Welcome!

Twitter: #ntcir9
Ust: ntcir-9-kick

NTCIR-9 Kick-Off Event

2010.10.05

日本語セッション: 13:30-

English Session: 15:30-

Program

- About NTCIR
- About NTCIR-9
- Accepted Tasks
- Why participate?
- How to participate
- Important Dates
- Q & A

About NTCIR

NTCIR: NII Testbeds and Community for Information access Research

Research Infrastructure for Evaluating IA

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, and forum

Project started in late 1997

- Once every 18 months

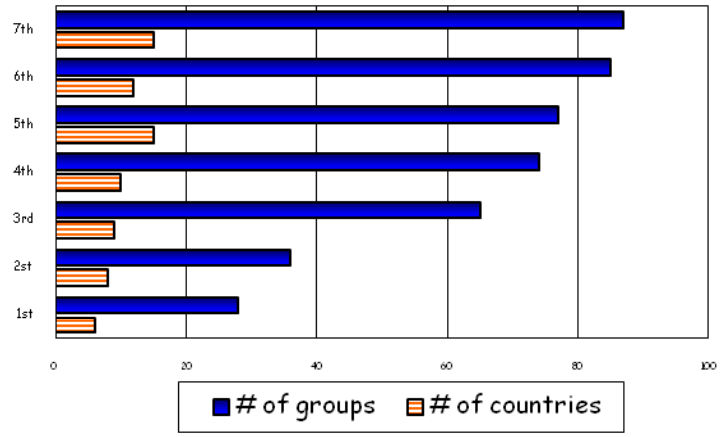
Data sets (Test collections or TCs)

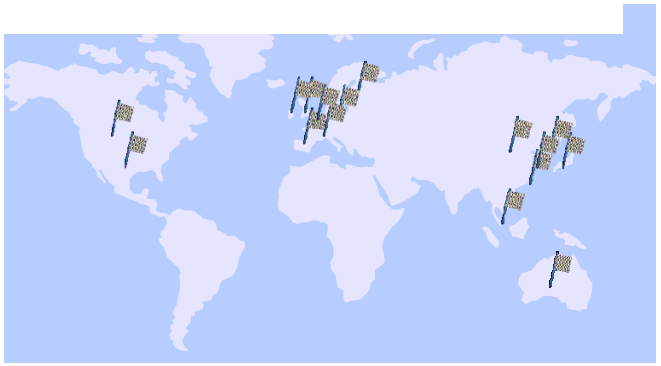
- Scientific, news, patents, and web
- Chinese, Korean, Japanese, and English

Tasks (Research Areas)

- IR: Cross-lingual tasks, patents, web, Geo
- QA：Monolingual tasks, cross-lingual tasks
- Summarization, trend info., patent maps
- Opinion analysis, text mining

Community-based Research Activities





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

Tasks at Past NTCIRs

NTCIR	1	2	3	4	5	6	7	8	
	'99	'01	'02	'04	'05	'07	'08	'09-	
User Generated Contents								■	Community QA
						■	■	■	Opinion Analysis
Module-Based							■	■	Cross-Lingual QA + IR
IR for Focused Domain								■	Geo Temporal
			■	■	■	■	□		Patent
Question Answering						■	■	■	Complex/ Any Types
				■	■				Dialog
					■	■	■	■	Cross-Lingual
			■	■	■	■			Factoid, List
Summarization / Consolidation				■	■	■	■	■	Text Mining / Classification
					■	■	■		Trend Info Visualization
		■	■	■					Text Summarization
Web			■	■	■				Web
Crosslingual Retrieval							■	■	Statistical MT
	■	■	■	■	■	■	■	■	Cross-Lingual IR
	■	■	■	■	■	■	■	■	Non-English Search
Text Retrieval	■	■	■	■	■	■	■	■	Ad Hoc IR, IR for QA
The Years the meetings were held. The tasks started 18 months before									

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
- Workshop Meeting Discussion for the Next Round

NTCIR

NTCIR: Workshop Meeting

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

8

NTCIR-7 & -8 Program Committee

Mark Sanderson, Doug Oard, Atsushi Fujii, Tatsunori Mori,
Fred Gey, Noriko Kando
(and Ellen Voorhees, Sung Hyun Myaeng, Hsin-Hsi Chen,
Tetsuya Sakai)

NTCIR

NTCIR Test Collections

Test Collections = Docs + Topics/Questions + Answers

	Ad Hoc/ CLIR [Scientific Abstracts] (日本語・英語検索)	Chinese IR (中国語検索)	CLIR [News] (言語横断検索)	CLQA (言語横断・質問応答)	MuST (「動向情報の要約と可視化」)	OPINION (意見分析)	PATENT (特許検索・分類)		QAC (質問応答)	TMREC (同語検出)	TSC (要約)	WEB
			ACLIA (高度言語横断情報アクセス)			MOAT (多言語意見分析)	PATMN (特許マイニング)	PATMT (特許翻訳)				
NTCIR-1	NTCIR-1 Ad Hoc/ CLIR	-	-	-	-	-	-		-	NTCIR-1 TMREC	-	-
NTCIR-2	NTCIR-2 Ad Hoc/ CLIR	CIRB010	-	-	-	-	-		-	-	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-6	-	-	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-7	NTCIR-7	NTCIR-7	NTCIR-7	-	-	-	-

Available to Non-participants for Research Purpose

Focus of NTCIR

Lab-type IR Test

Asian Languages/cross-language

Variety of Genre

Parallel/comparable Corpus

New Challenges

Intersection of IR + NLP

To make information in the documents more usable for users!

