

Crowd Knowledge Generation And Acceleration

Web Information Systems

EEMCS

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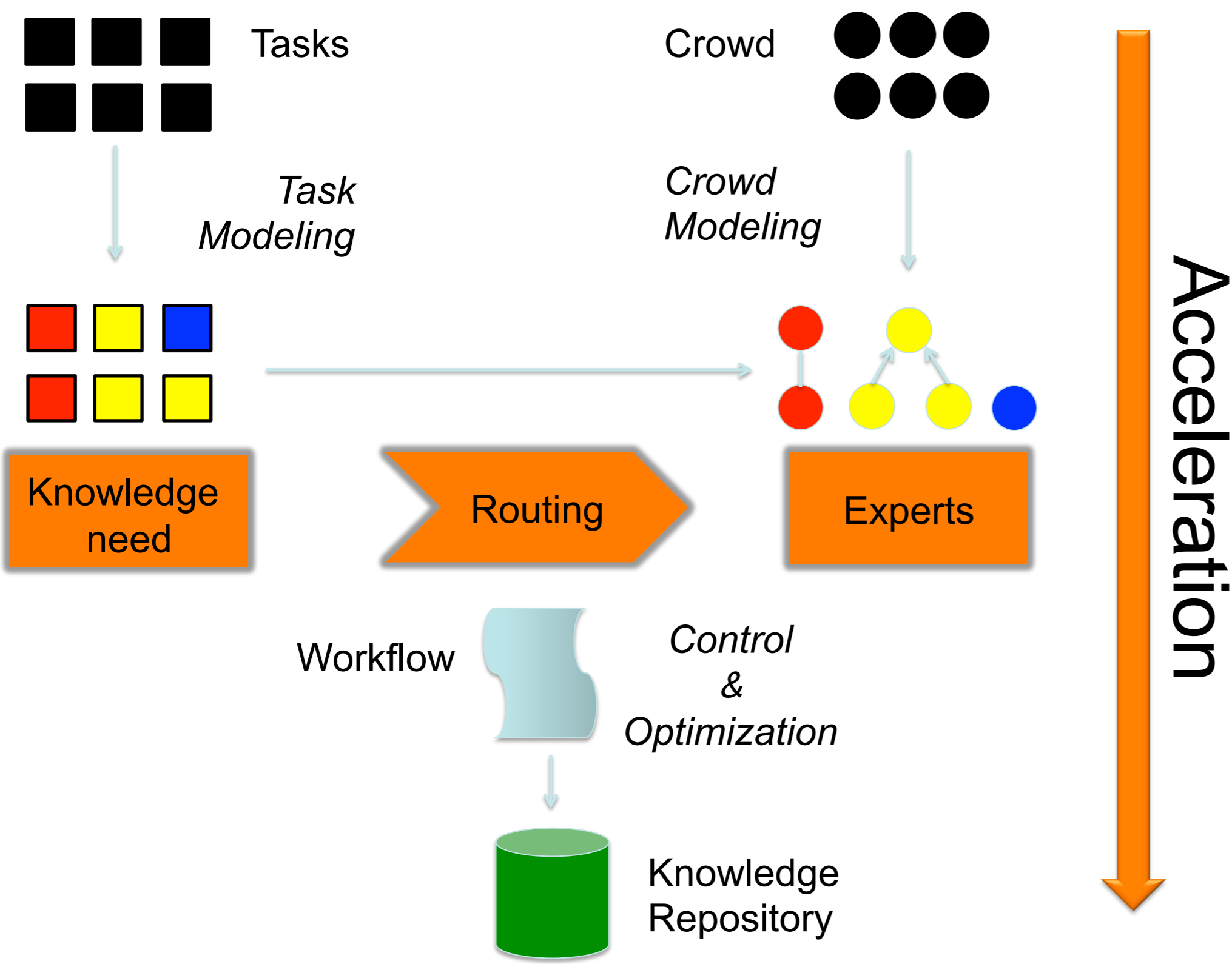
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Reference Model



How can experts from the crowd support knowledge creation and how can we accelerate this process?

