Breaking the Recursivity: Towards a Model to Analyse Expert Finders

Matthieu Vergne^{1,2} Angelo Susi¹

{vergne.susi}@fbk.eu

¹Center for Information and Communication Technology Fondazione Bruno Kessler

²Doctoral School in Information and Communication Technology University of Trento



ER 2015 - October 22nd, 2015

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

1/11

FBK - ICT Doctoral School Trento

★■▶ ★ E ▶ ★ E ▶ E = 9 Q Q

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works 00
Outline			

- 1 Expert Finders & Recursive Validation
- 2 Model of Expertise Evaluation
- 3 Analysis of Expert Finders
- 4 Summary & Future Works

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

E = のへの
O

2/11

э

< ∃ >

Expert Finders & Recursive Validation •00	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
Expert Finding			

Domain Experts



Icon: ©Gerald Wildmoser

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert Finders & Recursive Validation •00	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works 00
Expert Finding			

Domain Experts



Icon: ©Gerald Wildmoser	<□> <0
Breaking the Recursivity:Towards a Model to Analyse Expert Finders	3/ 11
M Vergee (vergeoffth, ou) Λ Suci (sucidfth, ou)	EBK ICT Dectoral School Trento

Expert Finders & Recursive Validation •00	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works 00
Expert Finding			





Icon: ©Gerald Wildmoser	· □ > · • · · · · · · · · · · · · · · · · ·
Breaking the Recursivity:Towards a Model to Analyse Expert Finders	3/ 11
M. Vergne (vergne@fbk.eu). A. Susi (susi@fbk.eu)	FBK - ICT Doctoral School Trento

Expert Finders & Recursive Validation •00	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works 00
Expert Finding			



Icon: ©Gerald Wildmoser	* 미 > * 률 > * 를 > * 를 > 물 = * 위 약
Breaking the Recursivity:Towards a Model to Analyse Expert Finders	3/ 11
M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)	FBK - ICT Doctoral School Trento

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

1 Intuition-based measures and techniques

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

4/11

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

4/11

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard?

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

4/11

▲□ ▶ ▲ 臣 ▶ ▲ 臣 ▶ ▲ 国 ▶ ● ▲ ◎ ▶

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

4/11

▲□ → ▲ □ → ▲ □ → ▲ □ → ● ● ●

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

▲ ∃ ► ■ | = √ Q ∩

4/11

< 同 ▶ < 三 ▶

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

self-evaluations (Karimzadehgan et al. [2009])

▲ Ξ ► Ξ Ξ = •○ Q ∩

4/11

< 同 ▶ < 三 ▶

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
000			

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

 self-evaluations (Karimzadehgan et al. [2009]) but doubtful

4/11

▲□ ▲ □ ▲ ■ ▲ ■ ■ ■ ● ● ●

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

- self-evaluations (Karimzadehgan et al. [2009]) but doubtful
- social recognition (Zhang et al. [2007], Tang et al. [2007])

4/11

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

- self-evaluations (Karimzadehgan et al. [2009]) but doubtful
- social recognition (Zhang et al. [2007], Tang et al. [2007]) but biased and incomplete

4/11

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

- self-evaluations (Karimzadehgan et al. [2009]) but doubtful
- social recognition (Zhang et al. [2007], Tang et al. [2007]) but biased and incomplete
- unused resources (Karimzadehgan et al. [2009])

4/11

< □ > < □ > < 三 > < 三 > < 三 > < □ > < □ > <

The usual way:

- 1 Intuition-based measures and techniques
- 2 Validate through *gold standards*

Gold standard? Queries + expert rankings How do we build them?

- self-evaluations (Karimzadehgan et al. [2009]) but doubtful
- social recognition (Zhang et al. [2007], Tang et al. [2007]) but biased and incomplete
- unused resources (Karimzadehgan et al. [2009]) but not validated

4/11

< □ > < □ > < 三 > < 三 > < 三 > < □ > < □ > <

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works

What is wrong?

Recursivity

Validating an expert finder requires a validated expert finder.

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

5/11

FBK - ICT Doctoral School Trento

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works

What is wrong?

Recursivity

Validating an expert finder requires a validated expert finder.

In particular:

• gold standard \rightarrow EF's job

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

5/11

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works

What is wrong?

Recursivity

Validating an expert finder requires a validated expert finder.

In particular:

- gold standard \rightarrow EF's job
- \blacksquare human evaluations & unused resources \rightarrow not validated

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

5/11

▲御▶ ▲臣▶ ▲臣▶ 臣|日 わえの

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
	•0		

What can we do?

