Overview of NTCIR-12

Kazuaki Kishida
School of Library and Information Science,
Keio University
Minato-ku, Tokyo 108-8345 Japan
kz_kishida@keio.jp

Makoto P. Kato
Graduate School of Informatics,
Kyoto University
Sakyo-ku, Kyoto 606-8501 Japan
kato@dl.kuis.kyoto-u.ac.jp

ABSTRACT
This is an overview of NTCIR-12, the twelfth sesquiannual research project for evaluating information access technologies. NTCIR-12 presents a diverse set of evaluation tasks related to information retrieval, question answering, natural language processing, etc (in total, 9 tasks are set up at NTCIR-12). This paper describes an outline of the research project, which includes its organization, schedule, scope and task designs. In addition, brief statistics on participants in NTCIR-12 Conference is given. Readers should refer to individual task overview papers for their activities and findings.

Keywords
Evaluation, Information Access, Information Retrieval, Natural Language Processing, Summarization, Question Answering, Test Collection

1. INTRODUCTION
Since 1997, NTCIR project has promoted research efforts for enhancing Information Access (IA) technologies such as Information Retrieval (IR), Text Summarization, Information Extraction (IE), and Question Answering (QA) techniques. Its general purposes are to: 1. Offer research infrastructure that allows researchers to conduct a large-scale evaluation of IA technologies, 2. Form a research community in which findings from comparable experimental results are shared and exchanged, and 3. Develop evaluation methodologies and performance measures of IA technologies.

Collaborative works in the NTCIR allow us to create large-scale test collections that are indispensable for confirming effectiveness of novel IA techniques. Moreover, in the process of the collaboration, it is expected that deep insight into research problems is successfully shared among researchers. The on-going NTCIR-12[1] will be beneficial to all researchers or research groups who wish to advance their research efforts.

2. OUTLINE of NTCIR-12

2.1 Organization
The overall project of NTCIR-12 was directed by General Co-Chairs (GCCs): Noriko Kando (National Institute of Informatics, Japan), Tetsuya Sakai (Waseda University, Japan) and Mark Sanderson (The Royal Melbourne Institute of Technology, Australia). Under the supervision of GCCs, Program Committee (PC) reviewed task proposals that were submitted according to public advertisement of the tasks for NTCIR-12. The members of the PC are Hsin-Hsi Chen (National Taiwan University, Taiwan), Charles Clarke (University of Waterloo, Canada), Nicola Ferro (University of Padua, Italy), Kalervo Järvelin (University of Tampere, Finland), Gareth Jones (Dublin City University, Ireland), Makoto P. Kato (Co-chair, Kyoto University, Japan), Kazuaki Kishida (Co-chair, Keio University, Japan), Gary Geunbae Lee (POSTECH, South Korea), Maarten de Rijke (University of Amsterdam, The Netherlands), Mandar Mitra (Indian Statistical Institute, India), and Ian Soboroff (NIST, US).

After the review by PC, organizers of accepted tasks have promoted actually research activities of NTCIR-12 under the coordination by two Program Co-Chairs (PCCs), which are authors of this paper.

2.2 Schedule and Research Activities
Call for task proposals was released on November 2014 before previous NTCIR-11 Conference, and the tasks of NTCIR-12 were finally determined next month. Actual NTCIR-12 activities started on January 2015, and a kick-off event was held on February 2015. In addition, call for additional pilot task proposals was released on May 2015, and after the review process by PC, a new task was accepted as a core task (not a pilot task).

In total, six core tasks and three pilot tasks (see below) were set up in NTCIR-12. According to the purpose and policy of each task, datasets for experiments (documents, queries and so on) were provided by the task organizers (TOs) to participants (i.e., research groups or teams participating in the task). New test collections have been created based on evaluation of results that were submitted by participants. The research outcome will be reported at NTCIR-12 Conference held in Tokyo, from June 7th to 10th in 2016.

