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- How do different types of tagging motivation influence tags and resulting folksonomies?
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Two vastly different types of motivations
Two Different Types of Tagging Motivation

- Two vastly different types of motivations

<table>
<thead>
<tr>
<th></th>
<th>Categorizer</th>
<th>Describer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>later browsing</td>
<td>later retrieval</td>
</tr>
<tr>
<td>Change of Vocabulary</td>
<td>costly</td>
<td>cheap</td>
</tr>
<tr>
<td>Size of Vocabulary</td>
<td>limited</td>
<td>open</td>
</tr>
<tr>
<td>Tags</td>
<td>subjective</td>
<td>objective</td>
</tr>
</tbody>
</table>

Table 1 - Characteristics of Categorizers and Describers
Quantitative Measures (Answer to RQ1)

- Tag-Resource Ratio

\[
tagRatio = \frac{|T|}{|R|} \quad \text{(1)}
\]
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- **“Orphaned” Tags** - Proportion of tags which only annotate a small amount of resources
  
  \[ D_n = \frac{|T_n|}{|T|}, \quad T_n = \{ t \mid |R(t)| \leq n \}, \quad n = \left\lceil \frac{|R(t_{\max})|}{100} \right\rceil \]
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- **Tag Entropy** - effectiveness of the encoding process of tagging

\[
H(R|T) = - \sum_{r \in R} \sum_{t \in T} p(r, t) \log_2(p(r, t))
\]

\[
C_n = \frac{H(R|T) - H_{opt}(R|T)}{H_{opt}(R|T)}
\]
The used Data Sets

| Data Set                  | $|U|$ | $|T|$ | $|R|$ | $|R_u|_{min}$ | $\frac{T}{R}$ |
|--------------------------|-----|-----|-----|-------------|-------------|
| ESP Game                 | 82  | 27.872 | 86.669 | 1.000 | 0.3216 |
| Flickr Sets              | 173 | 6.286  | 245.282 | 500  | 0.0256 |
| Flickr Tags              | 74  | 37.889 | 160.717 | 1.000 | 0.2357 |
| Del.icio.us              | 445 | 112.173 | 585.580 | 1.000 | 0.1916 |
| Bibsonomy Publications   | 26  | 11.006 | 23.696  | 500  | 0.4645 |
| Bibsonomy Bookmarks      | 84  | 29.176 | 93.309  | 500  | 0.3127 |

Table 2 - Characteristics of the Data Sets
Preliminary Results

- Answer to RQ2: Diversity of the different tagging systems
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  ![Diversity Diagram]

- Answer to RQ3: Tag Agreement of categorizer vs describer
  ![Tag Agreement Diagram]
Tag Recommendation: Based on the two types of motivation different recommendation methods are needed
  - Categorizers need recommender based on their personal vocabulary.
  - Describers need recommender that capture content of the resources.
**Implications...**

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- Influence of tag pragmatics on tag semantics
Outlook

- Development of a formal model describing how likely a given personomy represents the history of a categorizer or a describer.
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- **Question**: Does tagging motivation influence the performance of recommendation systems?
Take Home Message

- Measuring tagging motivation appears feasible
- Tagging motivation varies within and across different tagging systems
- Tagging motivation has influence on fabric of folksonomies