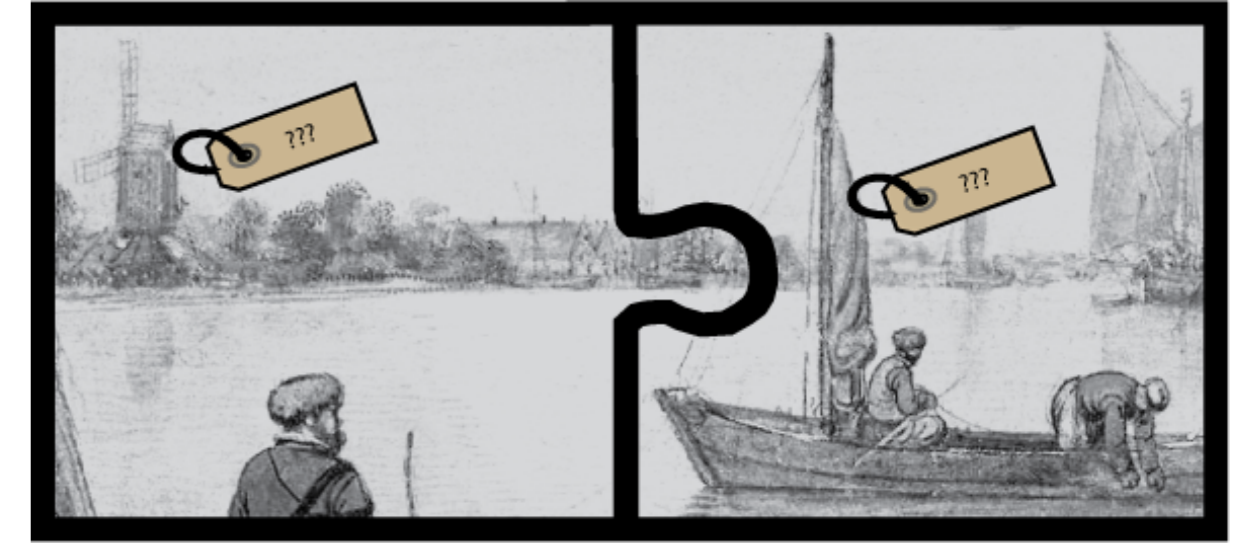
Knowledge Creation

Use case: Cultural Heritage annotation

RJKS MUSEUM

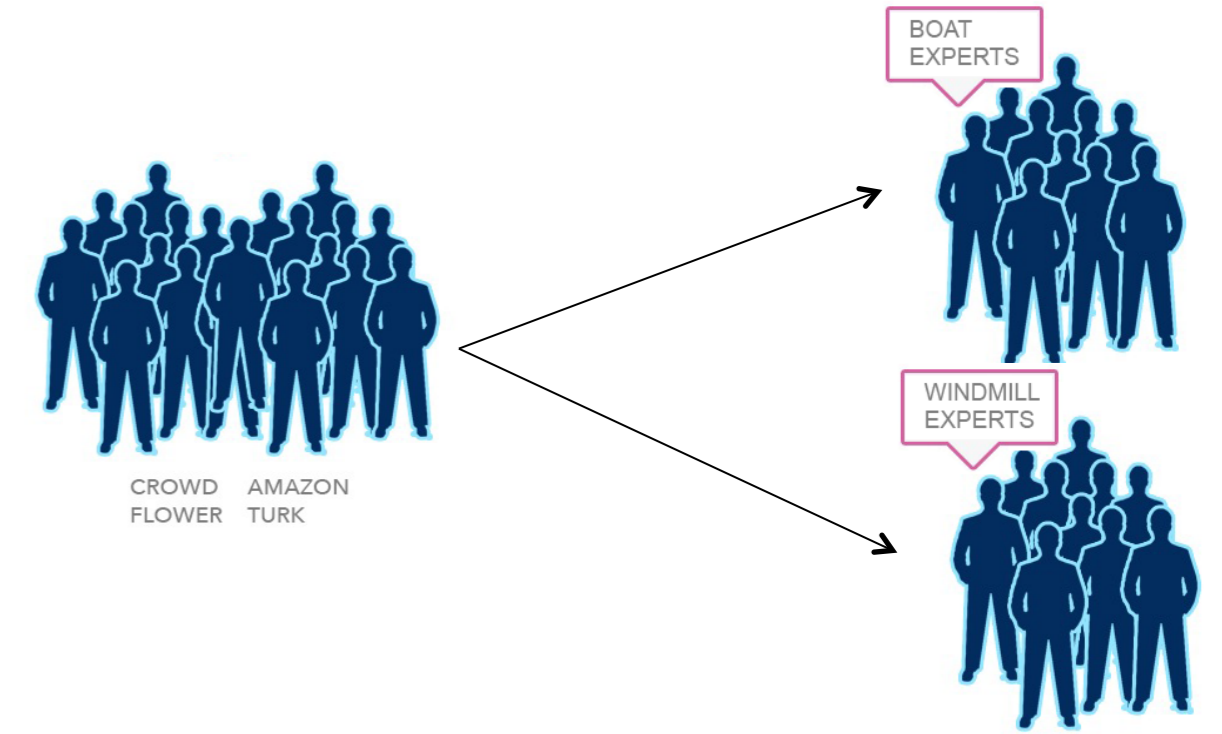
Task modeling

- Model *knowledge need*