2.3 Scope and Tasks
The core task explores problems that have been known well in the fields of information access, while the pilot task aims to address novel problems for which there are uncertainties as to how to evaluate them. The six core tasks (IMine-2, MedNLPDoc, MobileClick-2, SpokenQuery&Doc-2, Temporalia-2 and MathIR) and three pilot tasks (Lifelog, QALab-2 and STC) can be roughly summarized as follows:

(1) Advanced search techniques considering users' context or intents of finding information: IMine-2 and Temporalia-2,
(2) IA techniques tailored to mobile computers: MobileClick-2, SpokenQuery&Doc-2 and STC, and
(3) Special IR and QA techniques dependent on specific domains: MedNLPDoc, MathIR, Lifelog and QALab-2.

which indicates the research scope of NTCIR-12. Purpose and design of each task are described in Section 3.

[1] http://research.nii.ac.jp/ntcir/ntcir-12/index.html. Table 3 shows a brief history from NTCIR-1 to -12.

3. OUTLINE of NTCIR-12 TASKS

This section gives a short description of each task. More specific information on the tasks is provided by the task overview papers in the proceedings of NTCIR12 (see References)[2].

3.1 IMine-2 (core task)

IMine-2 task [9] takes over research efforts of IMine at NTCIR-11 and INTENT at NTCIR-9 and -10, which were designed to develop techniques or methods of automatically identifying users' intents behind their search queries. It is important for search engines to correctly understand the intents when ambiguous or unclear keywords are given by the users. Based on the query understanding, appropriately diversified search results can be presented to the users.

At NTCIR-12, the organizers of IMine-2 task set up two subtasks: Query Understanding subtask and Vertical Incorporating subtask. In the Query Understanding subtask, the participants were asked to identify a relevant type of topics inherent in a given search query. The types are specially called 'verticals', examples of which are 'Web', 'Image', 'News', 'QA', 'Download', 'Encyclopedia' and 'Shopping'. The Vertical Incorporating subtask is concerned with generating a diversified ranked list so as to reflect important intents in a given search topic.

3.2 MedNLPDoc (core task)

MedNLPDoc task [2] takes over research efforts of MedNLP at NTCIR-10 and -11, which focused on topics of medical information retrieval. Text processing of medical documents has some unique difficulties, and the MedNLP task contributed to enhancement of medical IR techniques. Based on research findings at the previous tasks, the task organizers of the MedNLPDoc at NTCIR-12 decided to tackle a new challenge, in which the participants' systems tried to infer disease names prescribed in ICD (International Codes for Diseases) from the text of medical records.

More specifically, the MedNLPDoc includes two subtasks: (1) Phenotyping subtask for which the participants were asked to allocate ICD code(s) to a given medical record, and (2) Creative subtask in which the participants were able to devise an original research problem and testify it.

3.3 MobileClick-2 (core task)

MobileClick-2 task [6] takes over research efforts of MobileClick at NTCIR-11 and 1CLICK at NTCIR-9 and -10, which were designed to develop techniques or methods for allowing the users to easily access information on a small screen of mobile devices. Needless to say, mobile devices such as smartphones have become an essential part of modern life, and it is an urgent problem to develop techniques for enhancing IR interfaces on the mobile devices.

At NTCIR-12, the organizers of MobileClick-2 task set up two subtasks: iUnit ranking subtask and summarization subtask. The iUnit denotes an 'information unit', which is defined as a piece of information that is smaller than a document. In the iUnit ranking subtask, the participants were asked to rank a set of iUnits according to a given search query, whereas the summarization subtask tried to generate a structured textual output given a query, a set of iUnits and a set of intents.

[2] Links to official web sites of the tasks are provided in the page, http://research.nii.ac.jp/ntcir/ntcir-12/tasks.html.

3.4 SpokenQuery&Doc-2 (core task)

SpokenQuery&Doc-2 [1] takes over research efforts of SpokenQuery&Doc at NTCIR-11 and SpokenDoc at NTCIR-9 and -10, which mainly focused on spoken document retrieval (SDR) that has become an important research issue recently. For instance, current smartphones are usually equipped with an application recognizing users' voice and trying to understand their needs. This example suggests an important aspect of SDR technologies for mobile devices.