Realistic eval/user task

Interactive/Exploratory search

QA types at topic crea

Forum for Researchers and Other Experts/users

Idea Exchange

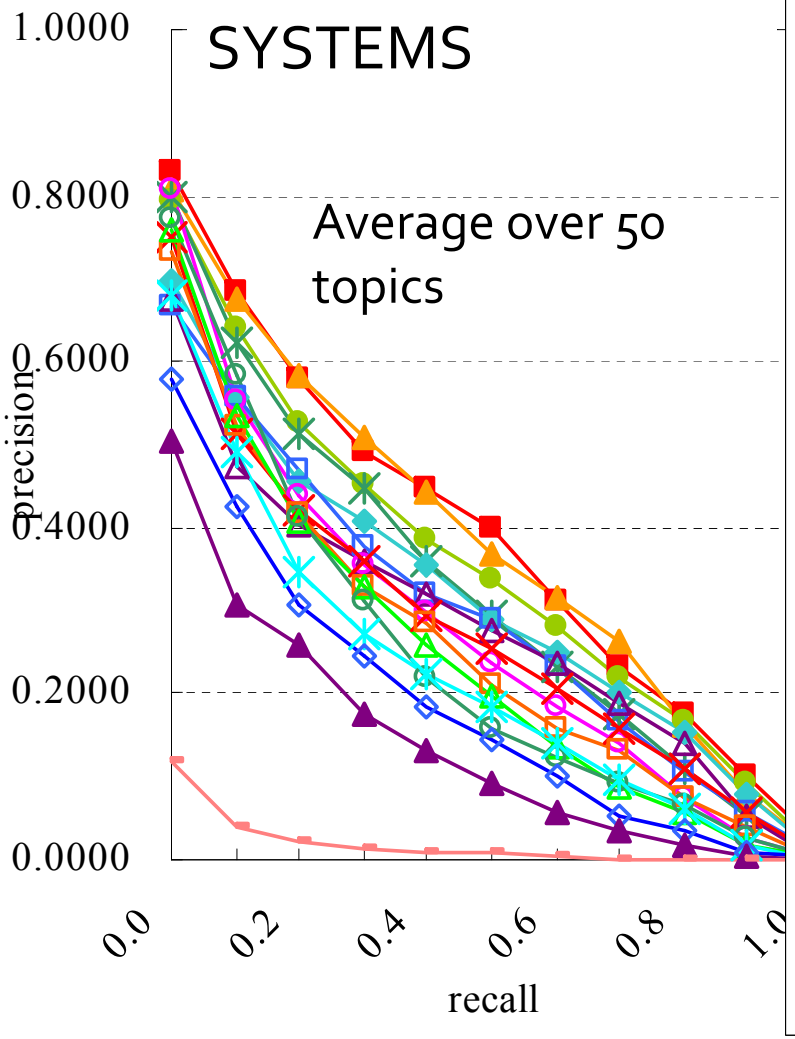
Discussion/Investigation on Evaluation methods/metrics

