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Semantic based Activity Pattern Similarity Measure

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1.

2.

(activity graph)

[1].

[1]

(graph edit distance)
 (maximal common subgraph: MCS)[3]

MCS

가 가

(1)

$$msc(G_1, G_2) = \frac{|MCS(G_1, G_2)|}{\max(|G_1|, |G_2|)}$$

가

[2]

$$d_1(G_1, G_2) = 1 - \frac{|msc(G_1, G_2)|}{\max(|G_1|, |G_2|)} \quad (1)$$

가

가

(gloss-based matchers)[2]

matchers)[2]

matchers)[2]

(string-based

(sense-based
WordNet

< 2>

	meal	Breakfast, Lunch, Dinner
	Relaxing	Traveling, Sleeping, Exercise

가

3.

(Sense-based matchers)

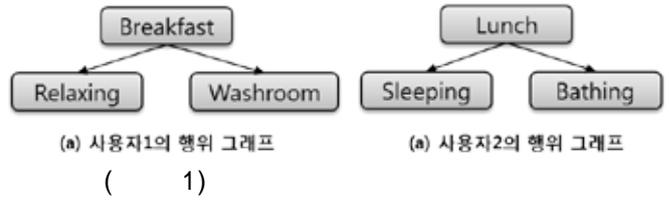
(Synset
(WordNet)

- $(A \hat{=} B)$: A 가 B
- $(A \hat{=} B)$: A 가 B
- $(A = B)$: A B 가
- $(A \wedge B)$: A B 가

Synset

MCS

0 1 MCS
 “Breakfast” “Lunch”
 , “Relaxing” “Sleeping”
 , “Washroom” “Bathing”



4. 가

1

< 1>

WashRoom	Lunch
Bathing	Sleeping
Breakfast	Cleaning
Traveling	Meeting
Relaxing	Exercise
Cooking	Dinner
Studing	Personal
Leaving	Wake_Up
Home_Visit	Outing
Sickness	

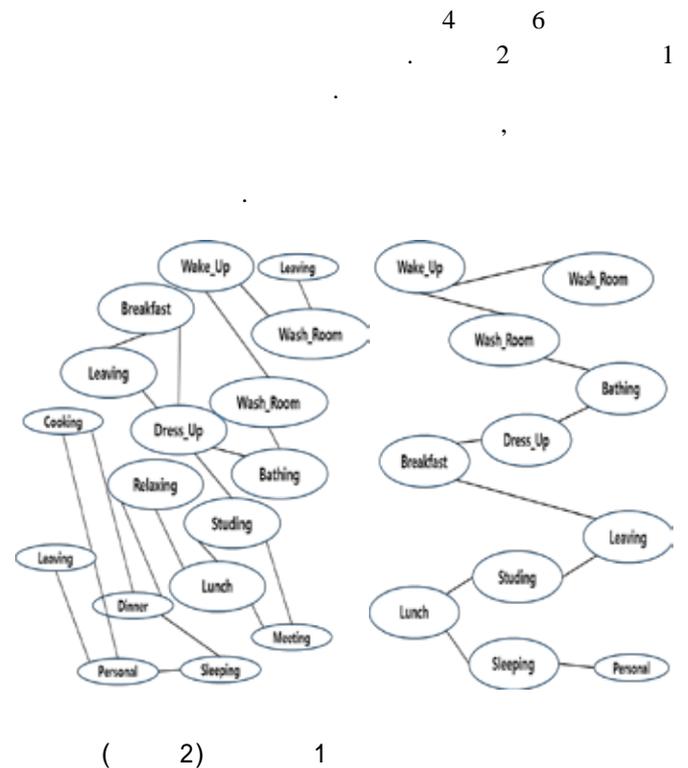
2 1

“Lunch”, “Dinner”
meal

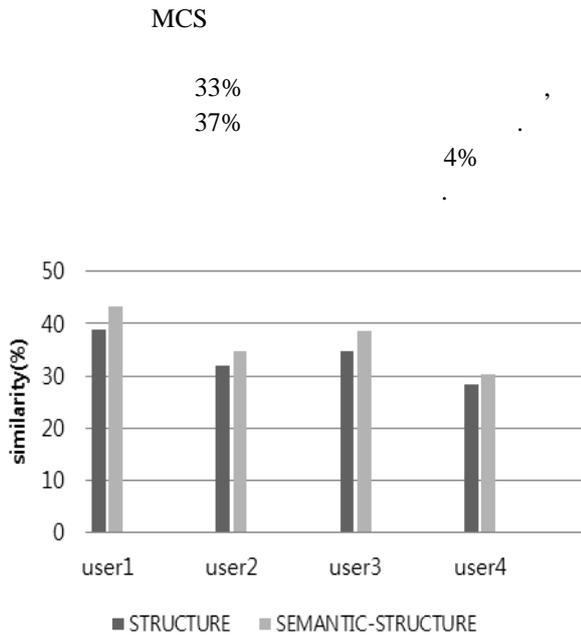
“Sleeping”, “Exercise”
Relaxing

, “Breakfast”,

“Traveling”,



3 (semantic) (structure)



(3)

5.

4%

* 2013 ()

2012R1A2A2A01047478).

(No.

[1] , , , “ , ” : 38 , 5 , pp. 270-279, 2011.

[2] F. Giunchiglia, M. Yatskevich, and P. Shvaiko, “Semantic matching: algorithms and implementation,” *Journal on Data Semantics*, pp. 1-38, 2007.

[3] H. Bunke and K. Shearer, “A graph distance metric based on the maximal common subgraph,” *Journal of Pattern Recognition Letters*, vol. 19, issue 3-4, pp. 255-259, 1998.