- Identify subsets for a *knowledge need*



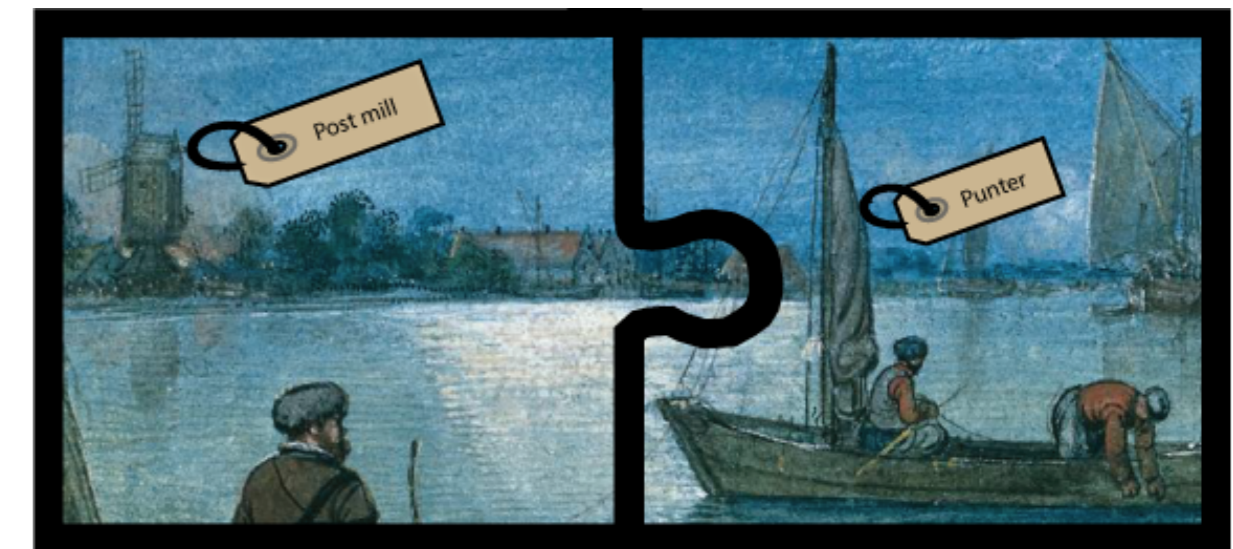
Crowd modeling

- Model topical properties like *interest* and *expertise*
- Model contextual properties like *availability* and *motivation*