IR Systems Evaluation

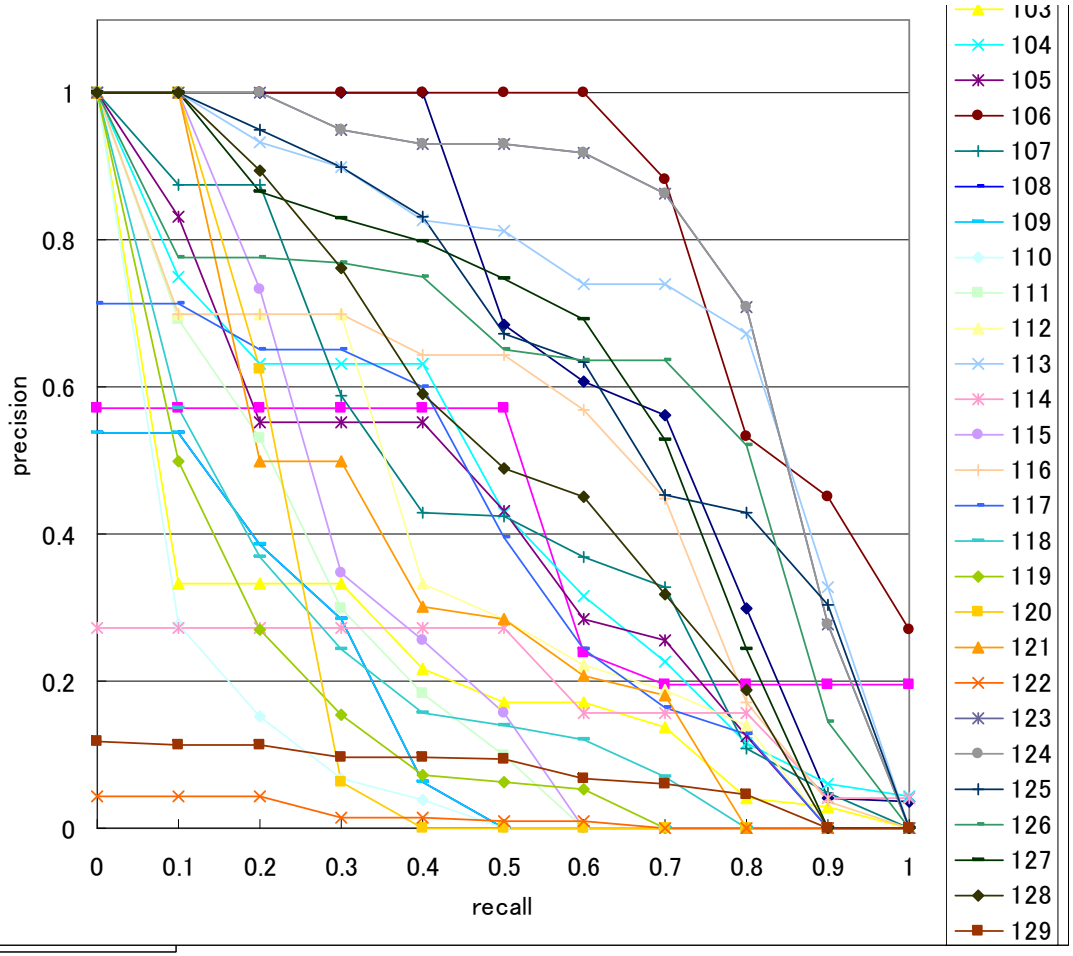
- Engineering Level: Efficiency
- Input Level: ex. Exhaustivity, quality, novelty of DB
- **Process Level: Effectiveness ex. recall, precision**
- Output Level: Display of output
- User Level: ex. Effort that users need
- Social Level: ex. Importance (Cleverdon & Keen 1966)