Target design validation

Build a model which helps designing expert finders.

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

< □ > < □ > < 三 > < 三 > < 三 > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □

6/11

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
	•••		

What can we do?

Target design validation

Build a model which helps designing expert finders.

Break the recursivity:

• rely on a model \rightarrow not queries + rankings

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

6/11

▲□ ▶ ▲ 臣 ▶ ▲ 臣 ▶ ▲ 国 ▶ ● ▲ ◎ ▶

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
	•••		

What can we do?

Target design validation

Build a model which helps designing expert finders.

Break the recursivity:

- rely on a model \rightarrow not queries + rankings
- built from expertise literature \rightarrow grounded

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

6/11

Expert	Finders	Recursive	Validation

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works

Domain-Evaluator-Evaluation

DOMAIN

EVALUATOR

EVALUATION

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

FBK - ICT Doctoral School Trento

< ■ > < ■ > 三目目 のへの

Expert	Finders	Recursive	Validation

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation

DOMAIN

EVALUATOR

EVALUATION

Domain

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

FBK - ICT Doctoral School Trento

< ■ > < ■ > 三目目 のへの

Expert	Finders	Recursive	Validation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation

DOMAIN

EVALUATOR

EVALUATION



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation





Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

(四)・ (日)・ (日)・ (日)

7/11

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

回 ・ ・ ヨ ・ ・ ヨ ヨー うくぐ

7/11

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

FBK - ICT Doctoral School Trento

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

▲ E ► E E ● 9 Q @

7/11

Expert	Finders	Recursive	Validation

Model of Expertise Evaluation

Analysis of Expert F

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

FBK - ICT Doctoral School Trento

'문▶ ▲ 문▶ ' 문| 밤 ' ' 이 익 (?)

Model of Expertise Evaluation

Analysis of Expert

Summary & Future Works 00

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

▶ ▲ ∃ ▶ ∃ ∃ = 𝒴 𝔅

7/11

Expert	Finders	Recursive	Validation	

Analysis of Expert F

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

7/11

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11
Expert	Finders	Recursive	Validation	

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

Expert Finders & Recursive Validation

Model of Expertise Evaluation 00

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert Finders & Recursive Validation

Model of Expertise Evaluation 00

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	Model
				00

 Analysis of Expert I 00 Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

7/11

Expert	Finders	Recursive	Validation	

Analysis of Expert F
00

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

7/11

Expert	Finders	Recursive	Validation	Model	0
				00	

Expertise Evaluation Analysis of Expert 00 Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

Expert	Finders	Recursive	Validation	Model
				00

Analysis of Expert F 00 Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/11

Expert	Finders	Recursive	Validation	

 Analysis of Expert F 00 Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

7/ 11

Expert	Finders	Recursive	Validation	

 Analysis of Expert Fil 00 Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

7/11

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert	Finders	Recursive	Validation	

Summary & Future Works

Domain-Evaluator-Evaluation



Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Rank employees of a company based on e-mails and hierarchy



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)
Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Identify skilled programmers for a piece of a software



M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)



• provide expertise indicators \rightarrow faster design

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

★ 差 ▶ 差 ⊨ りへで

< (T) >



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation \rightarrow early evaluation

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

▲ ∃ ► ∃ = √ Q ∩



- provide expertise indicators \rightarrow faster design
- design-time validation \rightarrow early evaluation (complement output validation)

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded
- expertise in general \rightarrow domain-independent

10/11

3



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded
- expertise in general \rightarrow domain-independent

Future works:

 Link knowledge and skill to lengthy experience and superior performance

FBK - ICT Doctoral School Trento

A = A = A = A = A = A



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded
- expertise in general \rightarrow domain-independent

Future works:

- Link knowledge and skill to lengthy experience and superior performance
- Consider finer expert properties (Chi [2006])

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

FBK - ICT Doctoral School Trento

▲ Ξ ▶ ▲ Ξ ▶ ▲ Ξ ▶



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded
- expertise in general \rightarrow domain-independent

Future works:

- Link knowledge and skill to lengthy experience and superior performance
- Consider finer expert properties (Chi [2006])
- Consider processes and time



- \blacksquare provide expertise indicators \rightarrow faster design
- design-time validation → early evaluation (complement output validation)
- \blacksquare build on literature \rightarrow grounded
- expertise in general \rightarrow domain-independent

Future works:

- Link knowledge and skill to lengthy experience and superior performance
- Consider finer expert properties (Chi [2006])
- Consider processes and time
- Complete top-down (psychology) with bottom-up (practice)

10/11

◆□▶ ◆□▶ ◆ヨ▶ ◆ヨ▶ ヨヨ シのの

Expert Finders & Recursive Validation	Model of Expertise Evaluation	Analysis of Expert Finders	Summary & Future Works
			00

Thanks for your attention.