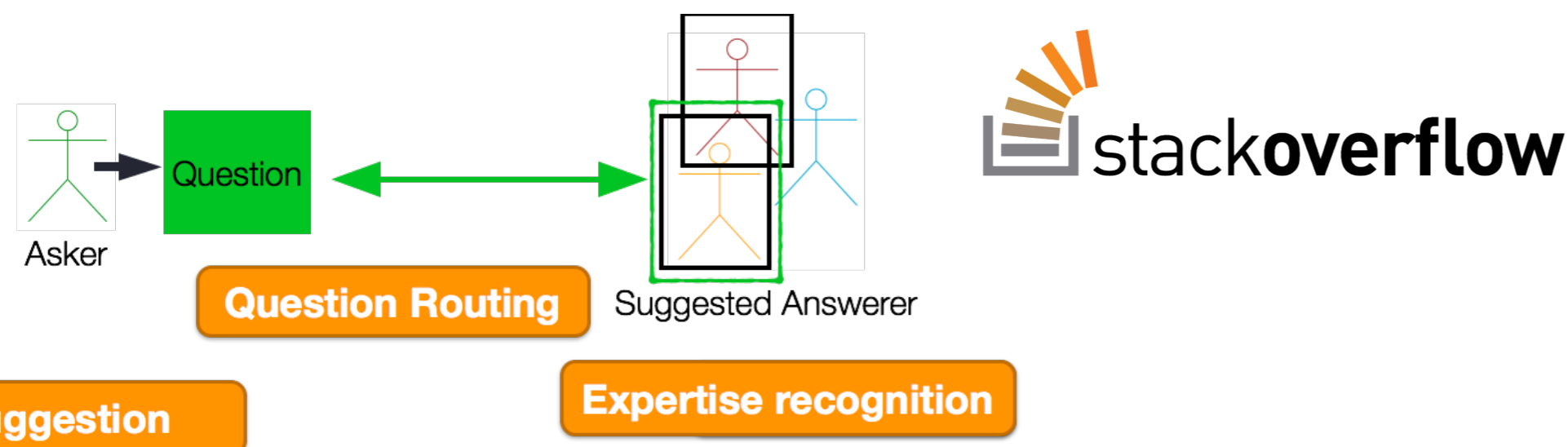
Knowledge creation

- Support annotator with relevant domain vocabularies
- Route artworks to the right crowd workers