Difficulty of retrieval varies with topics

Effectiveness across SYSTEMS



Effectiveness across TOPICS on system

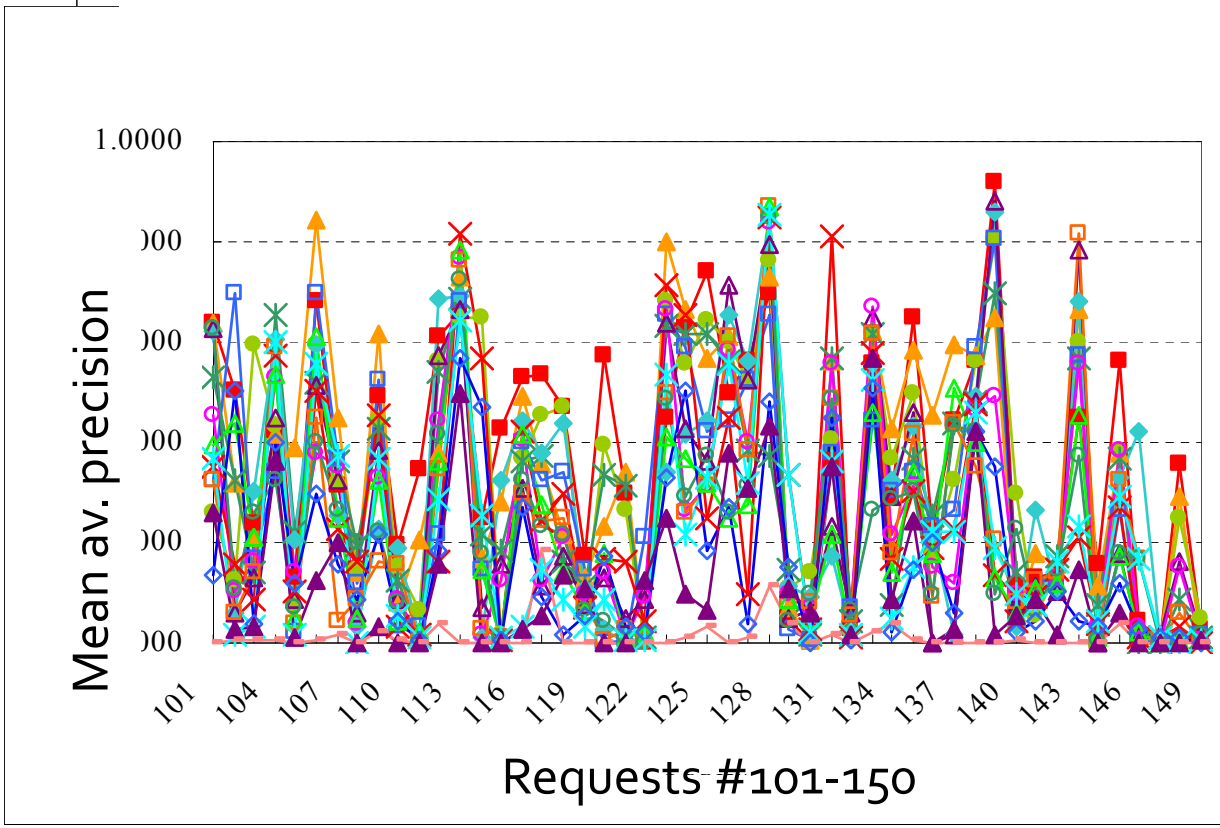


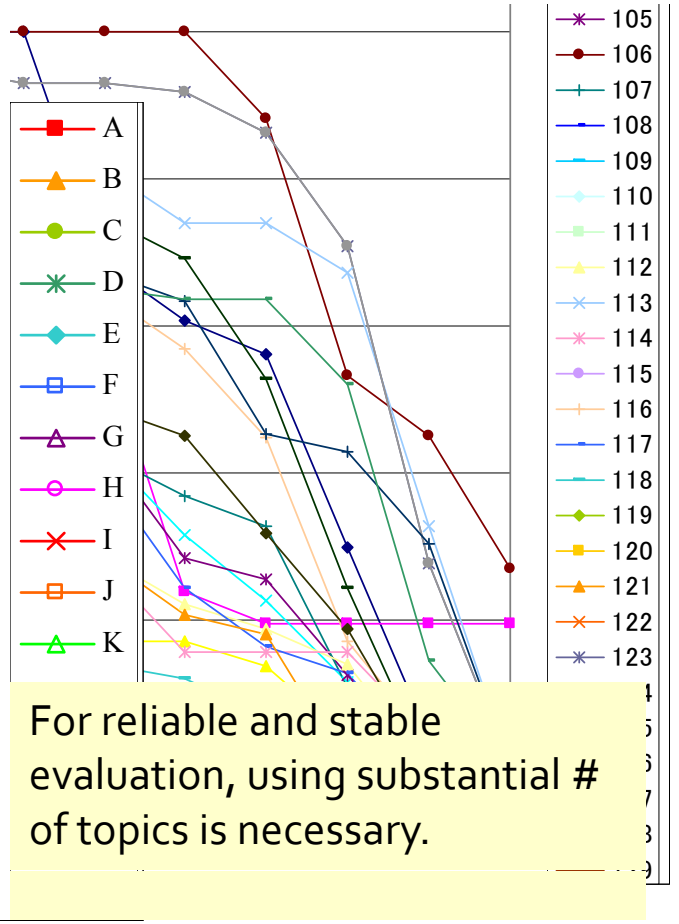
Difficulty of retrieval varies with topics

