Welcome!

Twitter: #ntcir11

Ust: ntcir11-kickoff

# NTCIR-11 Kick-Off Event

Sep 02, 2013

English Session: 13:30-

Japanese Session: 15:15-

# Program

- About NTCIR
- About NTCIR-11
- Accepted Tasks
- Why participate?
- How to participate
- Important Dates
- Q & A

# **About NTCIR**

Introduction

### NII Testbeds and Community for Information access Research

Research Infrastructure for Evaluating Information Access

A series of evaluation workshops designed to enhance research in information-access technologies by providing an infrastructure for large-scale evaluations. ■ Data sets, evaluation methodologies, forum

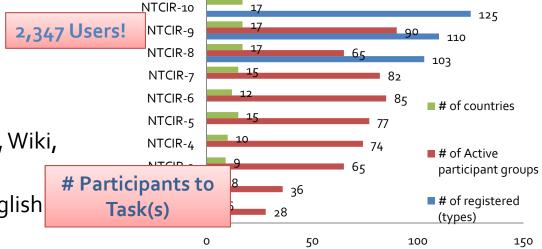
### Project started in late 1997

■18 months Cycle

#### Data sets (Test collections or TCs)

Scientific, news, patents, web, CQA, Wiki, Exams

Chinese, Korean, Japanese, and English

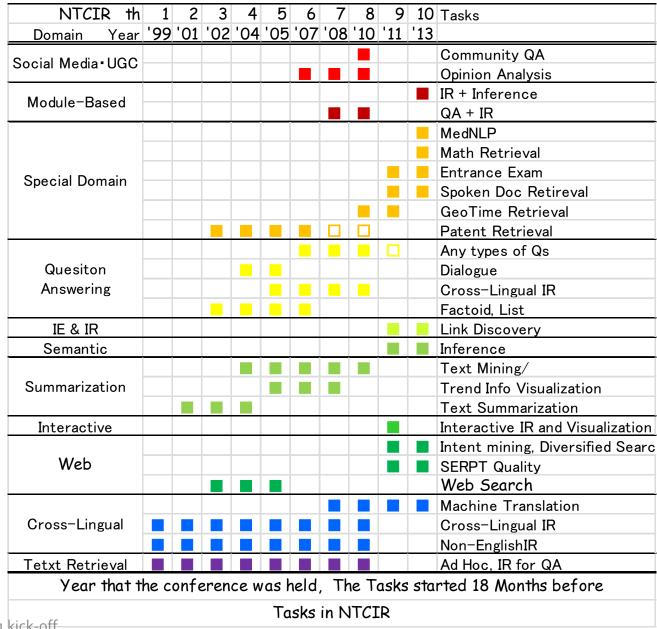


#### Tasks (Research Areas)

- IR: Cross-lingual tasks, patents, web, Geo, Spoken
- QA: Monolingual tasks, cross-lingual tasks
- Summarization, trend info., patent maps, Inference,
- Opinion analysis, text mining, Intent, Link
  Discovery Visualkick-off



#### Tasks in the NTCIR





## Information retrieval (IR)

- Retrieve RELEVANT information from vast collection to meet users' information needs
- Using computers since the 1950s
- First CS uses human assessments as success criteria
  - Judgments vary
  - Comparative evaluations on the same infrastructure

### Information access (IA)

Whole process to make information usable by users.

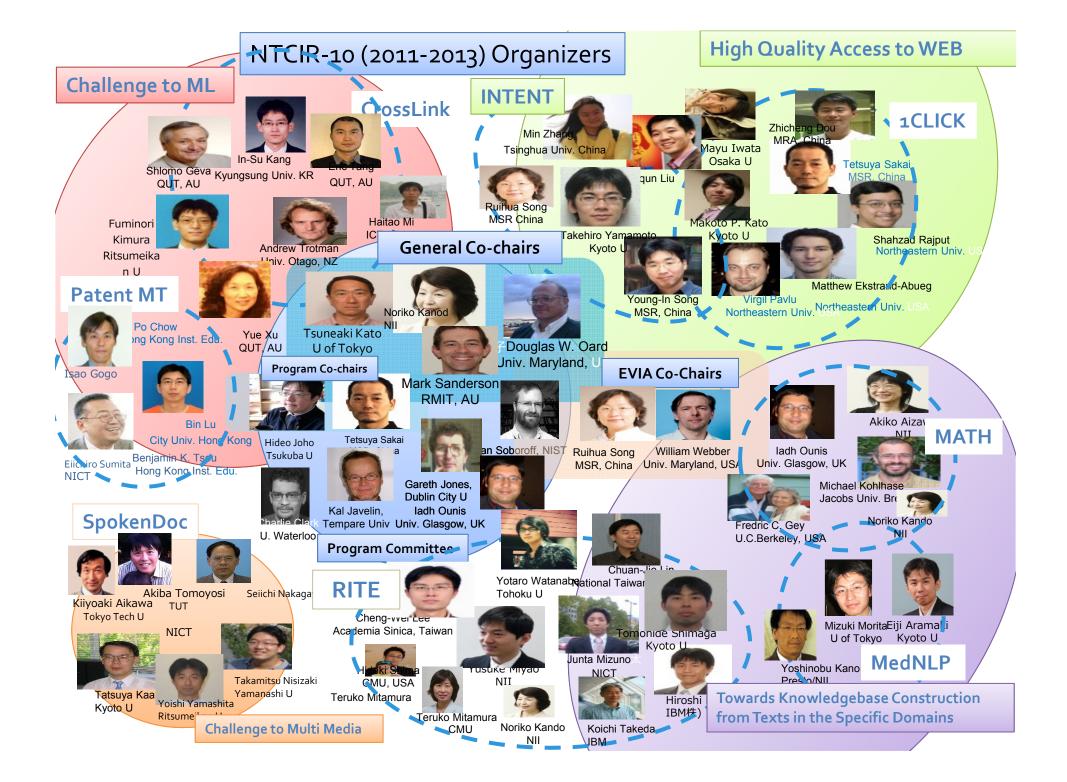
ex.: IR, text summarization, QA, text mining, and clustering

### **Procedures in NTCIR Workshops**

- Call for Task Proposals
- Selection of Task Proposals by Committee
- Discussion about Experimental Designs and Evaluation Methods (can be continued to Formal Runs)
- Registration to Task(s)
  - Deliver Training Data (Documents, Topics, Answers)
    - Experiments and Tuning by Each Participants
  - Deliver Test Data (Documents and Topics)
    - Experiments by Each Participants
- Submission of Experimental Results
- Pooling the Answer Candidates from the Submissions, and Conduct Manual Judgments
- Return Answers (Relevance Judgments) and Evaluation Results
- Conference & EVIA Discussion for the Next Round

### NTCIR NTCIR-10 Conference and EVIA 2013 June 18-21, 2013 http://research.nii.ac.jp/ntcir/ntcir-10







### NTCIR-11 Organization

### <NTCIR-11 Program Co-Chairs>

- Hideo Joho (University of Tsukuba, Japan)
- Kazuaki Kishida (Keio University, Japan)

#### <EVIA2014 Co-Chairs>

- -Ruihua Song (Microsoft Research Asia, China)
- -TBA

#### <NTCIR-10 General Co-Chairs>

- Noriko Kando (NII, Japan)
- Tsuneaki Kato (The University of Tokyo, Japan)
- Douglas W. Oard (University of Maryland, USA)
- Tetsuya Sakai (Waseda University)
- Mark Sanderson (RMIT University, Australia)

# -Many Task Organizers from all over the world



#### **NTCIR Test Collections**

### Test Collections = Docs + Topics/Questions + Answers

	Ad Hoc/ CLIR (Scientific Abstracts)	Chinese IR	IR (80#)		MuST (「動向情報の 要例と可視 化」)	OPINION (電見分析)	PATENT (特許検索・ 分類)		QAC (質問応答)	TMREC (用語格定)	TSC (実朝)	WEB
	(日本語・ 英語検索)	(中国語検索)	ACLIA (高度者語模断 情報アクセス)			MOAT (多言語 意見分析)	PATMN (特許マイ ニング)	PATMT (F##F## #R)				
NTCIR-1	NTCIR-1 Ad Hoc/ CLIR	-	-	-	-	-	-		-	NTCIR-1 TMREC	-	-
NTCIR-2	NTCIR-2 Ad Hoo/ CLIR	CIRBO10	-	-	-	-	-		-	-	NTCIR-2 SUMM	-
NTCIR-3	-	-	NTCIR-3 CLIR	-	-	-	NTCIR-3 PATENT 特許検索		NTCIR-3 QA	-	NTCIR-3 SUMM	NTCIR-3 WEB
NTCIR-4	-	-	NTCIR-4 CLIR	-	-	-	NTCIR-4 PATENT 特許検索		NTCIR-4 QA	-	NTCIR-4 SUMM	NTCIR-4 WEB
NTCIR-5	-	-	NTCIR-5 CLIR	NTCIR-5 CLQA	-	-	NTCIR-5 PATENT 特許検索 分類		NTCIR-5 QA	-	-	NTCIR-5 WEB
NTCIR-8	-	-	NTCIR-6 CLIR	NTCIR-6 CLQA	NTCIR-6 MuST	NTCIR-6 OPINION	NTCIR-6 PATENT 特許検索 分類		NTCIR-6 QA	-	-	-
NTCIR-7	-	-	NTCIR-7 NTCIR-		NTCIR-7	NTCIR-7	NTCIR-7	NTCIR-7	-	-	-	-

Available to Non-participants for Research Purpose

### **Evaluation Forums**

 Research teams gather up to solve shared problems; submit system output before deadline

 Systems eva Task and input data pared across teams **Participant** System output **Participant** Organisers Participant Results and value-added data **Participant** Share data and insights, discuss, improve

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# Why Evaluation Forums?