Suggestions? Questions?

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

11/11

FBK - ICT Doctoral School Trento

< □ > < □ > < 三 > < 三 > < 三 > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □ > < □

References

- M. T. H. Chi. Two Approaches to the Study of Experts' Characteristics. In K. A. Ericsson, N. Charness, P. J. Feltovich, and R. R. Hoffman, editors, <u>The Cambridge handbook of</u> <u>expertise and expert performance</u>, pages 21–30. Cambridge University Press, New York, NY, US, 2006. ISBN 0-521-60081-2 (Paperback); 0-521-84097-X (Hardcover); 978-0-521-60081-1 (Paperback); 978-0-521-84097-2 (Hardcover).
- K. A. Ericsson. An Introduction to Cambridge Handbook of Expertise and Expert Performance: Its Development, Organization, and Content. In K. A. Ericsson, N. Charness, P. J. Feltovich, and R. R. Hoffman, editors, <u>The Cambridge handbook</u> of expertise and expert performance, pages 3–19. Cambridge University Press, New York, NY, US, 2006. ISBN 0-521-60081-2 (Paperback); 0-521-84097-X (Hardcover); 978-0-521-60081-1 (Paperback); 978-0-521-84097-2 (Hardcover).

M. Karimzadehgan, R. W. White, and M. Richardson. Enhancing = https://www.communication.com Breaking the Recursivity: Towards a Model to Analyse Expert Finders 11/11

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

Expert Finding Using Organizational Hierarchies. In M. Boughanem, C. Berrut, J. Mothe, and C. Soule-Dupuy, editors, <u>Advances in IR</u>, number 5478 in LNCS, pages 177–188. Springer, Jan. 2009. ISBN 978-3-642-00957-0, 978-3-642-00958-7.

- M. T. Maybury. Expert finding systems. <u>MITRE Center for</u> <u>Integrated Intelligence Systems Bedford, Massachusetts, USA,</u> 2006.
- A. Mockus and J. D. Herbsleb. Expertise browser: a quantitative approach to identifying expertise. In <u>Proc. of the 24th ICSE</u>, pages 503–512, New York, NY, USA, 2002. ACM. ISBN 1-58113-472-X. doi: 10.1145/581339.581401.
- J. Mohebzada, G. Ruhe, and A. Eberlein. Systematic mapping of recommendation systems for requirements engineering. In <u>2012</u> <u>ICSSP</u>, pages 200–209, June 2012. doi: 10.1109/ICSSP.2012.6225965.

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

- P. Serdyukov and D. Hiemstra. Modeling Documents As Mixtures of Persons for Expert Finding. In <u>Proc. of the IR Research, 30th</u> <u>ECIR</u>, pages 309–320. Springer, 2008. ISBN 3-540-78645-7, 978-3-540-78645-0.
- S. Sonnentag, C. Niessen, and J. Volmer. Expertise in Software Design. In <u>The Cambridge handbook of expertise and expert</u> <u>performance</u>. Cambridge University Press, New York, NY, US, 2006. ISBN 0-521-60081-2 (Paperback); 0-521-84097-X (Hardcover); 978-0-521-60081-1 (Paperback); 978-0-521-84097-2 (Hardcover).
- J. Tang, D. Zhang, and L. Yao. Social Network Extraction of Academic Researchers. In <u>7th IEEE ICDM</u>, pages 292–301, Oct. 2007. doi: 10.1109/ICDM.2007.30.
- M. Vergne and A. Susi. Expert Finding Using Markov Networks in Open Source Communities. In M. Jarke, J. Mylopoulos, C. Quix, C. Rolland, Y. Manolopoulos, H. Mouratidispand J. Horkoff, and Science S

Breaking the Recursivity: Towards a Model to Analyse Expert Finders

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

References

editors, <u>Advanced Information Systems Engineering</u>, number 8484 in LNCS, pages 196–210. Springer, June 2014. ISBN 978-3-319-07880-9, 978-3-319-07881-6.

J. Zhang, M. S. Ackerman, and L. Adamic. Expertise networks in online communities: structure and algorithms. In Proc. of the <u>16th international conference on WWW</u>, pages 221–230, New York, NY, USA, 2007. ACM. ISBN 978-1-59593-654-7. doi: 10.1145/1242572.1242603.

M. Vergne (vergne@fbk.eu), A. Susi (susi@fbk.eu)

FBK - ICT Doctoral School Trento

11/11