At NTCIR-12, the organizers of SpokenQuery&Doc-2 task set up two subtasks: (1) Spoken Term Detection (STD) and (2) Spoken Content Retrieval (SCR). STD subtask tried to detect positions where search terms appear in spoken documents. In SCR subtask, participants were asked to find spoken segments containing information relevant to a search topic, which can be considered as an ad-hoc retrieval task for spoken documents.

3.5 Temporalia-2 (core task)

Temporalia-2 [5] takes over research efforts of Temporalia at NTCIR-11. The tasks aim at enhancing document retrieval for information needs in which the time factor plays an important role. That is, users' intents in searching behaviors are detected for a particular type of information needs, which can be considered as an attempt to develop IR techniques over simple keyword matching.

At NTCIR-12, the organizers of Temporalia-2 task set up two subtasks: (1) Temporal Intent Disambiguation (TID) and Temporally Diversified Retrieval (TDR). In TID subtask, four classes of temporal intent were defined as 'past', 'recency', 'future', and 'atemporal', and the participants were asked to measure the degrees to which a given search query was concerned with the four classes, respectively. TDR subtask tried to specify five subsets of documents from the entire set for a given topic description. Among them, four subsets have to include relevant documents corresponding to the four classes of temporal intent, respectively. The other subset was expected to be diversified.

3.6 MathIR (core task)

MathIR task [10] was accepted as a core task at NTCIR-12 after Program Committee reviewed its proposal that was submitted at the time of releasing call for additional pilot task proposals (see also Section 2.2), which takes over research efforts of two Math tasks at NTCIR-10 and -11. The main purpose of MathIR is to develop techniques of mathematical information retrieval (MIR) enabling the users to access mathematical formulas in documents and to know mathematical concepts or objects.

At NTCIR-12, MathIR task used two corpora: (a) an arXiv dataset (which was also employed at NTCIR-11) and (b) a set of Wikipedia articles. For the corpora, queries consisting mainly of mathematical formulas and keywords were created. In arXiv Main subtask and optional Wikipedia subtask, the participants were asked to produce a ranked list of paragraphs in documents of the corpora for each query. In addition, optional arXiv Formula Similarity subtask and optional Wikipedia Formula Browsing subtask were set up by the task organizers.

3.7 Lifelog (pilot task)

Lifelog task [3] is a new challenge at NTCIR-12. Lifelogging is defined as "a form of pervasive computing, consisting of a unified digital record of the totality of an individual's experiences, captured multi-modally through digital sensors and stored permanently as a personal multimedia archive"[4], and has become popular recently. Datasets obtained by lifelogging (i.e.,

Table 1 Languages at NTCIR-12

	IMine-2	MedNLP Doc	Mobile Click-2	Spoken Query Doc-2	Temporalia	MathIR	Lifelog	QALab-2	STC
Chinese	✔				✔				✔
English	✔		✔		✔	✔	✔	✔	✔
Japanese	✔	✔	✔	✔				✔	✔

Table 2 Numbers of Participants (From NTCIR-1 to -12)