- Compete and collaborate, accelerate research
- Build large-scale test collections through collective efforts e.g. pooling
- Foster interdisciplinary research towards grand challenges, build new research communities

NII Testbeds and Community for Information access
Research

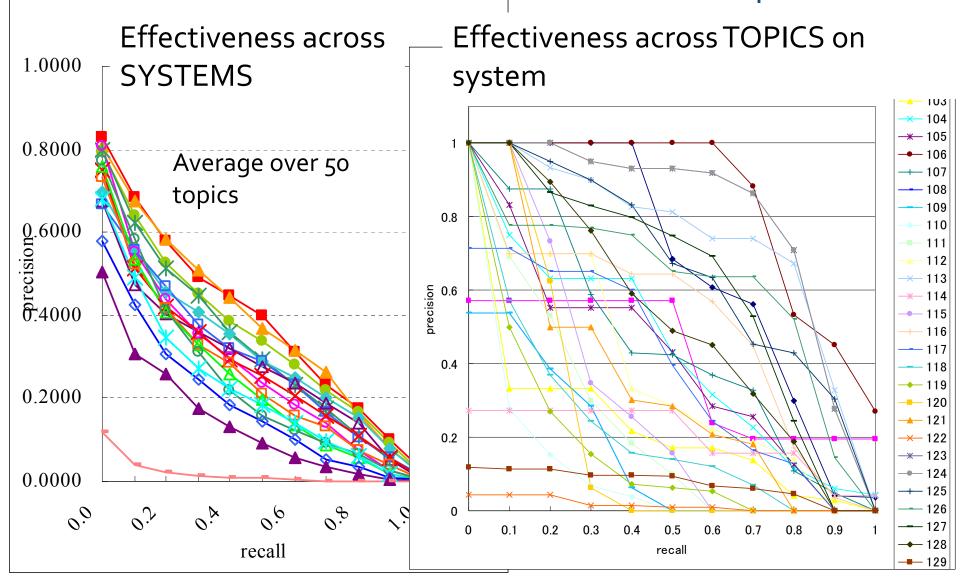
# Information Retrieval Evaluation Forums

- TREC (Text Retrieval Conference) 1992-
- NTCIR 1998/9- [sesquiannual]
- CLEF (Cross-Language Evaluation Forum) 2000-
- INEX (Initiative for the evaluation of XML retrieval) 2002-
- TRECVID 2003-
- FIRE (Forum for IR Evaluation) 2008-
- MediaEval (Benchmarking Initiative for Multimedia Evaluation) 2010-

[not exhaustive]



### <u>Difficulty of retriev</u>al varies with topics



2013-09-02 ntcir-11 kick-off

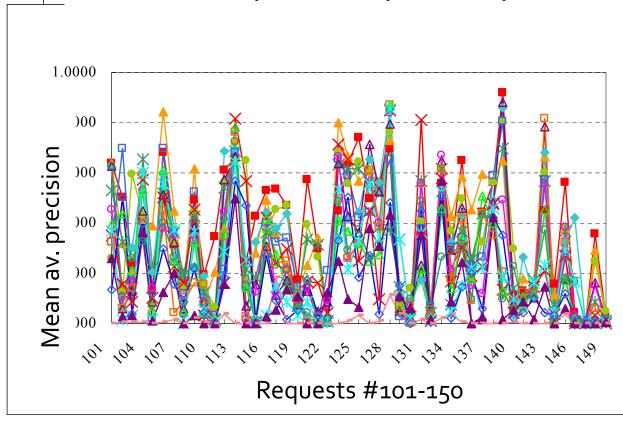


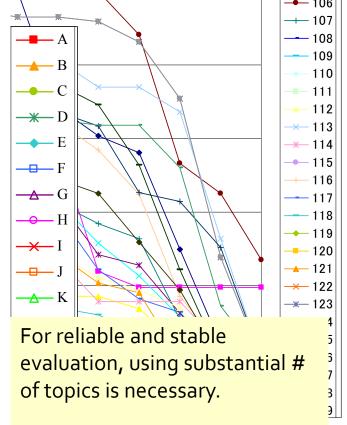
### Difficulty of retrieval varies with topics



Effectiveness across TOPICS on system

<sup>0</sup> "Difficult topics" vary with systems





# IR Systems Evaluation

- Engineering Level: Efficiency
- Input Level: ex. Exhaustivity, quality, novelty of DB



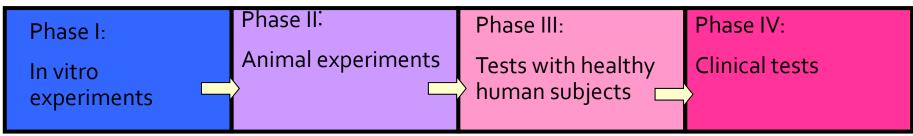
Process Level: Effectiveness ex. recall, precision

- Output Level: Display of output
- User Level: ex. Effort that users need
- Social Level: ex. Importance (Cleverdon & Keen 1966)



# What are TCs usable for evaluating?

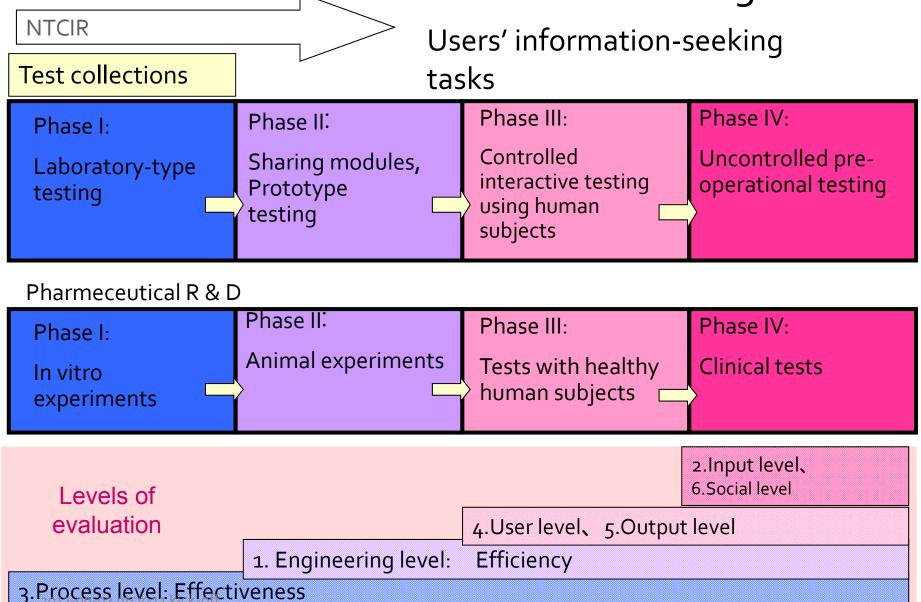
#### Pharmeceutical R & D



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What are TCs usable for evaluating?



# Testing & Bench marking

- To learn how and why the system works better (worse) than others
- To learn how it can be improved
- Scientific
   Understanding of the effectiveness



# Information Seeking Task

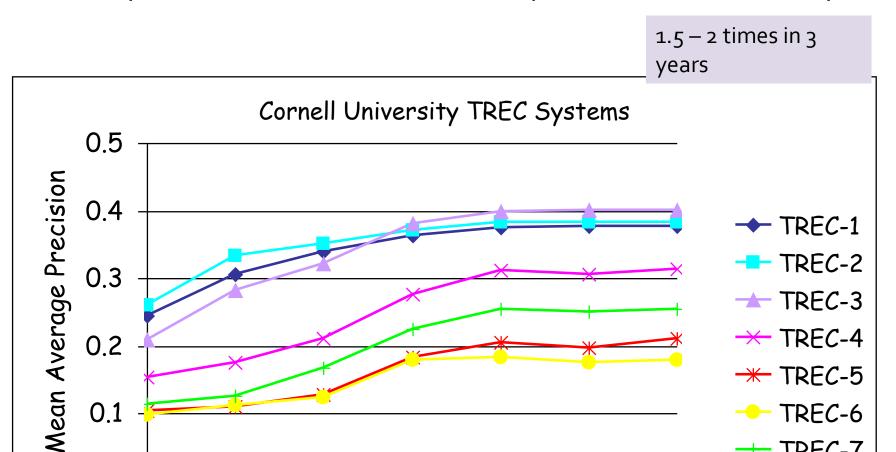
- document types + user community
- user's situation,purpose of search,realistic

Experiments are
Abstraction of the
Real World Tasks.
Trade-off between
"reality" and

"controlable"



### Improvement of Effectiveness by Evaluation Workshops





0

'92

'93

'94

'95

System System System System System

'96

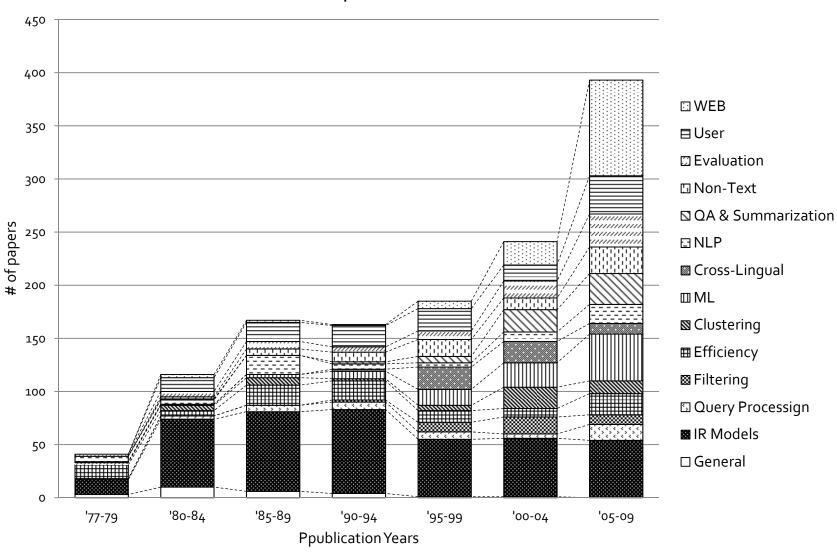
'97

'98

TREC-7

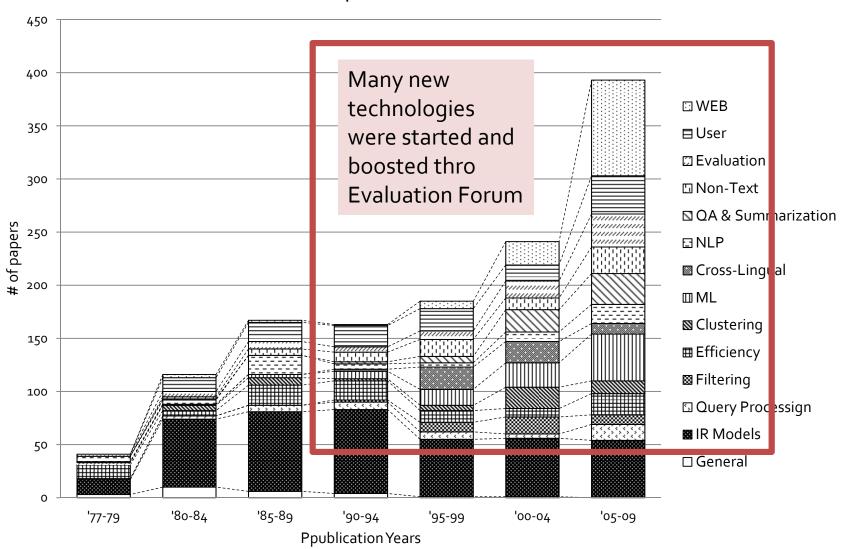
#### Research Trends

### Number of Papers Presented at ACM-SIGIR



#### Research Trends

#### Number of Papers Presented at ACM-SIGIR





### Some Thoughts on Future

- Propose and lead a new community!
- How to Evaluate Individual Applications and new technologies
  - Think and work in the community!
- Interactive and Exploratory Information Access
  - Users' Intention, Diversity
  - Collaborative Search
  - Task Expertise, Knowledge, Literacy, etc.
- Ex. Key Topics discussed at SWIRL 2012
  - Conversasional Retrieval
  - MobileIR
  - Zero Query (or Less)
  - SmarteIR
  - Query by walking around
  - Structure, Entity, Relation
- Time-aware
- Whole Session Evaluation

# About NTCIR-11

What's new?