Effectiveness across SYSTEMS

Effectiveness across TOPICS on system

"Difficult topics" vary with systems

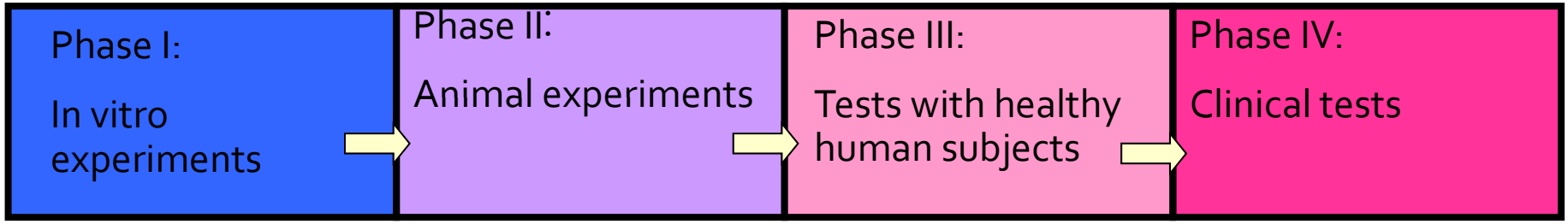




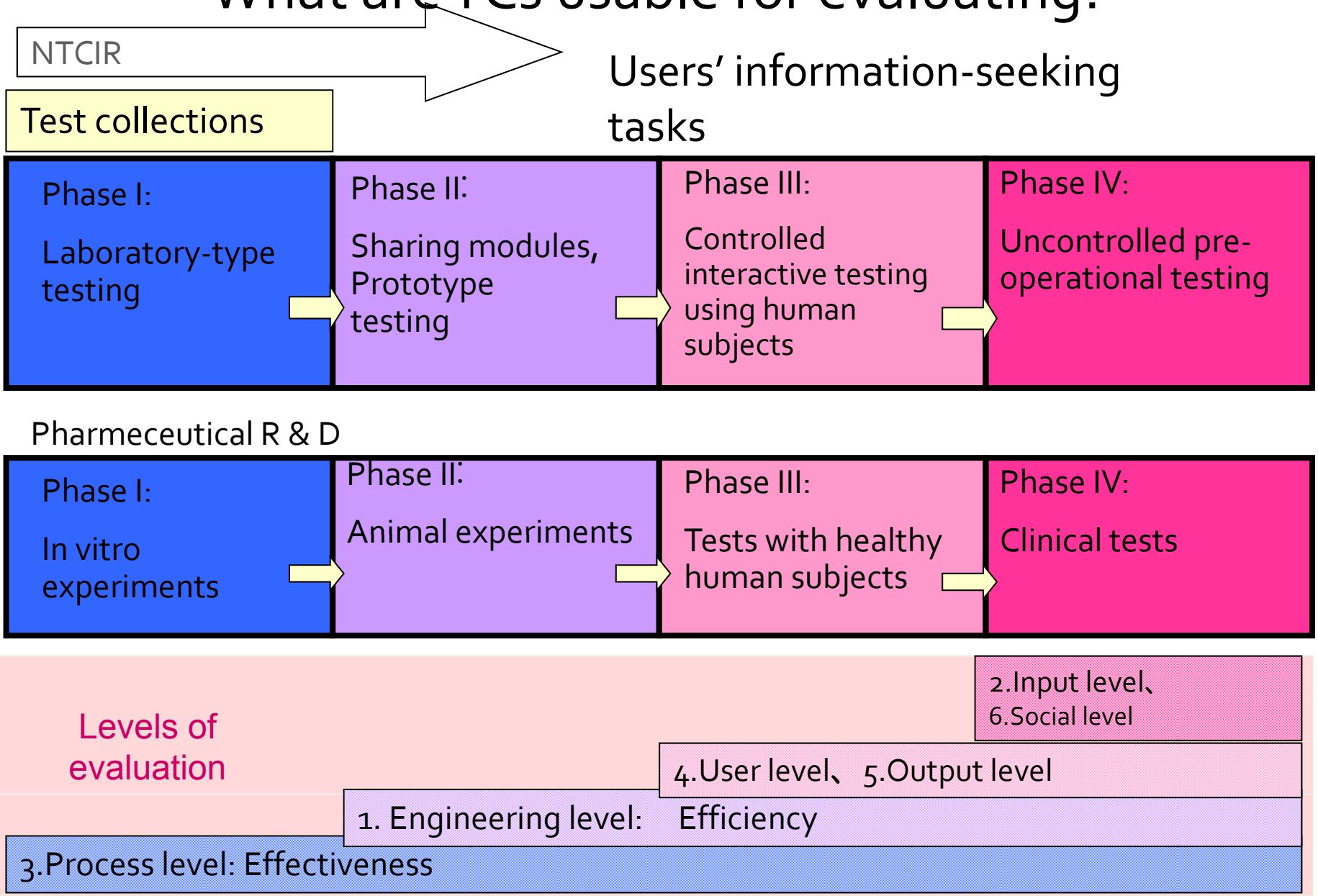
For reliable and stable evaluation, using substantial # of topics is necessary.

What are TCs usable for evaluating?

Pharmeceutical R & D



What are TCs usable for evaluating?



- 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 "contorable"