Year	1999	2001	2002	2004	2005	2007	2008	2010	2011	2013	2014	2016
Task/NTCIR round	1	2	3	4	5	6	7	8	9	10	11	12
Automatic Term Recognition and Role Analysis (TMREC)	9											
Ad hoc/Crosslingual IR(1) -> Chinese/English/Japanese IR(2) -> CLIR(3-6)	28	30	20	26	25	22						
Text Summarization Challenge (TSC)		9	8	9								
Web Retrieval (WEB)			7	11	7							
Question Answering Challenge (QAC)			16	18	7	8						
Patent Retrieval [and Classification] (PATENT)			10	10	13	12						
Multimodal Summarization for Trend Information (MUST)					13	15	13					
Crosslingual Question Answering (CLQA)(5,6) -> Advanced Crosslingual Information Access (ACLIA)(7,8)					14	12	19	14				
Opinion(6) -> Multilingual Opinion Analysis (MOAT)(7,8)						12	21	16				
Patent Mining (PAT-MN)							12	11				
Community Question Answering (CQA)								4				
Geotemporal IR (GeoTime)								13	12			
Interactive Visual Exploration (Vis-Ex)									4			
Patent Translation (PAT-MT)(7,8) -> Patent Machine Translation (PatentMT)(9,10)							15	8	21	21		
Crosslingual Link Discovery (Crosslink)									11	10		
INTENT(9,10) -> **Search Intent and Task Mining (IMine)**									16	11	12	9
One Click Access (1CLICK)(9,10) -> **Mobile Information Access (MobileClick)**									4	8	4	11
Recognizing Inference in Text (RITE)(9,10) -> Recognizing Inference in Text and Validation (RITE-VAL)(11)									24	28	23	
IR for Spoken Documents (SpokenDoc) (9,10) -> **Spoken Query and Spoken Document Retrieval (SpokenQuery&Doc)**									10	12	11	7
Mathematical Information Access (Math) (10,11) -> **MathIR**										6	8	6
Medical Natural Language Processing (MedNLP) (10,11) -> **MedNLPDoc**										12	12	8
QA Lab for Entrance Exam (QALab)											11	12
Temporal Information Access (Temporalia)											8	14
Cooking Recipe Search (RecipeSearch)(11)											4	
Lifelog												8
Short Text Conversation (STC)												22
	37	39	61	74	79	81	80	66	102	108	93	**97**

lifelog data) are new resources for which effective and efficient IR techniques have to be developed.

The organizers of Lifelog task set up two subtasks: Lifelog Semantic Access Task (LSAT) and Lifelog Insight Task (LIT). The purpose of the LSAT subtask is to develop IR techniques for lifelog data, and ad hoc searches in an interactive or automatic manner were tried by participants. LIT subtask explored knowledge mining and visualization of lifelogs without requiring any specific output from participants' systems unlike standard tasks at NTCIR, in order to produce an opportunity for gaining insights into some aspects of lifelog data uses.

3.8 QALab-2 (pilot task)

Like QALab task at NTCIR-11, QALab-2 [8] again tackles development of advanced question-answering (QA) systems that can solve entrance exam questions created for Japanese universities. Questions on the subject of 'world history' were selected from the National Center Test for University Admissions (multiple choice-type questions) and secondary exams at five universities in Japan (complex questions including essays). This can be considered as a challenging task of implementing higher-level QA technologies for solving real-world problems.

In addition to exam questions written in Japanese, English equivalents were provided by the task organizers. The QALab-2 task defined six main types of question formats such as complex essay, simple essay, factoid, slot-filling, true-or-false and unique. In Phase-1 of the task, information on detailed question formats was provided to participants, and participants were able to use it in their QA systems. Phase-2 (Japanese only) was a preliminary trial for the National Center Tests and the Second-stage Examination of the University of Tokyo. In Phase-3, QA systems

of the participants were requested to answer exam questions without information on the detailed question formats.

3.9 Short Text Conversation: STC (pilot task)

Short Text Conversation (STC) task [7] is a new challenge at NTCIR-12, which attempts to develop systems replying a short answer to the user in response to her/his short question. Such kinds of systems allowing conversation between humans and computers through exchange of short messages would be beneficial for an application on mobile devices and so on. For instance, automatic message reply on smartphones may be enhanced by research outcome from STC task.

In this task, both of the question and the answer are represented as text, and it is assumed that the system tries to find appropriate comments (answers) from a repository of short text messages when a post (question) is given by a user. A solution to this problem is to apply IR techniques to the STC situation, which means that the traditional framework of IR experiments can be used for this task.

3.10 Languages

The language used for representing documents and search queries is an important factor in developing test collections through activities such as NTCIR. Table 1 shows the languages used at NTCIR-12.

