

User ID	Use case	Activities							Object function factors						
		T2T (tagging-to-trace)				L2T (learning-to-trace)			Accuracy (F2)			Effort			
		Tag set	Tag distance (sd.)	New tags	Tag location	Tag appearance	Learning material (LM)	LM relation	LM quality	Initial RTM	f-idf	Final RTM	Initial links	True links	Final RTM
29	UC1	{er, hcp, lt, pha, role}	0.44 (0.17)	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.56	10	4	13
29	UC2	{address, disease, diagnose, hcp, history data, patient, relate, zip}	0.10 (0.06)	{history data, relate}	Both	Tail	UC1	Positive	Wild	0.96	0.3	0.54	10	8	6
29	UC3	{diabetes, health, heart, risk, record}	0.14 (0.05)	-	Both	Head	UC2	Negative	Wild	0.92	0.2	0.76	10	7	5
30	UC1	{er, lhcp, lt, pha}	0.41 (0.14)	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.71	10	4	4
30	UC2	{diagnose, hcp, name, patient, record, visite}	0.14 (0.05)	-	Both	Head	UC1	Positive	Wild	0.96	0.3	0.89	10	8	5
30	UC3	{diabetes, id, health, heart, record, risk, patient}	0.22 (0.0)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	1	10	7	7
31	UC1	{add, edit, er, id, lhcp, lt}	0.43 (0.12)	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.36	10	4	4
31	UC2	{disease, hcp, information, lhcp, user, zip}	0.24 (0.09)	-	Both	Tail	UC1	Positive	Wild	0.96	0.3	0.28	10	8	6
31	UC3	{disease, heart, patient, risk, search}	0.16 (0.07)	{search}	Both	Tail	UC2	Negative	Wild	0.92	0.2	0.22	10	7	13
32	UC1	{lhcp}	0	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.83	10	4	2
32	UC2	{disease, information, lhcp, record, visite}	0.23 (0.08)	-	Both	Head	UC1	Positive	Wild	0.96	0.3	0.884	10	8	7
32	UC3	{patientDao.getName}	0	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	0.89	10	7	12
33	UC1	{er, lhcp, lt, login, pha, personnelDao}	0.37 (0.11927)	-	Both	Tail	-	-	Wild	0.77	0.4	0.94	10	4	4
33	UC2	{disease, lhcp, login, patient, visit, record}	0.26 (0.15)	{login}	Both	Head	UC1	Positive	Wild	0.96	0.3	0.26	10	8	13
33	UC3	{diabetes, disease, factor, heart, id, patient, risk}	0.28 (0.12)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	1	10	7	7
34	UC1	{}	-	-	-	-	-	-	Wild	0.77	0.4	0.5	10	4	3
34	UC2	{disease, diagnose, office, history data, patient, procedure, visit, zip, record}	0.22 (0.10)	-	Both	Tail	UC3	Negative	Wild	0.96	0.3	0.43	10	8	13
34	UC3	{doc, factor}	0.21	{doc}	Tracing source	Head	UC1	Neutral	Wild	0.92	0.2	0.16	10	7	4
35	UC1	{personnelDao}	0	-	Tracing target	Tail	UC3	Neutral	Wild	0.77	0.4	0.95	10	4	15
35	UC2	{diagnose, hcp, information, MID, patient, personnel, procedure, search}	0.28 (0.14)	{MID}	Both	Tail	UC1	Positive	Wild	0.96	0.3	0.42	10	8	11
35	UC3	{}	-	-	-	-	-	-	Wild	0.92	0.2	1	10	7	7
36	UC1	{hcp, er, lt, pha, lhcp}	0.47 (0.12)	-	Tracing source	Head	-	-	Wild	0.77	0.4	1	10	4	4
36	UC2	{MyDiagnosisAction.getDiagnoses()}	0.23 (0.09)	-	Both	Tail	UC1	Positive	Wild	0.96	0.3	0.63	10	8	6
36	UC3	{risk, heart, health, diabetes}	0.15 (0.12)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	0.88	10	7	12
37	UC1	{hcp, pha, er, admin}	0.38 (0.13)	-	Both	Head	-	-	Wild	0.77	0.4	0.87	10	4	4
37	UC2	{diagnose, zip}	0.59	-	Tracing source	Tail	UC1	Positive	Wild	0.96	0.3	0.77	10	8	7