- Testing & Bench marking

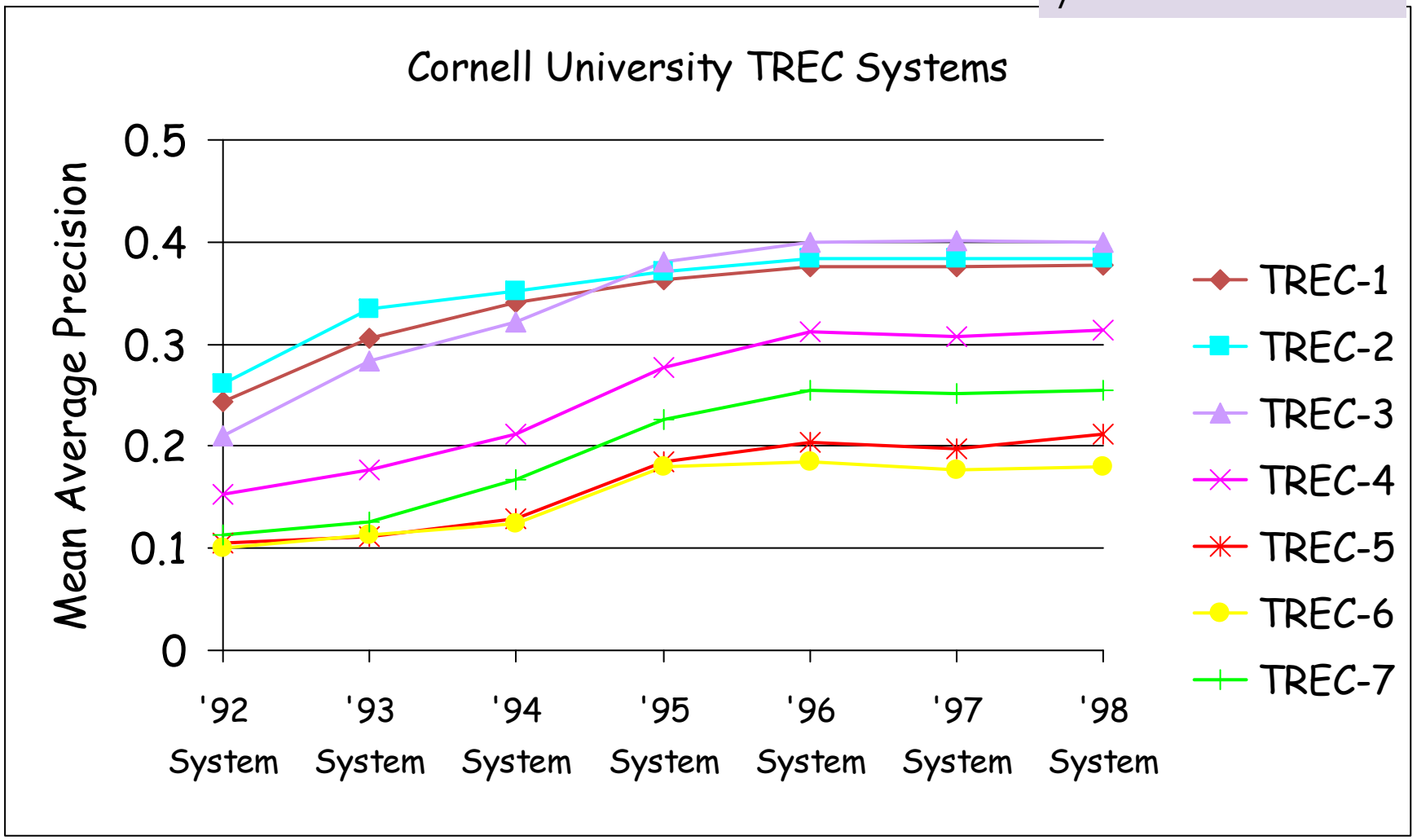
  To learn how and why the system works better (worse) than others

  To learn how it can be improved

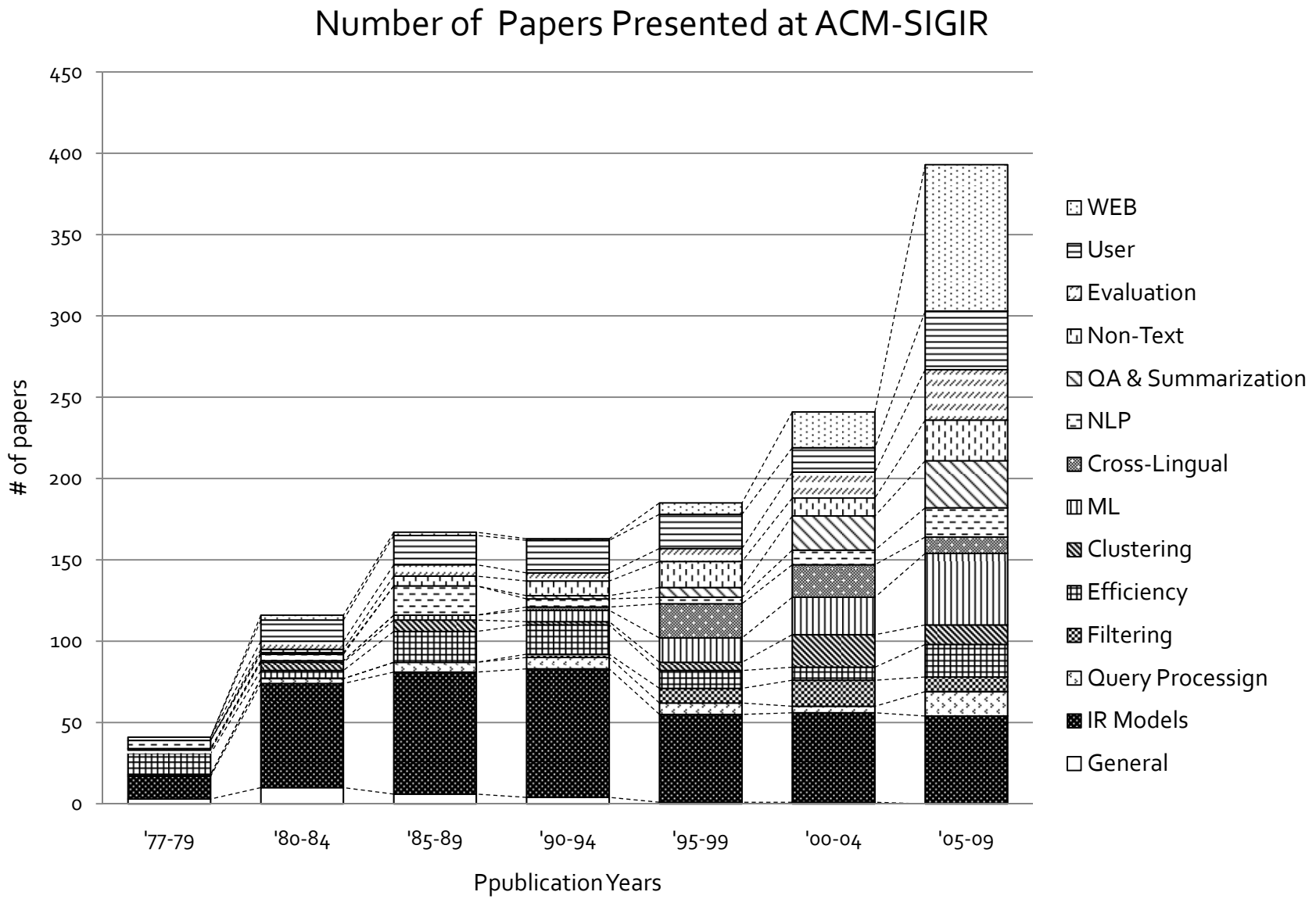
  Scientific Understanding of the effectiveness