4. PARTICIPANTS AND RESULTS

Like the previous NTCIR-11, many research groups registered to the nine tasks as participants. Unfortunately, some groups dropped out for some reasons. Table 2 shows the numbers of participants who submitted results obtained by their own systems. In this table, the numbers are given for all the tasks from NTCIR-1 to -12. Task overview papers (see References) describe evaluation of the results submitted by the participants.

At NTCIR-12, 97 research groups have participated in the tasks and the number of participants increases slightly from NTCIR-11 (i.e., 93 groups). Note that some research groups participated in two tasks, which were counted as different groups. The 97 groups include over 350 members in total, from which some people would attend the conference. As indicated in Table 2, recent four NTCIR Conferences (NTCIR-9 to -12) have constantly attracted around 100 groups, which make oral or poster presentations.

Table 3 shows geographical distribution of participants in NTCIR-12. Japan and China are dominant countries, but many groups have participated from European countries, USA, Australia and other areas in Asia. In total, 20 countries or regions appears in Table 3, which reflects that NTCIR is an international research activity.

5. CONCLUSION

This paper presented the overview of 12th cycle of NTCIR activity carried out from January 2015 to June 2016. NTCIR-12 has nine evaluation tasks, which suggests the great diversity of Information Access challenges addressed by this project. Most parts of the test collections developed by NTCIR-12 evaluation tasks will be released to non-participating research groups in the near future.

NTCIR-12 was the fourth cycle with a new organization structure formed at NTCIR-9. It is our understanding that the new structure has worked well so far. However, we will continue to strive to improve the NTCIR organization structure, so that more researchers beyond the traditional Information Access domains can join the community, and advance their research using test-collection-based evaluation.

Table 3 Nos. of Participants by Country and Region

Country/Region	Nos. of Groups
Australia	2
Canada*	2*
China*	20*
Czech Republic	1
France	3
Germany	3
Hong Kong	2
India	3
Ireland	2
Japan*	40*
Korea	1
Netherlands	1
Portugal	1
Russia*	1*
Spain	2
Switzerland*	1*
Taiwan	4
Turkey*	1*
UK	1
USA*	4*
TOTAL	95

Note: Countries with * had joint international teams including some research groups, which are doubly counted in the table. The total different number of national and international teams was 91. Among 91, some teams participated in two tasks, and therefore, the total number of teams participating in the NTCIR-12 becomes 97 (see Table 2).

6. ACKNOWLEDGMENTS

The authors would like to thank the organizers of all NTCIR-12 tasks for their tremendous amount of efforts devoted to run successful tasks, the task participants for their valuable contributions to the Information Access research community, and program committee members for their great feedback on our program. Finally, we would like to thank the current and past members of the NTCIR office for their continuous and careful support to our activity.

7. REFERENCES

[1] T. Akiba, H. Nishizaki, H. Nanjo, and G. J. F. Jones. Overview of the NTCIR-12 SpokenQuery&Doc-2 task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016.Tokyo, Japan.

[2] E. Aramaki, M. Morita, Y. Kano, and T. Ohkuma. Overview of the NTCIR-12 MedNLPDoc task. In Proceedings of the

NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016.Tokyo, Japan.

[3] C. Gurrin, H. Joho, F. Hopfgartner, L. Zhou, and R. Albatal. Overview of NTCIR-12 Lifelog task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[4] C. Gurrin, A. F. Smeaton, and A. R. Doherty. Lifelogging: Personal big data. Foundations and Trends in Information Retrieval, 8(1):1 - 125, 2014.