37	UC3	{risk, health, diabetes}	0.16 (0.05)	-	Both	Head	UC2	Negative	Wild	0.92	0.2	1	10	7	7
38	UC1	{hcp, er, data, lhcp, pha, lt, AddHCPAction}	0.38 (0.13)	{history data}	Tracing source	Head	-	-	Wild	0.77	0.4	0.13	10	4	8
38	UC2	{disease, diagnose, hcp, patient, address, zip, relate, history data, MyDiagnosisAction}	0.22 (0.07)	-	Both	Tail	UC1	Positive	Wild	0.96	0.3	0.54	10	8	13
38	UC3	{risk, heart, diabets}	0.15 (0.05)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	0.73	10	7	10
30	UC1	{er, hcp, role}	0.42 (0.12)	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.26	10	4	13
30	UC2	{address, disease, diagnose, find location}	0.17 (0.08)	{find location}	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.54	10	8	8
30	UC3	{diabetes, health, heart, risk}	0.23 (0.09)	-	Both	Head	UC2	Negative	Wild	0.92	0.2	0.75	10	7	11
31	UC1	{}	-	-	-	-	-	-	Wild	0.77	0.4	0.74	10	4	5
31	UC2	{diagnose, hcp, name, patient, record, visite}	0.16(0.07)	-	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.84	10	8	4
31	UC3	{ health, hcp, history data, patient,heart, record, risk}	0.21 (0.09)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	1	10	7	7
32	UC1	{getUser, personnelDAO, addAction}	0.42 (0.14)	-	Tracing target	Tail	-	-	Wild	0.77	0.4	0.35	10	4	4
32	UC2	{disease, hcp, information, lhcp, nformation, patient, user, zip}	0.25 (0.08)	-	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.28	10	8	9
32	UC3	{disease, heart, patient, risk, search}	0.12 (0.07)	{search}	Both	Tail	UC2	Negative	Wild	0.92	0.2	0.22	10	7	11
33	UC1	{hcp}	0	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.83	10	4	5
33	UC2	{disease, information, lhcp, record, getUser}	0.28 (0.06)	-	Both	Head	UC1	Positive	Wild	0.95	0.3	0.87	10	8	11
33	UC3	{patientDao.getUser}	0	-	Both	Head	UC2	Negative	Wild	0.92	0.2	0.81	10	7	5

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34	UC1	{er, lhcp, lt, login, pha, personnelDao}	0.36 (0.17)	-	Both	Tail	-	-	Wild	0.77	0.4	0.38	10	4	7	
34	UC2	{disease, lhcp, login, patient, visit, record, relate, zip}	0.23 (0.16)	{login}	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.79	10	8	9	
34	UC3	{diabetes, disease, factor, heart, id, patient, risk}	0.24 (0.12)	-	Both	Tail	UC2	Negative	Wild	0.92	0.2	1	10	7	7	
35	UC1	{er, lhcp, lt}	0.45 (0.07)	-	-	-	-	-	Wild	0.77	0.4	0.36	10	4	11	
35	UC2	{disease, diagnose, office, new user}	0.21 (0.12)	{new user}	Both	Tail	UC3	Negative	Wild	0.95	0.3	0.49	10	8	14	
35	UC3	{document, factors}	0.21	{document}	Tracing source	Head	UC1	Neutral	Wild	0.92	0.2	0.13	10	7	2	
36	UC1	{patientDao, personnelDao, getAction}	0.37 (0.13)	-	Tracing target	Tail	UC2	Positive	Wild	0.77	0.4	0.95	10	4	5	
36	UC2	{diagnose, hcp, personnel, procedure, search, UID}	0.23 (0.13)	{UID}	Both	Tail	UC3	Negative	Wild	0.95	0.3	0.47	10	8	6	
36	UC3	{}	-	-	-	-	-	-	Wild	0.92	0.3	0.77	10	7	8	
37	UC1	{hcp, er, lt, pha, lhcp}	0.36 (0.16)	-	Tracing source	Head	-	-	Wild	0.77	0.4	0.69	10	4	6	
37	UC2	{MyDiagnosisAction.getDiagnoses(), information, create, log out}	0.26 (0.09)	{log out}	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.68	10	8	9	