Improvement of Effectiveness by Evaluation Workshops

1.5 – 2 times in 3 years



Research Trends



NTCIR

Some Thoughts on Future

- Requirements for Evaluating Individual Applications
  - Ex. Enterprise search, Federated Search, etc.
- Interactive and Exploratory Information Access
  - Users' Intention, Diversity
  - Collaborative Search
  - Expert Search, Search for Expertise and Knowledge, Inference, etc.
- Answer "No"
- Using Ontology, Metadata
- Multilingual, Cross-Lingual

etc.

About NTCIR-9

What's new?

NTCIR-9: Objectives

- Solid foundation
  - New structure
- 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-9 Meeting

NTCIR-9: Structure

- General Co-Chairs
  - Noriko Kando (NII)
  - Tsuneaki Kato (Tokyo University)
  - Eiichiro Sumita (NICT)
- Evaluation Co-Chairs
  - Hideo Joho (Tsukuba University)
  - Tetsuya Sakai (MSRA)
- Task Organisers
  - 31 researchers worldwide
  - Participants (You!)
- EVIA Co-Chairs
  - Mark Sanderson (RMIT)
  - William Webber (Melbourne University)

NTCIR-9: Development so far

Jun 2010	New structure formed for NTCIR-9
July 2010	Call for task proposal announced and 10 proposals were submitted
Aug 2010	7 proposals were accepted by the task selection committee and Evaluation co-chairs
Sep 2010	Calls for task participation prepared
Oct 2010	NTCIR-9 Kick-Off Event

NTCIR-9 Evaluation Tasks

Calls for task participation

Tasks accepted for NTCIR-9

CORE TASKS

- [Intent] Intent (with One-Click Access)
- [RITE] Recognizing Inference in Text
- [GeoTime] Geotemporal information retrieval
- [SpokenDoc] IR for Spoken Documents

