Introduction

- It is easier to use existing service than creating new one.
- Problem is suitable service selection – it can be solved by recommendation.
- There are multiple approaches for recommendation of services. We focus on modern and still evolving approach using Context.

Recommendation Method

- Request for service represents functional description of desired service.
- Recommendation is performed upon first assumption that contains services which at least partially fulfill user's request.
- Partial likelihoods are computed by calculating similarities:
  - Contextual – context of a user and context of a service,
  - Semantical – description of the service and request of the user,
  - Collaborative – context of a service and contexts of positively recommended services.
- Weights are assigned for each likelihood so user can specify importance of partial likelihoods for him.
- After calculation is performed, services are sorted and recommended.

Comparsion with other methods

Comparsion results without previous data

<table>
<thead>
<tr>
<th></th>
<th>Context</th>
<th>iSem Approx-logic</th>
<th>iSem logic</th>
<th>iSem structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Precision</td>
<td>0.6</td>
<td>0.5</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Recall</td>
<td>0.5</td>
<td>0.6</td>
<td>0.4</td>
<td>0.5</td>
</tr>
<tr>
<td>F1</td>
<td>0.55</td>
<td>0.55</td>
<td>0.6</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Contribution

- Usage of contextual information improved results.
- Hybrid approach has been evaluated as the best on in recommendation process.
- Using contextual information it is possible to overcome Cold-start problem.