# Recent NTCIRs Objectives

- Solid foundation
  - Even strongerstructure than before
- Task diversity
  - Covers a wide context in Information Access
  - Studies rich media types

- Community-led task organisation
  - Sustainability of research
- Promotion of research resources
  - Show case in the NTCIR Conferences

### NTCIR-11: Structure

- General Co-Chairs
  - Noriko Kando (NII)
  - Tsuneaki Kato (The Univ. of Tokyo)
  - Douglas W. Oard (Univ. of Maryland)
  - Tetsuya Sakai (Waseda Univ.)
  - Mark Sanderson (RMIT Univ.)
- EVIA 2014 Co-Chairs
  - Ruihua Song (MSRA)
  - TBA

- Program Co-Chairs
  - Hideo Joho (Univ. of Tsukuba)
  - Kazuaki Kishida (Keio Univ.)
- Task Organisers



- Leading researchers worldwide
- Participants (You!)

# NTCIR-11: Development so far

Jan - Feb 2013	Development for NTCIR-11 organisation started					
March - May 2013	Call for task proposal announced and 11 proposals were submitted					
Jun 2013	NTCIR-10 Conference					
Jun 2013	8 evaluation tasks were accepted by the program committee and co-chairs					
Aug 2013	Calls for task participation prepared					
Sep 2013	NTCIR-11 Kick-Off Event					

# NTCIR-11 Program Committee

- Hsin-Hsi Chen (National Taiwan University, Taiwan)
- Charles Clarke (University of Waterloo, Canada)
- Kalervo Järvelin (University of Tampere, Finland)
- Hideo Joho (Co-chair, University of Tsukuba, Japan)
- Gareth Jones (Dublin City University, Ireland)
- Noriko Kando (NII, Japan)
- Tsuneaki Kato (The University of Tokyo, Japan)
- Kazuaki Kishida (Co-chair, Keio University, Japan)
- Gary Geunbae Lee (POSTECH, South Korea)
- Douglas W. Oard (University of Maryland, USA)
- Maarten de Rijke (University of Amsterdam, The Netherlands)
- Stephen Robertson (Microsoft Research Cambridge, UK)
- Tetsuya Sakai (Microsoft Research Asia, PRC)
- Mark Sanderson (RMIT University, Australia)
- Ian Soboroff (NIST, USA)

# NTCIR-11 Evaluation Tasks

Calls for task participation

# Tasks accepted for NTCIR-11

#### **CORE TASKS**

- [IMine] Search Task and Intent Mining
- [Math-2] Mathematical Information Access
- [MedNLP-2] Medical Natural Language Processing
- [MobileClick] Mobile Information Access
- [RITE-VAL] Recognizing Inference in Texts and Validation
- [SpokenQuery&Doc] Spoken Query and Spoken Document Retrieval

#### **PILOT TASKS**

- [QALab] QA Lab for Entrance Exam
- [Temporalia] Temporal Information Access

# **IMine**



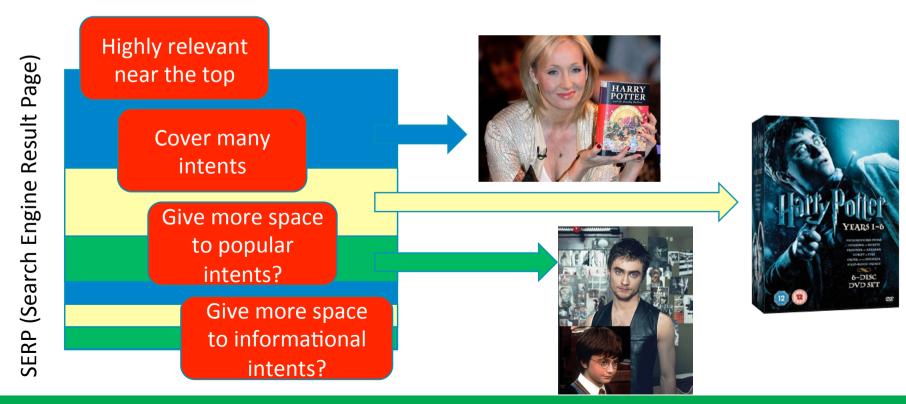
# The NTCIR-11 **IMine** Task Kickoff Meeting

Yiqun Liu, Ruihua Song, Min Zhang, Zhicheng Dou, Takehiro Yamamoto, Makoto P. Kato, Hiroaki Ohshima, Ke Zhou

http://www.thuir.org/IMine/

### Diversified search

- Given an ambiguous/underspecified query, produce a single Search Engine Result Page that satisfies different user intents!
- Challenge: balancing relevance and diversity



# Mine

Understanding user intents in Web search

Intent Mining



### The IMine task

### Three subtasks

- Subtopic Mining (SM): Chinese, English, Japanese
   INPUT: query (e.g. "harry potter")
   OUTPUT: ranked list of subtopic string
   (e.g. "harry potter book, harry potter film, harry potter the character...")
- Document Ranking (DR): Chinese, English
   INPUT: query (e.g. "harry potter")
   OUTPUT: diversified ranked list of web pages
- Search Task Mining (TASKMINE): Japanese
  INPUT: query (e.g. "pollen allergy treatment")
  OUTPUT: ranked list of task string which satisfies the given query
  (e.g. "Laser surgery", "antiallergic drug", "allergy mask")

#### More User Behavior Data

- THUIR@INTENT/INTENT2: More user behavior data led to better performance.
- More raw click-through data: SogouQ has doubled its size to include click-through data collected from Sogou.com in 2011
  - 1.85GB => 3.85GB, over 40M user clicks
- More subtopic candidates generated from more recent user behavior data.
  - Search engine data provided by two major Chinese search engines will be adopted
- Find out whether more logs help improve SM/DR performance

## Intent Annotation Using Logs

- SM results in pools will be clustered with clickthrough/pseudo RF data at first to generate preliminary candidate intent groups.
- Query frequency information will be taken into consideration during subtopic importance voting process.
- Data source: recently collected data from Sogou for Chinese SM, Bing for English/Japanese SM
- More credible SM grels with less annotation efforts
- Perhaps the reusability of results could be increased

## **Crowd-Sourcing based Evaluation**

- A search-engine-like annotation interface to collect feedback information from a relatively large number of unprofessional users (e.g. 50+ undergraduate students)
- Data collected from the interface: query, click,

examinatio 
$$P(C_i = 1) = P(E_i = 1)P(R_i = 1)$$

- High correlation with examination
  - Preliminary results on 10 users.
  - KAPPA: 0.65, Accuracy: 0.83.
- Find out whether D# measures accords with user satisfaction



## INTENT with/for Knowledge Graph

- Fuji in Wikipedia:
  - Fuji the actress
  - Fuji the Mountain
  - Fuji the apple





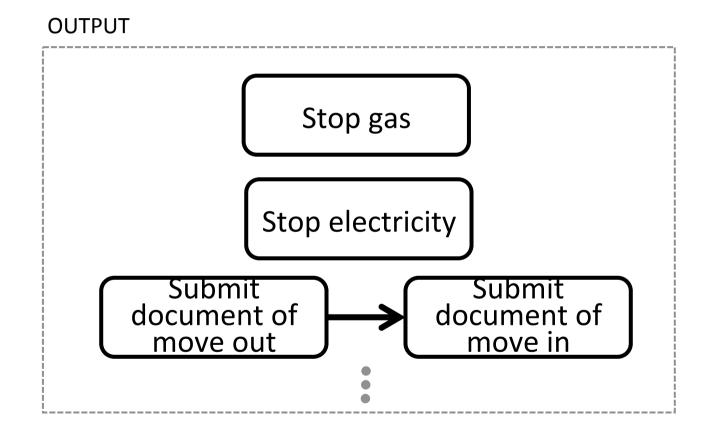
- Ambiguous queries: NTCIR INTENT #0205: 功夫(kung fu), #0206: 生日快樂(happy birthday)
- Mining and evaluating hierarchical user intents
  - SM task: return a two-level hierarchical list of subtopics
  - First level: at most 10 major categories of user intent ("Microsoft windows" for "windows")
  - Second level: other minor subtopics under the categories ("windows update", "windows 8.1 installation")

## Task Mining (TASKMINE) subtask

#### Find tasks that satisfies the given query

query

move to a new house



Organisers: Takehiro Yamamoto, Makoto Kato, Hiroaki Ohshima

http://www.dl.kuis.kyoto-u.ac.jp/ntcir-11/taskmine/

## Summary of IMine

	INTENTS	INMINE
	INTENT2	IMINE
Number of Topics	Chinese: 100	Chinese: 50
	Japanese: 100	Japanese: 50
	English: 50	English: 50
DR task setting	Chinese: SogouT (Ver.2008)	Chinese: SogouT (Ver.2008)
	Japanese: ClueWeb JA	English: ClueWeb12-B13
Manual annotation	SM: 100 Chinese topics, 50	SM: 50 Chinese topics, 50
efforts	English topics, 100 Japanese	English topics, 50 Japanese topics
	topics	DR: 50 Chinese topics, 50 English
	DR: 100 Chinese topics, 100	topics, 50 Japanese topics, pool
	Japanese topics, pool depth=20	depth=20
Support from log analysis	No	Support from log analysis for SM/DR
for annotation		annotation
Crowd sourcing	No	Crowd sourcing for Chinese DR
Subtopic candidate	Query suggestions from Bing, Google,	<ul> <li>Query suggestions from Bing,</li> </ul>
	Sogou and Baidu	Google, Sogou, Yahoo! and Baidu
		Query facets generated by MSR
		from search engine results
		Query facets generated by THU
		from Sogou log data
User behavior data	SogouQ (data collected in 2008): 2GB	SogouQ (data collected in 2008 and
	approximately	2011): 4GB approximately
DR Baseline	Chinese DR baseline	ClueWeb12-B13 retrieval
	Japanese DR baseline	service is provided by CMU
		SogouT retrieval service is
		provided by Tsinghua