[5] H. Joho, A. Jatowt, R. Blanco, H. Yu, and S. Yamamoto. Overview of NTCIR-12 Temporal Information Access (Temporalia-2) task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[6] M. P. Kato, T. Sakai, T. Yamamoto, V. Pavlu, H. Morita, and S. Fujita. Overview of the NTCIR-12 MobileClick-2 task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[7] L. Shang, T. Sakai, Z. Lu, H. Li, R. Higashinaka, and Y. Miyao. Overview of the NTCIR-12 Short Text Conversation task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[8] H. Shibuki, K. Samamoto, M. Ishioroshi, A. Fujita, Y. Kano, T. Mitamura, T. Mori, and N. Kando. Overview of the NTCIR-12 QA Lab-2 task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[9] T. Yamamoto, Y. Liu, M. Zhang, Z. Dou, K. Zhou, I. Markov, M. P. Kato, H. Ohshima, and S. Fujita. Overview of the NTCIR-12 IMine-2 task. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

[10] R. Zanibbi, A. Aizawa, M. Kohlhase, I. Ounis, G. Topić, and K. Davila. NTCIR-12 MathIR task overview. In Proceedings of the NTCIR-12 Conference on Evaluation of Information Access Technologies, 2016. Tokyo, Japan.

Appendix: List of Participants Submitting Final Results

Group ID	Organization	Country (Nationality of group)	Task (Subtask)
AKBL	Toyohashi university of technology	Japan	SpokenQuery&Doc(SQ-SCR) Lifelog(LIT)
ALICA	University of Alicante	Spain	MobileClick
ALPS	University of Yamanashi	Japan	SpokenQuery&Doc(SQ-STD)
BUPTTeam	Beijing University of Posts and Telecommunications	China	STC
CBIA	VTCBIA	USA	Lifelog(LSAT)
CMUQA	Carnegie Mellon University	USA	QALab(p1,p3)
cuis	The Chinese University of Hong Kong	Hong Kong	MobileClick
CYUT	Chaoyang University of Technology | Institute for Information Industry	Taiwan	Lifelog(LSAT), STC
DCU	Dublin City University	Ireland	SpokenQuery&Doc(SQ-SCR)
DUTCH	Dalian University of Technology	China	Temporalia
DUTEN	Dalian University of Technology	China	Temporalia
Forst	Yokohama National University | National Institute of Informatics	Japan	QALab(p1,p2,p3)
FSE	University of Konstanz	Germany	MATH(wikipedia)
GIR	University of Glasgow	UK	Temporalia
Grad1	Chinese Academy of Sciences (CAS)	China	STC
HCU	Hiroshima City University	Japan	MedNLPDoc
HITSZ	Harbin Institute of Technology	China	Temporalia, STC
HLT01	Université de Caen Normandie	France	IMine(Q:E)
Ho-tm	Japan Advanced Institute of Science and Technology	Japan	Temporalia
HUKB	Hokkaido University	Japan	IMine(Q:J)
HYM16	Gifu University	Japan	SpokenQuery&Doc(SQ-SCR)
ICL00	Peking University	China	STC