37	UC3	{risk, heart, health, diabetes}	0.15 (0.12)	-	Both	Head	UC2	Negative	Wild	0.92	0.2	0.51	10	7	11	
38	UC1	{hcp, pha, er, admin}	0.37 (0.13)	-	Both	Head	-	-	Wild	0.77	0.4	0.67	10	4	5	
38	UC2	{}	-	-	-	-	UC1	Positive	Wild	0.95	0.3	0.79	10	8	6	
38	UC3	{risk, health, diabetes}	0.19 (0.12)	-	Both	Head	UC2	Negative	Wild	0.92	0.2	0.67	10	7	7	
39	UC1	{hcp, er, data, lhcp, pha, lt, id}	0.36 (0.13)	{data}	Tracing source	Head	-	-	Wild	0.77	0.4	0.56	10	4	5	
39	UC2	{ hcp, patient, zip getDiagnose}	0.24 (0.08)	-	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.59	10	8	9	
39	UC3	{risk, heart, lt, pha, diabets}	0.38 (0.19)	-	Both	Tail	UC2	Negative	Wild	0.92	0.3	0.78	10	7	10	
40	UC1	{er, role, lhcp, hcp, create, information}	0.42 (0.17)	-	Tracing source	Tail	-	-	Wild	0.77	0.4	0.13	10	4	11	
40	UC2	{address, disease, diagnose, hcp, patient, relate, zip}	0.16 (0.07)	-	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.54	10	8	9	
40	UC3	{diabetes, heart, risks}	0.31 (0.17)	-	Both	Head	UC2	Negative	Wild	0.92	0.3	0.73	10	7	8	
41	UC1	{er, lhcp, lt, pha, action, UID}	0.15 (0.06)	{UID}	Tracing source	Tail	-	-	Wild	0.77	0.4	0.72	10	4	5	
41	UC2	{diagnose, hcp, name, patient, record, visite}	0.15 (0.05)	-	Both	Head	UC1	Positive	Wild	0.95	0.3	0.89	10	8	5	
42	UC1	{diabetes, id, health, heart, record, risk, patient}	0.27 (0.07)	-	Both	Tail	-	-	Wild	0.77	0.4	0.13	10	4	8	
42	UC2	{add, edit, er, id, lhcp, lt}	0.49 (0.12)	-	Tracing source	Tail	UC1	Positive	Wild	0.95	0.3	0.36	10	8	6	
43	UC1	{disease, hcp, information, lhcp, user, zip}	0.33 (0.08)	-	Both	Tail	-	-	Wild	0.77	0.4	0.26	10	4	8	
43	UC3	{disease, heart, patient, risk}	0.12 (0.07)	-	Both	Tail	UC1	Neutral	Wild	0.92	0.3	0.22	10	7	10	
44	UC1	{lhcp, vt, search}	0.36 (0.11)	{search}	Tracing source	Tail	-	-	Wild	0.77	0.4	0.67	10	4	4	
44	UC2	{addAction, login, lhcp}	0.24 (0.04)	-	Tracing source	Tail	UC1	Positive	Wild	0.95	0.3	0.81	10	8	7	
45	UC1	{patientDao, personnelDAO}	0.53	-	Both	Head	-	-	Wild	0.77	0.4	0.13	10	4	9	
45	UC2	{er, lhcp, lt, login, pha, personnelDao}	0.24 (0.11)	-	Both	Tail	UC1	Positive	Wild	0.95	0.3	0.75	10	8	12	
46	UC1	{disease, lhcp, login, patient, visit, record}	0.17 (0.06)	{login}	Both	Head	-	-	Wild	0.77	0.4	0.13	10	4	2	
47	UC3	{}	-	-	-	-	-	-	Wild	0.92	0.3	1	10	7	7	
48	UC1	{diabetes, disease, factor, heart, id, patient, risk}	0.24 (0.12)	-	-	-	-	-	Wild	0.77	0.4	1	10	4	4	
49	UC1	{disease, diagnose, office, save data, patient}	0.29 (0.11)	{save data}	Both	Tail	-	-	Wild	0.77	0.4	0.67	10	4	3	
50	UC1	{doc, factors, personnel, lhcp}	0.21 (0.06)	{doc}	Tracing source	Head	-	-	Wild	0.77	0.4	0.67	10	4	4	
51	UC1	{personnel}	0	-	Tracing target	Head	-	-	Wild	0.77	0.4	0.13	10	4	5	
52	UC2	{diagnose, hcp, patient, personnel, procedure,hcp, er, lt, pha, lhcp}	0.23 (0.13)	-	Both	Tail	-	-	Wild	0.95	0.3	0.49	10	8	5	
53	UC1	{doc zip code}	0.58	-	-	-	-	-	Wild	0.77	0.4	0.17	10	4	9	
54	UC1	{digital, information, personnel}	0.43 (0.16)	{digital}	Tracing source	Tail	-	-	Wild	0.77	0.4	0.67	10	4	3	
55	UC1	{MyDiagnosisAction.getDiagnoses()}	0.26 (0.07)	-	Both	Tail	-	-	Wild	0.77	0.4	0.64	10	4	6	
56	UC1	{risk, heart, health, diabetes}	0.19 (0.16)	-	Both	Tail	-	-	Wild	0.77	0.4	0	10	4	12	