## Thank you

http://www.thuir.org/IMine/

http://www.dl.kuis.kyoto-

u. ac. jp/ntcir-11/taskmine/

## Math-2

#### NTCIR-11 Math-2

- O What is Math Search?
- O Goal of NTCIR-Math
- O Task outline
- O Technical challenges
- O Contact information

#### What is Math Search?

# INFORMATION ACCESS TO MATHEMATICAL CONTENT

$$\sum_{n=1}^{\infty} \frac{\sin(n)}{n}$$

infinite series conditionally convergent

NTCIR Math-1 Topic FT-6

#### What is "math"?

```
<title>Conditional Convergence</title>
       <TeXquery>\text{Ysim} _{{n=1}}^{{\text{Yinfty}}\text{Ysin(n)}{n}</TeXquery>
        <pquery>
                    m'math>

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<m:msubsup xml:id="m8.1.5.1.pmm|" xref="m8.1.5.1")

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<m:mo xml:id="m8.1.2.1.3.pmm|" xref="m8.1.2.1.3">=</m:mo>

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<m:mo xml:id="m8.1.2.1.3.pmm|" xref="m8.1.2.1.3">=</m:mo>
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                             </m:msubsup>
                          </misubsup>
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                                            </m:mrow>
                                     </m:mrow>
                                    <m:mi xml:id="m8.1.4.3.pmml" xref="m8.1.4.3">n</m:mi>
                             </m:mfrac>
                      </m:mrow>
              </m:math>
        </pquery>
        <couerv>
                  </m:apply>
                                     </m:apply>
                                    <m:infinity xml:id="m8.1.3.1" xref="m8.1.3.1.pmml"/>
                             </m:apply>
                             <m:apply xml:id="m8.1.4" xref="m8.1.4.pmml">
                                 </m:apply>
                                    <m:ci xml:id="m8.1.4.3" xref="m8.1.4.3.pmml">n</m:ci>
                             </m:apply>
                      </m:apply>
              </m:math>
        </cauery>
                   infinite series conditionally convergent
       </words>
 </query>
<relevance>
```

$$\sum_{n=1}^{\infty} \frac{\sin(n)}{n}$$

Structured data with complex XML representation called MathML

#### The Goal of NTCIR Math

- Exploring methods for mathematical content access
- O Two major goals of Math-2
  - Achieving reusable test collection
  - Establishing and supporting the Math IR community (mathematicians and IR&NLP researchers)

#### Task Outline: Dataset

- O Given a document collection, retrieve relevant mathematical formulae for a given query.
- O Dataset: Reuse and adapt NTCIR-10 dataset
  - 100,000 papers from ArXiv.org
  - **35,000,000** formulae
  - Converted into XML+MathML by arXMLiv project
  - Retrieval unit: minimal subsections of ArXiv documents

#### Task Outline: Assessment

- O Pooling and assessment
  - **₹**50 Topics
  - Multiple assessment (two) for inter agreement check
  - Pooling size: 100
  - Include "Relevant, Partially relevant, Non relevant, Can not be assessed"

## Task Outline: Topics

- O Topic development
  - Topic structure
    - Topic ID
    - Query (formula + key words)
    - Description (short description of what a user is looking for)
    - Narrative (precise description of the user situation and information need and relevancy criteria)
  - All topics should include multiple relevant documents

#### Task Outline: Runs

#### **O** Runs

- Submit compulsory automatic runs using query only field
- Encourage participants to submit manual runs (with manually generated queries)
- Results will include supporting evidence (formulaID, sentenceID,etc.), optional

## **Technical Challenges**

- O Mathematical knowledge management
- O Digital math library
- O Large scale XML tree search (with variables)
- O Semantic search based on deep language analysis
- O Domain specific information retrieval

#### **Contact Information**

- O E-mail
  - organizers ML: ntcadm-math@nii.ac.jp
  - community ML: ntcir-math@nii.ac.jp
- Task Web page
  - http://ntcir-math.nii.ac.jp/
- Community Site
  - http://ntcir.mathweb.org/
- Task Organizers
  - Akiko Aizawa (National Institute of Informatics, Japan)
  - Michael Kohlhase (Jacobs University Bremen)
  - Iadh Ounis (University of Glasgow)

#### Tentative Schedule

September, 2, 2013 NTCIR-11 kick-off meeting

November, 2013 Call for participation

February, 2014 Initial dataset and example topics release

May, 2014 Topic release

June, 2014 Result submission deadline

December, 2014 NTCIR-11

#### **PLEASE JOIN!**

## MedNLP-2

# MedNLP Task at NTCIR-11 Kick-off

**Eiji Aramaki** Kyoto University / JST PRESTO

Yoshinobu Kano JST PRESTO

Tomoko Ohkuma Fuji Xerox

Mizuki Morita The University of Tokyo

### **Current Medical NLP Situation**



#### Researchers

- have methods
- but no data

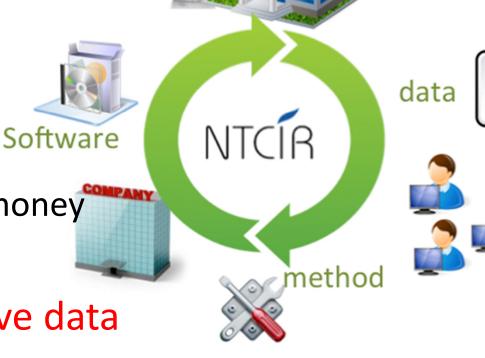


#### Companies

- have solution & money
- but no data

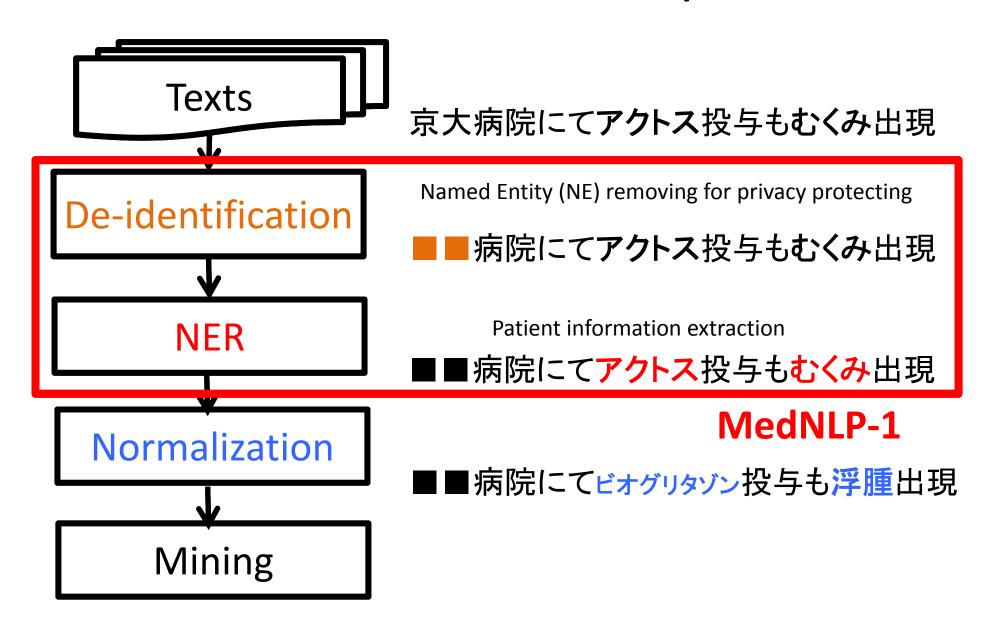


want to use it



MedNLP Task could create a win-win situation

## What kind of NLP is required?



#### What was MedNLP-1?

I think it was very successful

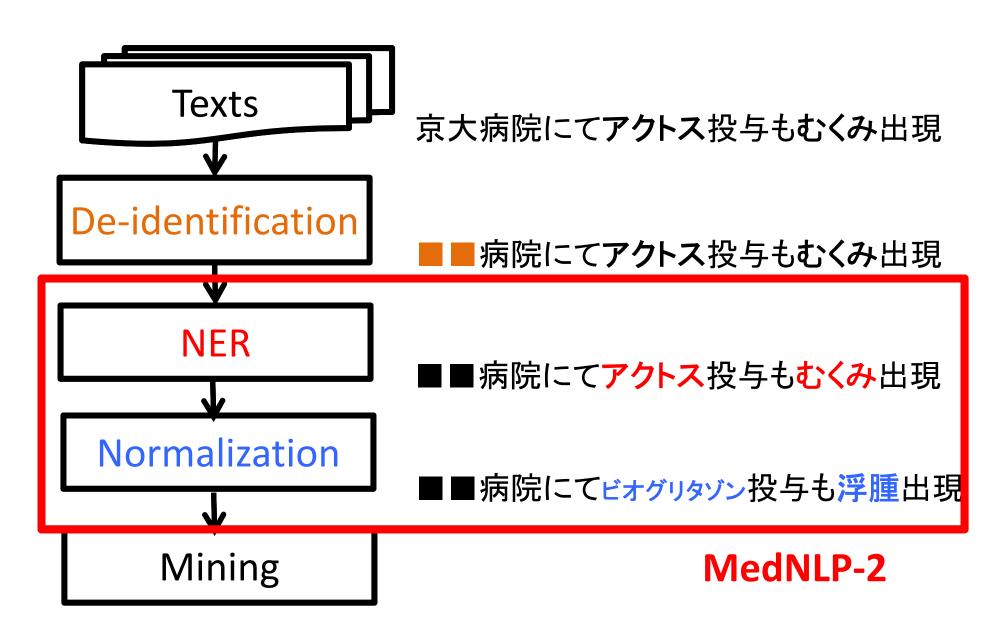
12 teams joined to MedNLP-1



 We will have an invited talk at CLEFeHealth 2013



#### What's Next?



#### Marchesani Syndrome

マルケサーニ症候群 マルケサニー症候群 マルケサニ症候群 マルケザニ症候群

ICD 10 = Q871

悪心増悪 胃のむかつき 悪心 (sickness) 食後悪心 唱気 (vomiting) 悪阻 (nausea)

ICD 10 = R16 悪心及び嘔吐 (sickness & vomiting)

MedDRA/J

## Corpus Example

```
icpc:A04
SITUATION icpc:R02
       息切れを自覚。14日午前3時頃に
      勿を嘔吐したため救急車を要請し,
 CATION
当院救急外来を受診。診察中に吐血したた
LOCATION
     icd: K922
     『消化管出血を疑い、精査加療目的に
 緊急入院。
 【既往歴】20代前半:交通事故(手術なし、
```