ICST	Peking University	China	MATH(arXiv,wikipedia)
IISR	National Central University	Taiwan	MobileClick
IMC	Beijing Institute of Technology	China	IMine(Q:C)
imtku	Tamkang University	Taiwan	QALab(p1,p3)
inDCU	Dublin City University	Ireland	Lifelog(LIT)
IRCE	University of Tsukuba | Aichi University of Education | National Institute for Educational Policy Research	Japan	IMine(Q:CJ)
IRISM	Indian School Of Mines,Dhanbad	India	Temporalia
IRIT	IRIT Université de Toulouse III	France	MobileClick
iSIMED	University Hospitals of Geneva | Akdeniz University | IMSIT	Switzerland, Turkey, Russia	MedNLPDoc
ISOFT	Pohang University of Science And Technology (POSTECH)	Korea	QALab(p3)
ITNLP	Harbin Institute of Technology	China	STC
IWAPU	Iwate Prefectural University	Japan	SpokenQuery&Doc(SQ-STD)
JUNLP	JADAVPUR UNIVERSITY	India	MobileClick
KDEIM	Toyohashi University of Technology	Japan	IMine(Q:E)
KDTEM	Toyohashi University of Technology	Japan	Temporalia
KGO	Tokushima University | Business Big Data Co., Ltd.	Japan , China	Temporalia, STC
KIS	Shizuoka University	Japan	MedNLPDoc
KIT15	Kyoto Institute of Technology	Japan	STC(Japanese)
KitAi	Kyushu Institute of Technology	Japan	QALab(p1,p2,p3)
KSU	Kyoto Sangyo University	Japan	QALab(p1,p2,p3)
KUAS	National Kaohsiung University of Applied Sciences	Taiwan	QALab(p3)
kyoto	Kyoto University	Japan	Temporalia
L3S	Leibniz University Hannover	Germany	Temporalia
LIG	Laboratoire d'informatique de Grenoble (LIG)	France	Lifelog(LSAT)
matsu	Nara Institute of Science and Technology | Studio Ousia Inc.	Japan	MedNLPDoc
MCAT	National Institute of Informatics | The University of Tokyo	Japan	MATH(arXiv,wikipedia)
MIRMU	Masaryk University	Czech Republic	MATH(arXiv,wikipedia)
MPII	Max Planck Institute for Informatics	Germany	Temporalia
MSRSC	Microsoft Research Asia | University of Science and Technology of China	China	STC
NARS	Nara Institute of Science and Technology	Japan	MedNLPDoc
Nders	NetDragon WebSoft Inc. | Minjiang University	China	STC
NEXTI	Hiroshima City University | National Institute of Informatics | Waseda University | Doshisha University | Kobe University | Kyoto University | Rakuten Institute of Technology |Tokyo Institute of Technology	Japan	IMine(Q:J)
NIKON	NIKON CORPORATION	Japan	MedNLPDoc
NIL	Nil Software Corp.	Japan	MedNLPDoc
NTTCS	NTT Communication Science Labs.	Japan	STC(Japanese)
NUL	Nihon Unisys, Ltd.	Japan	QALab(p1,p2,p3)
NUTKS	Nagaoka University of Technology	Japan	MobileClick
OKSAT	Osaka Kyoiku University	Japan	STC(Chinese, Japanese)
Oni	Osaka University	Japan	STC(Japanese)
picl	Peking University	China	STC

PolyU	The Hong Kong Polytechnic University	Hong Kong	STC
QUT	Queensland University of Technology	Australia	Lifelog(LSAT)
RISAR	RMIT University	Australia	MobileClick
rituw	Rochester Institute of Technology (USA) | University of Waterloo (Canada)	Canada, USA	MATH(arXiv,wikipedia)
rsrch	Rakuten, Inc	Japan	MobileClick
rucir	Renmin University of China	China	IMine(Q:CE, V:CE)
SHZU	Shizuoka University	Japan	SpokenQuery&Doc(SQ-STD)
SLLL	Waseda University	Japan	Lifelog(LIT)
SLQAL	Waseda University	Japan	QALab(p1,p2,p3)
SLSTC	Waseda University	Japan	STC(Japanese)
SML	Nagoya University	Japan	QALab(p1,2,3)
SMSG5	Samsung R&D Institute India	India	MATH(arXiv,wikipedia)
splab	Shanghai Jiaotong University	China	STC
sss	The University of Tokyo	Japan	STC(Japanese)
THUIR	Tsinghua University	China	IMine(Q:C,V:C)
TITEC	Tokyo Institute of Technology | Doshisha University	Japan	MobileClick
TUA1T	Tokushima University	Japan	Temporalia
ub	University at Buffalo	USA	SpokenQuery&Doc(SQ-SCR)
UBUPC	Technical University of Catalonia | University of Barcelona	Spain	Lifelog(LSAT)
UE-UD	University of Evora	Portugal	MedNLPDoc
UHYG	University of Hyogo	Japan	MobileClick
USTC	University of Science and Technology of China	China	STC
uwnlp	University of Waterloo	Canada	STC
WHUIR	Wuhan University	China	Temporalia
wip	Peking University	China	QALab(p3)
WIS	Delft University of Technology	Netherlands	Temporalia
WUST	Wuhan University	China	QALab(p3), STC
YJST	Yahoo Japan Corporation	Japan	IMine(Q:J), MobileClick
yuila	Yamagata University	Japan	STC(Japanese)