.
SOMWeb

- Read news
- Browse and administer meetings
- Look at presentations of individual meetings
- Browse and administer cases
- Look at presentations of individual cases
- Using the discussion forums
- Browsing members and clinics
Adding a Case

• A form generated from an OWL description (template) determining types of questions posed and allowed values.

• Templates for different types of consultation occasions, e.g., first time and follow-up.

• Templates are developed by the community.
“Has anyone seen this before?”

“I’ve had several patients with...”

“How about...?”

“Should we continue with...?”

“Have you tried...?”

“Come back in 6 months and tell us...”
Studying Participants’ Use and Perceptions

- Interviews (9 members)
- Observations (10 meetings at 5 clinics)
- Questionnaire (24 responses/60 members)
Case Entry

- Questionnaire: 87% found adding cases better in SOMWeb, 13% were neutral.
- Interviews (6/9 had added cases):
  - 4 found case entry very easy.
  - 2 preferred narrative/disliked entry form.
  - 1 voiced concerns over misspelled entries & duplicates.
Case Submissions

- About 25% of the members have submitted at least one case.
- Of the 105 cases in the repository, five people have submitted about 50%.
- One person has submitted 20 cases.
Ontology Structuring

- The current value list ontology contains no subclasses of e.g., Diagnosis.
- Need more structure for improved case browsing.
- Tool needed to provide such structure, but who will do it and when?
mVisualizer & Aggregates

• Previous work of the research group: a data analysis tool called mVisualizer.

• User can create aggregates of values to be used in grouping data, e.g., diagnosis categories.

• Aggregates are taken as a starting point for a more fine grained ontology.

• Not all aggregates are useful and they do not cover the whole set of value list classes.
Incentives

• Possibly provide ontology structuring tool where members can “scratch their own itch” in case browsing.

• E.g., provide grouping of values (subclassing) for a set of diagnoses.

• Can then choose to make the grouping public.
Discussion

• Trade-off between completeness and complexity in case entry.

• Lessons from case entry that may be carried over to ontology structuring:
  • 25% of users have submitted cases.
  • Differences in needs/personality/neatness.
  • Insecurity about exposing gaps in knowledge.
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