※ ICPC:症状のコード集, ICD:病名のコード集



## Thank you!

Mizuki Morita Yoshinobu Kano Tomoko Ohkuma Mai Miyabe Eiji Aramaki The University of Tokyo
JST PRESTO
Fuji Xerox
Kyoto University
Kyoto University / JST PRESTO

## Annotated Example <Task1> & <Task2>

工場に勤めている<a>64歳</a>の<x>男性</x>。<t>2025 年月8月2日(来院5日前)頃から</t><c>腹痛</c>が生じると ともに、<c>食欲不振</c>、<c>嘔気</c>・<c>嘔吐出現</ c>した。体幹は温かいが、末梢は<c>湿潤冷汗</c>で<c> ショック状態</c>。明らかな<c modality="negation"> 運動麻痺</c>はみられず。<t>翌日</t>, <c>意識障害出 現</c>し、<c>腎機能障害</c>の増悪を認めて徐々に<c> 尿量低下</c>し, <t>8月9日18時10分</t>に<c>心肺停止 </c>。<t>8月9日21時44分</t><c>死亡確認</c>。

## MobileClick



## NTCIR-11 MobileClick Task

Makoto P. Kato

Matthew Ekstrand-Abueg

Virgil Pavlu

Tetsuya Sakai

Takehiro Yamamoto

Mayu Iwata











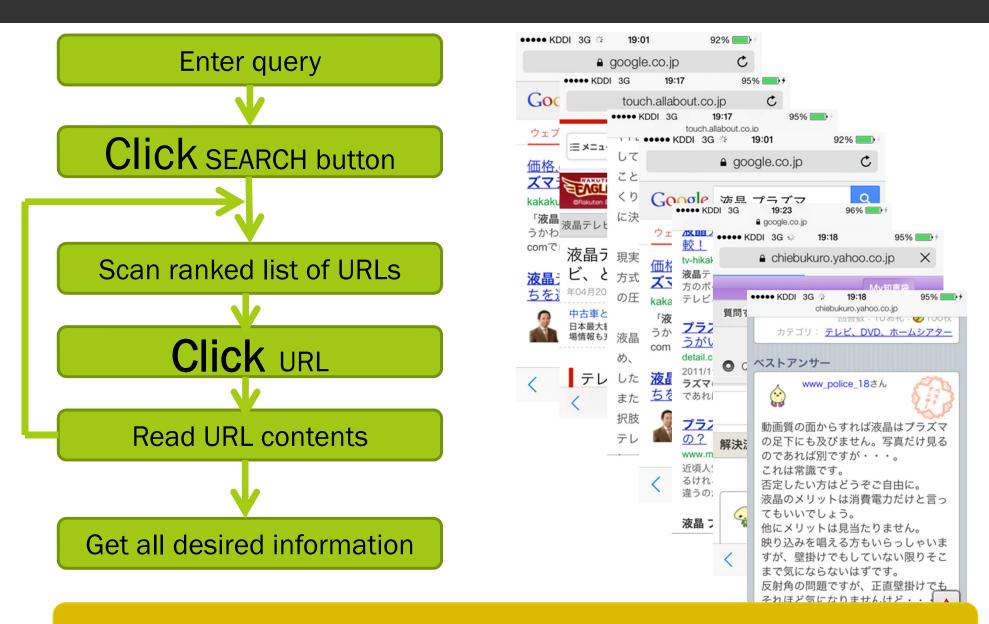


#### Suppose that ...

■ You are finding answers for a question "what's the difference between Organic EL and LCD?" in an electronics store



## IR Systems in *Ten-Blue-Link* Paradigm



Long way to get all desired information

### MobileClick System

Enter query Click SEARCH button Get all desired information

The system outputs *X-string* 



Task: Given a search query, return a structured textual output

Go beyond the "ten-blue-link" paradigm, and tackle information retrieval rather than document retrieval

## MobileClick

Immediate & Direct Mobile Information Access

#### What's New in MobileClick?

A New Challenge: Two-layered Summarization



- Two Subtasks for Easy Participations
  - iUnit Retrieval Subtask (Information Extraction)
  - iUnit Summarization Subtask (Summarization)

#### iUnit Retrieval Subtask

- Generate a list of *iUnits* ranked according to their importance for a given query
  - iUnits: information pieces relevant to a given query

Input: Query

OLED LCD difference





#### Output: List of iUnits

Rank	iUnit
1	LCD is lighter than OLED
2	OLED shows a better black color
3	OLED has a wider view angle
	•••

#### iUnit Summarization Subtask

■ For a given query (and a list of *iUnits*), generate a <u>two-layered</u> textual output

Input: Query

**OLED LCD difference** 



### Input: List of iUnits

Rank	iUnit
1	LCD is lighter than OLED
2	OLED shows a better black color
3	OLED has a wider view angle



# Output: Two-layered textual output

LCD is better in terms of the weight, size and energy saving, while OLED shows a better black color, a faster response speed, and a wider view angle.

Advantage of OLED dvantage of LCD

LED shows a better black color, a faster response speed, and a wider view angle.

LCD is better in terms of the weight, size and energy saving.

## Who Should Participate in MobileClick?

- Researchers who are interested in:
  - Information Extraction
    - Query-driven information extraction and ranking
  - Passage Retrieval
    - Finer-grained information pieces retrieval
  - Question Answering
    - Intent estimation and answer finding
  - Summarization
    - Generating structured summaries
- Teams that participated in:
  - Previous NTCIR 1CLICK tasks
    - MobileClick is an extension of the 1CLICK task
  - Previous NTCIR INTENT tasks
    - Two-layered output may be suitable for handling ambiguous and faceted queries

## **Tentative Schedule**

Aug 31, 13	First CFP, and Web page launch
Oct 31, 13	Sample queries and iUnits released
Mar 31, 14	Test queries released
Apr 30, 14	Run submissions due
Aug 15, 14	Evaluation results released
Dec 9-12, 2014	NTCIR-11

## Summary

- MobileClick Task (inherits 1CLICK Task)
  - iUnit Retrieval Subtask
  - iUnit Summarization Subtask
- New challenges
  - Ranking information pieces
  - Two-layered summarization
- MobileClick Homepage

http://www.dl.kuis.kyoto-u.ac.jp/ntcir-11/mobileclick/

# RITE-VAL

# Introduction to NTCIR-11 RITE-VAL Task (Recognizing Inference in Text and Validation)



Suguru
Matsuyoshi<sup>1</sup>

<sup>1</sup>University
of Yamanashi



Yotaro
Watanabe<sup>2</sup>

<sup>2</sup>Tohoku
University



Yusuke
Miyao<sup>3</sup>

National Institute
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Tomohide Shibata<sup>4</sup> <sup>4</sup>Kyoto University



Teruko
Mitamura<sup>5</sup>

<sup>5</sup>Carnegie Mellon
University



Chuan-Jie Lin<sup>6</sup>

<sup>6</sup>National Taiwan
Ocean University

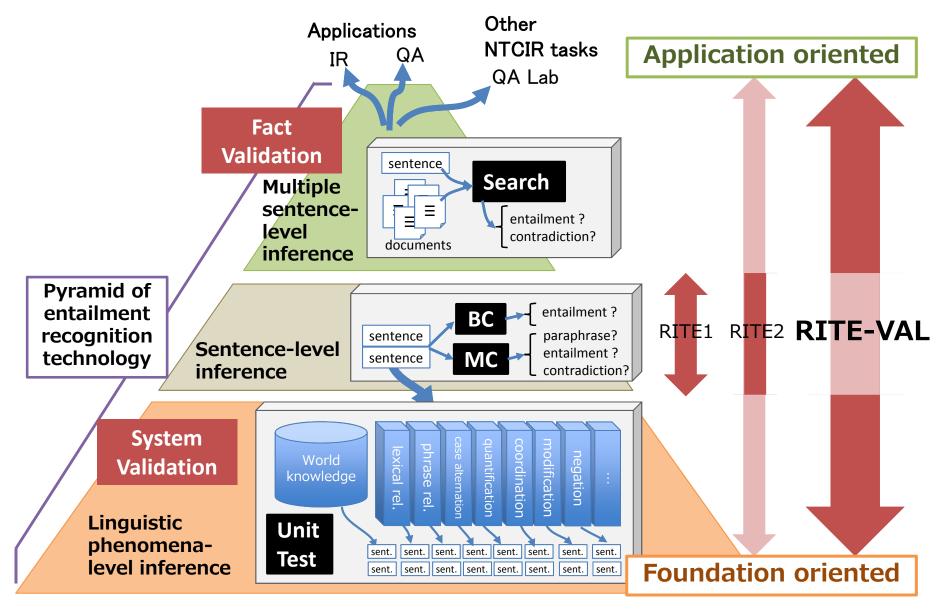
Cheng-Wei Shih<sup>7</sup>

<sup>7</sup>Academia
Sinica

# Overview of RITE-VAL

- RITE is a benchmark task for automatically <u>detecting</u> the following semantic relations between two sentences:
  - entailment, paraphrase and contradiction.
- Given a text t<sub>1</sub>, can a computer infer that a hypothesis t<sub>2</sub> is most likely true (i.e., t<sub>1</sub> entails t<sub>2</sub>)?
  - t<sub>1</sub>: Yasunari Kawabata won the Nobel Prize in Literature for his novel "Snow Country."
  - t<sub>2</sub>: Yasunari Kawabata is the writer of "Snow Country."
- Target languages:
  - Japanese, Simplified Chinese, Traditional Chinese, and English.

# RITE-VAL Subtasks

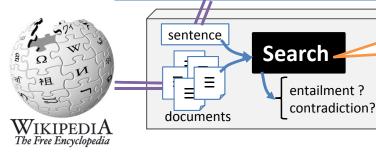


# Main two tasks of RITE-VAL



t<sub>2</sub>: The Kamakura Shogunate began in Japan in the 12<sup>th</sup> century.

Docs entail t<sub>2</sub>.

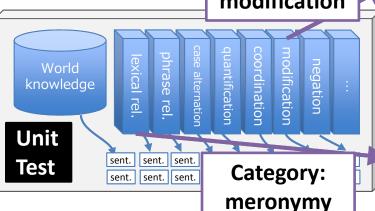


Search for <u>evidence</u> or <u>counter-evidence</u> for t<sub>2</sub>.

Docs contradict t<sub>2</sub>.