Knowledge Creation Acceleration

Use case: Collaborative Q&A

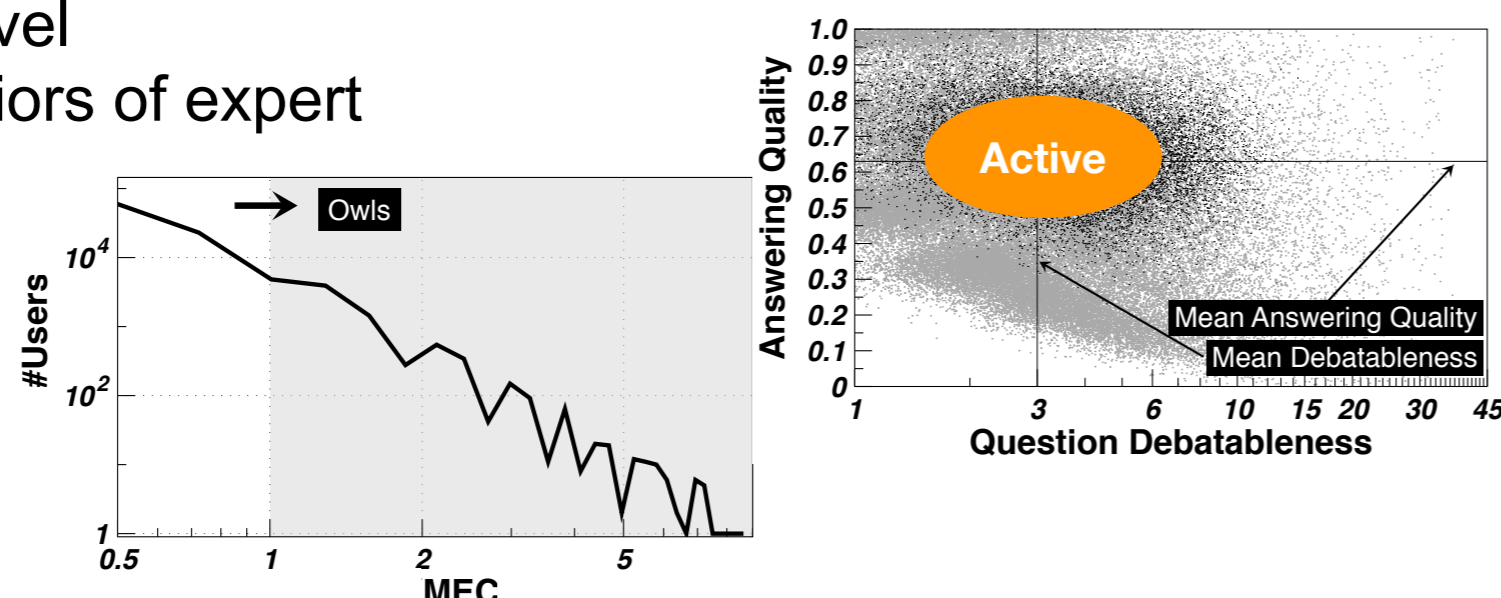


Question Routing

- Route question to the right users
- Match expertise and activeness

Expertise Recognition

- Identify expertise level
- Characterize behaviors of expert and highly active users



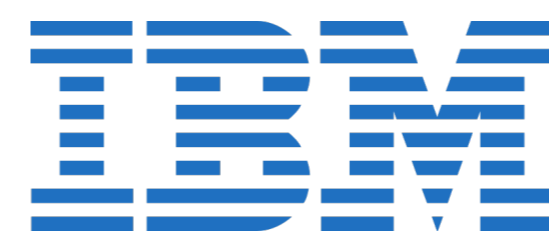
Edit Suggestion

- Automatic detection of question needing an edit
- Detection of edit type

Test partition	Precision	Recall	F1
Extreme	0.63	0.78	0.70
Confident	0.58	0.69	0.63
Ambiguous	0.51	0.65	0.57

Expert Finding and Engagement

Use case: Enterprise Gamification



Professional Social Networks

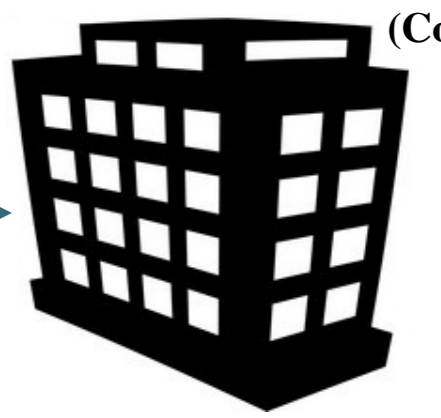
Enterprise Directory (BluePages)

Enterprise Social Networks (Connections)



Personal Social Networks

Personal Blogs



Enterprise Blogs

Enterprise Q&A

Communications

Analyze the nature and extent of the corporate information that can be **explicitly** or **implicitly** observed from on-line social networks

Identify hard and soft **skills** to support expert finding and task allocation

Understand impact of **personality traits** on usage of IT infrastructure

Employ **game elements** to support **user engagement**, drive **social behavior**, and improve IT tools usage