Category: modification



t<sub>1</sub>: In the Meiji Constitution, <u>legal clear distinction</u> between the Imperial Family and Japan had been allowed.

t<sub>2</sub>: In the Meiji Constitution, <u>distinction</u> between the Imperial Family and Japan had been allowed.

t<sub>1</sub>: In the Meiji Constitution, distinction between <u>the</u> Imperial Family and Japan had been allowed.

t<sub>2</sub>: In the Meiji Constitution, distinction between <u>the</u> <u>Emperor</u> and Japan had been allowed.

# Why you should participate

- Products from RITE-VAL can benefit various research fields in NLP (not limited to recognizing textual entailment!).
  - Core technologies: Semantic processing, Lexical knowledge acquisition, Machine learning, etc.
  - Applications: Information retrieval, Question answering, Document summarization, etc.
- We welcome a wide variety of participants from all over the world.
  - From undergraduate students to industry researchers.
  - Resource pool, which we have built since NTCIR-10 RITE-2, will help you make a prototype system quickly.
  - Adding a new resource or tool to the pool is welcomed.
- Website: <a href="https://sites.google.com/site/ntcir11riteval/">https://sites.google.com/site/ntcir11riteval/</a>

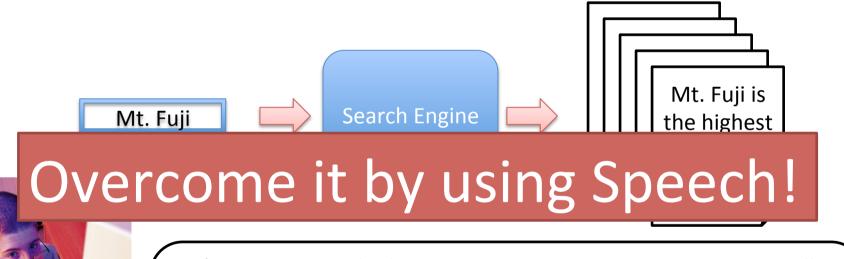
# SpokenQuery&Doc

# NTCIR-11 Core Task: Spoken Query and Spoken Document Retrieval (SpokenQuery&Doc)

Tomoyosi Akiba (Toyohashi University of Technology)
Hiromitsu Nishizaki (Yamanashi University)
Hiroaki Nanjo (Ryukoku University)
Gareth Jones (Dublin City University)

# Focus of SpokenQuery&Doc

 Information Retrieval by using "spontaneously spoken query" targeting "spoken documents".



I'm going to go climbing **Mt. Fuji** in next summer vacation. Well, I hear the accident um... I hear the news about the accident in the climbing. Well, someone has missed or someone lost one's way in the mountain. So I would like to know what should I prepare for climbing, what equipment, equipment is necessary. I would like to know what should I prepare when I go climbing.

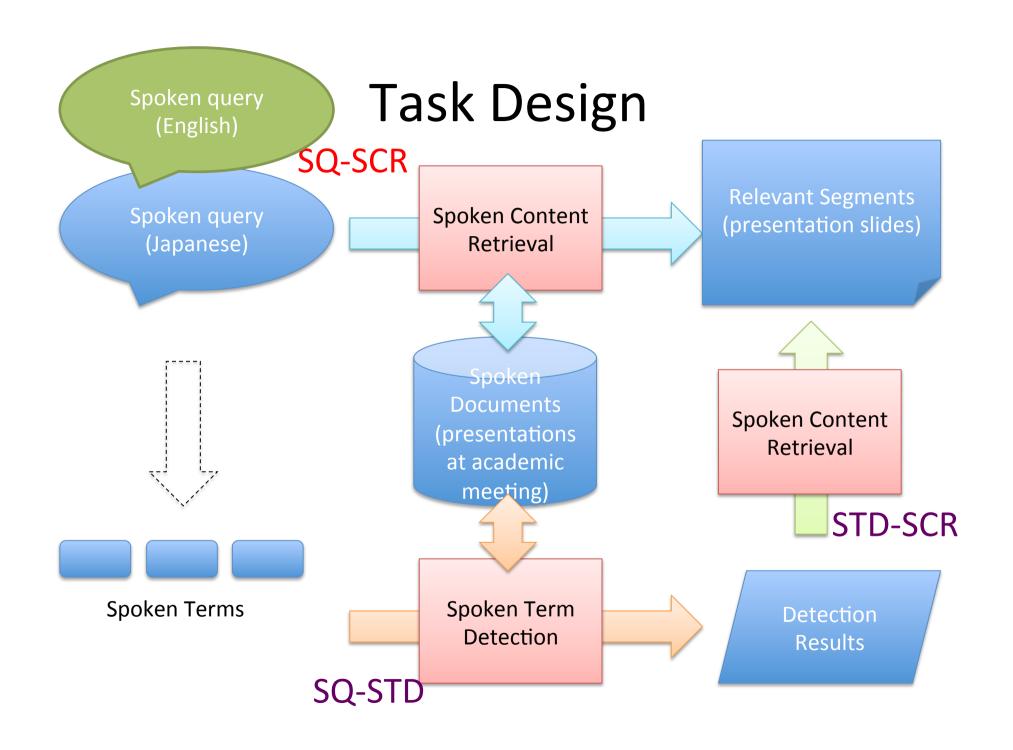
# Example of Spontaneously Spoken Query

今年の夏休み(summer vacation)に始めて山(mountain)に登山に行くことになったんですけれども。あの一登山は結構事故(accident-1)があの一やはり夏(summer)になるとよくニュース(new)で聞きますし、ま誰々が行方不明(go missing)になったとか遭難(accident-2)したとかそういう話が色々あると思うんですけれども。あの一山(mountain)に登る(climb)時にはどういった心構え(keep in mind)と言うか、あの一装備(equipment)こういう装備が必要だとかこういうものがあるといいよ、とかそういったあの一山登り(mountain climbing)に関しての、山(mountain)に登る(climb)時についての心構え(keep in mind)について知りたいです

- PROS: provides rich clues for retrieval.
- CONS: unclear, ambiguous, redundant, error-prone

# Challenges in SpokenQuery&Doc

- How to get benefit from spontaneously spoken queries?
  - Make use of long queries.
  - Disambiguation.
  - Improve ASR for spontaneous speech.
  - Development of specific IR techniques.
- Spoken document retrieval (continued)
  - Evaluate spoken term detection (STD) and spoken content retrieval (SCR) at the same time by using common (spoken) query topics.
  - Text queries are also provided (as in SpokenDoc-1 and 2.)



## Why participate in SpokenQuery&Doc

- Participants will be provided many resources for IR and spoken language processing research.
  - Real recordings of spontaneously spoken queries.
  - Real recordings of academic meeting lectures.
  - Their rich transcriptions.
    - manual.
    - automatic (with various conditions.)
    - alignment with presentation slides.
- IR and NLP researchers are also welcomed.
  - Easy to apply your existing techniques to provided text transcriptions of speech.
- Web site will be open soon.
  - http://www.nlp.cs.tut.ac.jp/ntcir11/

# **QA** Lab



# Proposal for NTCIR-11 Pilot task QA Lab



Madoka Ishioroshi (NII)

Kelly Itakura (U Waterloo)

Noriko Kando (NII)

Yoshinobu Kano (PRESTO/NII)

Teruko Mitamura (CMU/NII)

Eric Nyberg (CMU)

Hideyuki Shibuki (Yokohama National University)

**Advisor:** Tatsunori Mori (Yokohama National University)

NTCIR-11 Kickoff Event Sept. 2, 2013

Thanks Madoka for slides





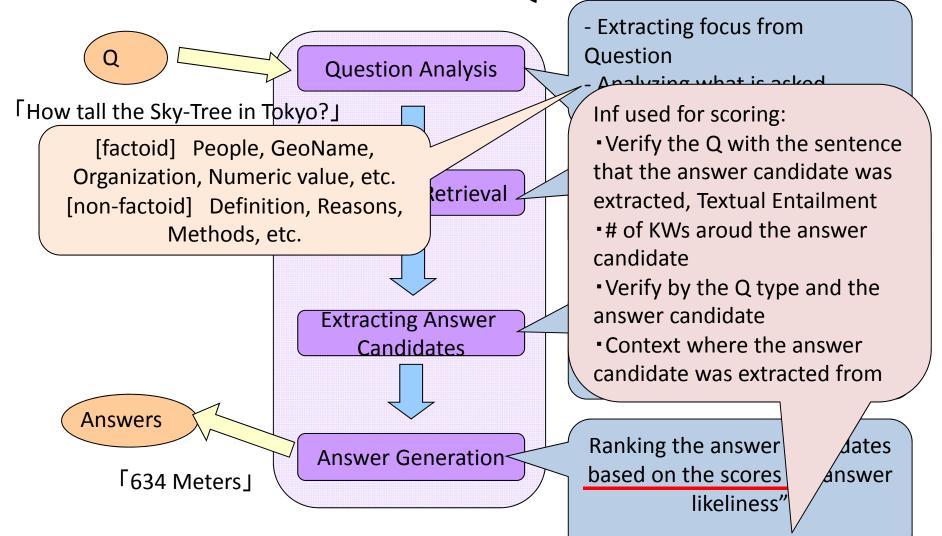
#### Main Idea

- Challenge for Real World Problem of QA
  - University Entrance Exams New Q-types not covered by existing QA systems. Q is not a single sentence. Need context (ntcir-11), inference (ntcir-12).
- Challenge for a new structure of evaluation Modulebased, building workable system as a joint effort of all the participants
  - QA is very complicated
  - Hard for a research group to be good on every components
  - Your module used and rated by other people
- Continuous Plan-Run-Analysis-Improve Cycle



# Background-1 Modules in a QA <u>System</u>







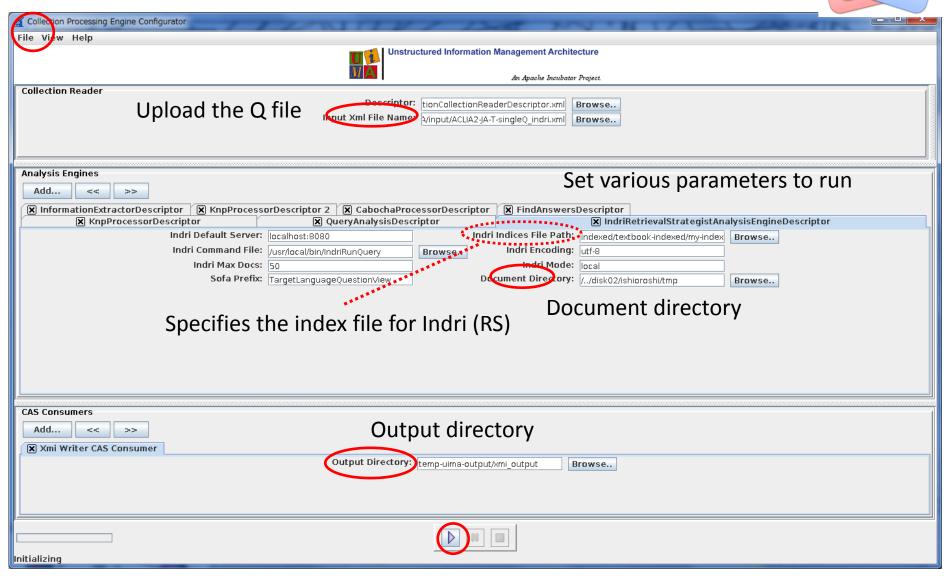
#### **Evaluation Method-1**



# Systems

- QA-Platform
  - UIMA-based Module-base QA system
  - Follows: ACLIA modules
    - Q analysis
    - IR
    - Answer Extraction
    - Answer Generation
  - 2 baseline systems for Japanese
    - Javelin (CMU)
    - MinerVA (YNU)
  - 1 baseline systems for English (CMU)
  - Systems are usable either
    - local (by Kachaco) or on NII Server "bunbun"

#### UIMA Native UI for QA Platform to run a pipeline



QA Lab



UI for the QA Platform to examine the results of each QA Lab module Mozilla Firefox File Edit View History Bookmarks Tools Help ▼ 🚱 🛂 🔻 Goog file:///home/ishioroshi/center-test/output-html/doc0.html ▼ Question Analysis 質問応答システム Results of each module ▶ TargetLanguageQuestionView 米軍基地は何処にありますか。 ▼ Retrieval Strategist Show the representative results for the first. To see more ▼ RS.1 JA-4 detailed results by click on the ▶ qa:Document bottun of "Expanding" ▶ Information Extractor Click to jump to the **Answer** module Candidates Answer Generator ▶ AG.1.2 日本 ▶ AG.1.3 沖糾



#### **Evaluation Method-2**



# Corpus

- Questions & Answers
  - Japanese National Center for University Admissions Tests (multiple choices)
    - → use as a Yes-No / TF Questions
    - XML, Japanese and English translation
  - Second Exam for the U of Tokyo and some others
    - → factoid & Complex Questions
    - Will be XML tagged
- Knowledge sources provided
  - High school Textbooks, Wikipedia
  - Ontology of World History
  - Ontology-annotated Textbook
- Tools
  - Wide-range of Language annotation tools
  - RITE resource and tools



#### **Evaluation Method-3**



#### Tasks

	Multiple Choice (Center Exam)			2nd Exam		2nd Exam	
	Japanese	English	English	Japanese	Japanese	English?	English?
NTCIR-11	World Hitory			Factoid		Factoid	
NTCIR-12	World Hitory		Biology, Politics & Economics	Factoid	Complex	Factoid	Complex

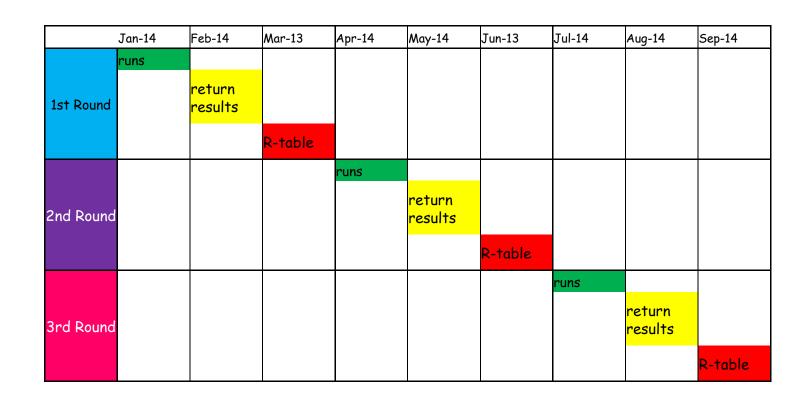
Evaluate QA end-to-end with Every Possible combination of the modules submitted so far and base systems



#### **Tentative Schedule:**



# Multiple Opportunities to Run



Submitted all rounds are not mandatory.

\* R-table = Round-table meeting





# Participant's merits

- Can participate in one phase or multiple phases (flexible participation)
- Can evaluate with Baseline or with other systems and to improve your system for the next phase
- Can see the effectiveness of your modules in various pipelines created by other teams or combination of other teams.



# Join Us!



# Temporalia

# Temporal Information Access (Temporalia)

# NTCIR-11 Pilot Task <a href="https://sites.google.com/site/ntcirtemporalia">https://sites.google.com/site/ntcirtemporalia</a>



Hideo Joho

(Univ. of Tsukuba)



Adam Jatowt

(Kyoto University)



Roi Blanco

(Yahoo! Research)

#### Motivation



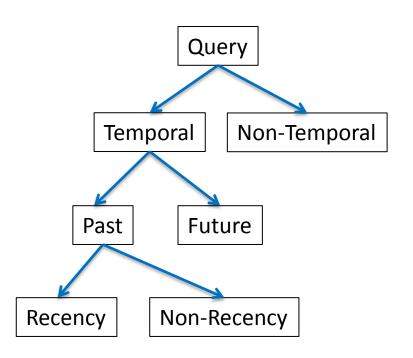
# Proposed Subtasks in NTCIR-11

- Temporal Query Intent Classification (TQIC)
  - For a given query, participants classify it to different temporal classes such as atemporal, recency, past, future, etc.
- Temporal Information Retrieval (TIR)
  - For a given topic, participants retrieve relevant documents for different kinds of temporal queries

Extension to temporal summarization, visualization, and other applications will be considered in NTCIR-12.

#### Subtasks

Temporal Query Intent
Classification (TQIC)



Temporal Information Retrieval (TIR)

Query

- 1. DocA
- 2. DocB
- 3. DocC
- 4. ...
- 5. ..

thematic + temporal relevance ranking

N. DocN

#### **Example Queries**

#### Recency Non-Temporal dollar yen rate how to tie a necktie san francisco weather pitgoras theorem calgary flood news facebook Past dollar yen rate Temporal top comedies 2000s Non-Recency calgary flood news watergate story watergate story dollar yen rate top comedies 2000s olympics 2016 why hitler did not attack switzerland Future google glass release date

olympics 2016

opening of new train line

Queries will possibly be collected from real search query logs

#### SubTasks Data

- Temporal Query Intent Classification (TQIC)
  - query strings (100 for training/dry run, 100 for formal run)
  - query issuing times
- Temporal Information Retrieval (TIR)
  - 50 topic descriptions (title, description, narrative, query issuing time)
  - qrels (relevant document list)

#### **Document Collection**

- LivingKnowledge Corpus (150GB compressed)
  - Crawl time: April 2011 and March 2013
  - Source: Annotated News Feeds
  - Size: 20G uncompressed (>5G zipped)
    - 3.8M documents from 1500 different blogs and news sources
- Provided annotations: Time Annotations, Named Entities and Sentence Splitting

ClueWeb Corpora: ClueWeb09 (5TB, Jan-Feb 2009), ClueWeb12 (5.5 TB, Feb- May 2012) will be considered in NTCIR-12.

#### Example Document

```
<?xml version="1.0" encoding="UTF-8"?>
<doc id=20111004040101 5171>
<meta-info>
   <tag name="host">latimesblogs.latimes.com</tag>
   <tag name="date">2011-10-04</tag>
   <tag name="url">
   http://latimesblogs.latimes.com/the_big_picture/2011/09/the-new-oscar-rule-book-can-the-academy-really-curtail-awards-season-excess.html?utm_source=feedburner&
   utm_medium=feed&utm_campaign=Feed&3A+PatrickGoldstein+&28L.A.+Times+-+Patrick+Goldstein&29</tag>
   <tag name="sourcerss">http://feeds.latimes.com/PatrickGoldstein/</tag>
   <tag name="title">New Oscar rules: Can the Academy curtail awards season excess?</tag>
   <tag name="source-encoding">UTF-8</tag>
   <tag name="rsscategory">Patrick Goldstein</tag>
</meta-info>
<text><SE>KE type="E:ORGANIZATION:CORPORATION">New Oscar</E> rules: Can the <E type="E:ORGANIZATION:GOVERNMENT">Academy</E> curtail awards <E type="T:DATE:DATE:DATE">
season</E> excess?</SE>
<SE>The <E type="T:DATE:DATE:DATE">Oscar silly season has officially begun.
<SE>That's the only way to look at the new <E type="E:FAC:BUILDING">Motion Picture Academy</E> rules governing how <E type="E:ORG DESC:CORPORATION">studios</E> and
 <SE>Being a sports <E type="E:PER DESC">fan</E>, <E type="E:ORGANIZATION:CORPORATION">I've</E> always thought that it was impossible for any <E type=</pre>
 "E:ORG DESC:OTHER">Organization</E> to have more arcane rules than the <E type="E:ORGANIZATION:OTHER">NCAA</E>, but the <E type="E:ORG DESC:EDUCATIONAL">academy</E>
has easily topped that <E type="E:PER DESC">body</E>.</SE>
 <SE>Its new regulations are intended to stop <E type="E:ORGANIZATION:CORPORATION">Oscar-season</E> <E type="E:ORG DESC:CORPORATION">excess</E>, but many believe
 they could easily lead to more over-the-top campaigning than ever. </se>
 <SE>When it comes to excess, nothing can really top an <E type="E:PERSON">Oscar</E> <E type="E:ORG DESC:CORPORATION">shindig</E> like the <E type="N:CARDINAL">one
 </E> <E type="E:ORGANIZATION:CORPORATION">Arianna Huffington</E> threw <T val="201102">last February</T> at her <E type="E:FAC DESC:BUILDING">house</E> for <E type=
 "E:ORGANIZATION:CORPORATION">Harvey Weinstein's "The King's Speech</E>," which featured not just the A-list <E type="E:PER DESC">cast</E> and <E type="E:PER DESC">
 filmmakers</E> from the movie, but real <E type="E:NORP:NATIONALITY">British</E> <E type="E:PER DESC">royalty</E>, notably <E type="E:PERSON">Earl Charles Spencer
</E>, <E type="E:PER DESC">brother</E> of the late <E type="E:PER DESC">Princess</E> <E type="E:PERSON">Diana</E>.</SE>
 <SE>The <E type="E:ORG DESC:POLITICAL">party</E> generated <E type="N:QUANTITY:WEIGHT">tons</E> of <E type="E:PER DESC">pers</E> and publicity, and was clearly
designed to create buzz for the film, which ended up winning the <E type="E:PERSON">Oscar</E> for best picture.</SE>
 <SE>According to the new rules, a similar <E type="E:ORG DESC:POLITICAL">party</E> <T val="2011">this year</T> could offer <E type="N:MONEY">just as much</E> pomp
and circumstance, <E type="T:TIME">just as long</E> as it happened <E type="T:DATE:DATE">two weeks earlier</E>, before the nominations were announced.</SE>
 <SE>Because <E type="E:ORGANIZATION:CORPORATION">"The King's Speech"</E> was already the <E type="E:PER DESC">favorite</E> to win best picture even before the
nominations, it seems clear that the <E type="E:ORG DESC:POLITICAL">party</E> would have had <E type="N:MONEY">just as</E> much impact if it had been held in <T val=
 "201101">mid-January</T> instead of <T val="201102">early February</T>.</SE>
```

#### **Performance Metrics**

- Thematic relevance
  - Graded relevance (highly relevant, relevant, partially relevant and not relevant)
- Temporal relevance
- Some function to integrate them, similarly as in:
  - GeoCLEF (Spatial relevance + Thematic relevance)
  - INEX (Structural relevance + Thematic relevance)

#### **Draft Schedule**

Sep 02, 2013	NTCIR-11 Kick-off Event
Dec 20, 2013	Task Registration Due
Jan 05, 2014	Document collection release
Jan 05, 2014	Training data for dry run release
Mar 30, 2014	Testing data for formal run release
Jun 30, 2014	Formal run submission due
Aug 1, 2014	Evaluation results release
Aug 1, 2014	Early overview draft release
Sep 1, 2014	Participant papers due
Nov 1, 2014	All camera-ready copy due
Dec 09-12, 2014	NTCIR-11 Conference

# Thank you! tc4fia@googlegroups.com

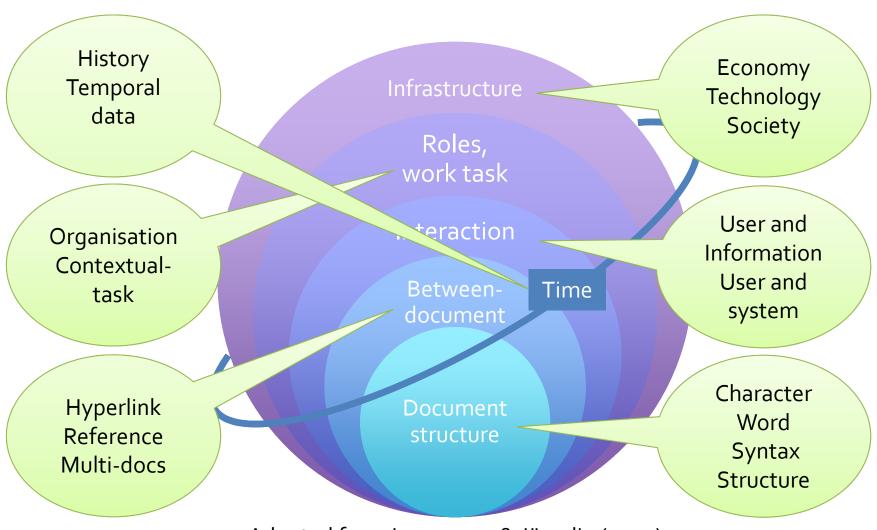
#### References

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   Experience. TempWeb 2013 Workshop @ WWW 2013
- A. Jatowt, C. M. Au Yeung and K. Tanaka. Estimating Document Focus Time.
   CIKM 2013
- R. Blanco, H. Halpin, D. M. Herzig, P. Mika, J. Pound, H. S. Thompson, D. T.
   *Tran: Repeatable and reliable search system evaluation using crowdsourcing*.
   SIGIR 2011
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   Searching Through Time in the New York Times, HCIR 2010

## NTCIR-11 Task Map

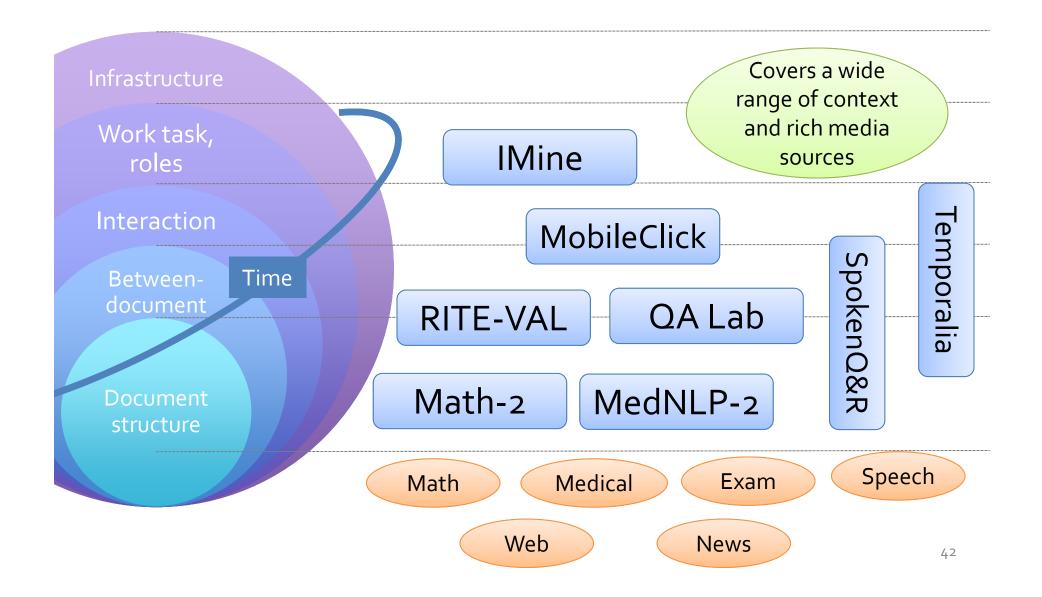
Summary

#### Context of Information Access

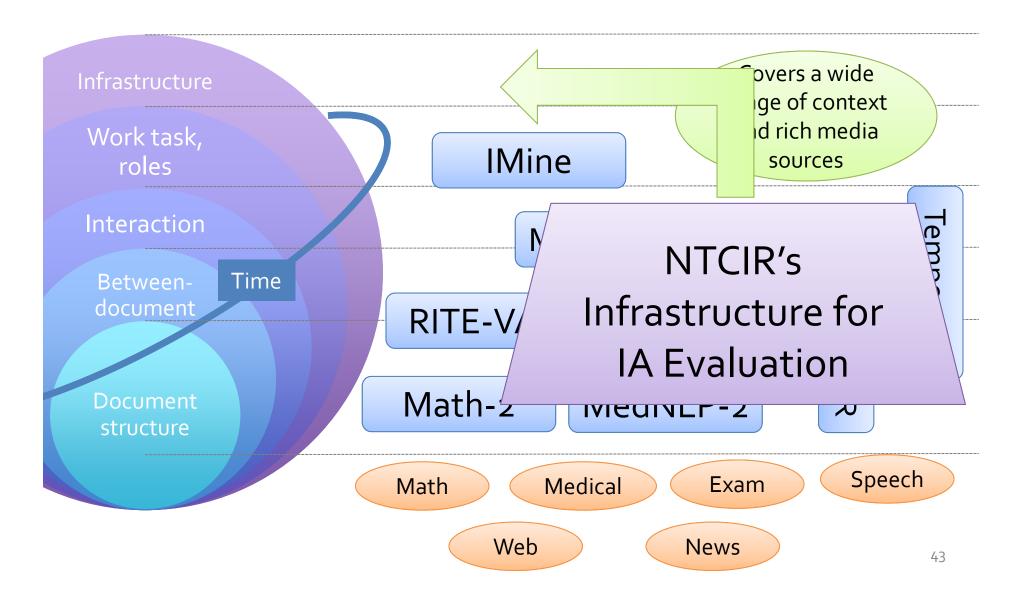


Adapted from Ingwersen & Järvelin (2005)

#### NTCIR-11 Tasks



## NTCIR's Long-Term View



## Why participate?

Case for students and industry

## Why participate? (Students)

- Perfect schedule
  - Task: Jan-Aug 2014
  - Writing: Sep-Nov 2014
  - Presentation: Dec 2014
- Easy start-up
  - Much of experimental setup is provided
  - Performance measures are (often) defined

- Publications
  - Comparison with other participants can produce stronger arguments
  - Inspired by the international community for future work
- Diverse tasks
  - Range of Information access tasks to tackle

## Why participate? (Industry)

- Establish your brand
  - To your end-users and competitors
  - Recruit smart people
- Fair benchmarking
  - Comparison with your own products can be less reproducible
  - Critical self-assessments

- Faster development
  - Brush up your product or eliminating bugs in a limited period of time
- Early access to resulted resources
  - Secondary resources developed by the task are yours, too

## How to participate

Simple six steps

#### How to participate

- Read the task description and CFP carefully
- 2. Contact a TO if you have questions
- Decide a task to participate
- 4. Register as a participant at NTCIR website

- 5. Fill in User Agreement Forms
- 6. Keep an eye on a task's ML, website, etc. to follow the activity

Don't hesitate to send a feedback to TO

## Reminder for participants

#### Participant's agreement

- Submit a paper to NTCIR-11 Conference
  - Demonstrate your systems and methods
  - Failure analysis is strongly encouraged
- Attend to the conference and give a presentation
  - Every group will give a poster presentation
  - Some will give an oral presentation, too

## Group ID policy

- Group ID is independent of participating tasks
  - Please use the same Group ID if the group members are identical, even if your group participates in multiple tasks
  - Please use a different Group ID if the group members are different across participating tasks
- Group ID is first come first serve manner
  - NTCIR office might ask you to revise the name

## Important Dates

For your diary

## Important Dates

Sep 02, 2013	Kick-off event in Tokyo	
Dec 20, 2013	Task registration due	
Jan 05, 2014	Document set release	Contact TO for the exact
Jan – May, 2014	Dry run	
Mar – Jul, 2014	Formal run	schedule
Aug 01, 2014	Evaluation results due	
Aug 01, 2014	Task overview partial release	
Sep 01, 2014	Participant paper submission due	
Nov 01, 2014	All camera-ready copy for the Proceedings due	
Dec 9-12, 2014	NTCIR-11 Conference, NII, Tokyo, Japan	

#### Wrap-up

- The eleventh cycle of NTCIR has started
  - Will conclude in Dec 2014
- Eight exciting tasks are running
  - Organised by leading researchers worldwide
- Lots of opportunities for innovative work
  - Exchange great ideas with the community
- What's missing is your participation!



http://research.nii.ac.jp/ntcir/ntcir-11/

#### Thank you for your attention!

For further enquiries, contact the NTCIR office ntc-secretariat@nii.ac.jp

**Q & A**