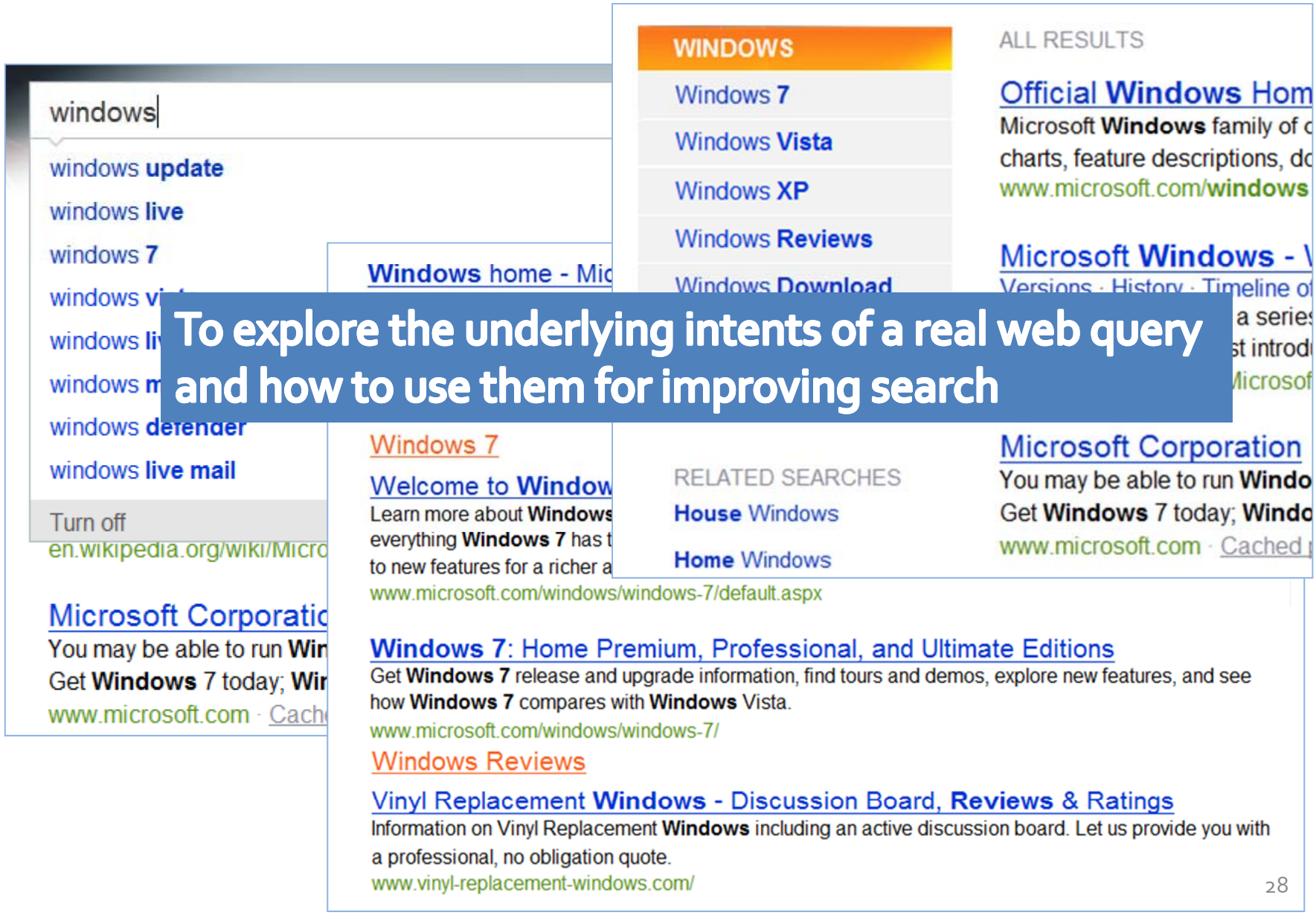
PILOT TASKS

- [CrossLink] Cross-lingual Link Discovery
- [Vis-Ex] Interactive Visual Exploration
- [PatentMT] Patent Machine Translation

Intent + One-Click Access

Calls for task participation

NTCIR-9 Intent Task



Subtasks

- Subtopic Mining [Chinese and Japanese]
  - Given a real web query, participating systems mine possible intents from web collections and query logs
    - A one-month click-through log is available for Chinese

    QUERY: Harry Potter

    INTENTS: Books? Movies? Character?...
  - Submitted intent lists will be evaluated in terms of coverage and novelty; each intent will be weighted by votes from many assessors
- Ranking [Chinese and Japanese]
  - Participating systems selectively diversify search results
  - Search results will be evaluated by diversity metrics using key intents obtained from Subtopic Mining

Subtasks (cont.)

- One Click Access ("1CLICK") [Japanese]
  - Current search engines

  User (1) enters query (2) clicks on Search button

  (3) scans ranked list (4) clicks on URL that looks relevant

  (5) reads the page (6) finds the answer
  - One Click Access (for desktop and mobile):

  User (1) enters query

  (2) clicks on Search button

  (3) finds the answer
  - Zero Click Access

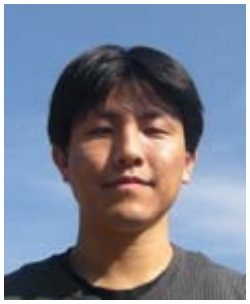
  User (1) finds the answer

  without clicking on Search!

Introduction to NTCIR-9 RITE Task

(Recognizing Inference in TExt)






Hideki Shima[1]

Teruko Mitamura[1]

Hiroshi Kanayama[2]

Koichi Takeda[2]

Chuan-Jie Lin[3]

Cheng-Wei Lee[4]

[1]Carnegie Mellon University

[2]IBM Research - Tokyo

[3]National Taiwan Ocean University

[4]Academia Sinica

NTCIR-9 Kick-Off Event

October 5th, 2010

RITE
Recognizing Inference in TExt@NTCIR9

Overview of RITE

RITE is a benchmark task (not a competition!) for automatically detecting entailment, paraphrase, and contradiction in text.

Given t_1, can a computer infer that t_2 is most likely true?

- t_1: Yasunari Kawabata won the Nobel Prize in Literature for his novel "Snow Country"
- t_2: Yasunari Kawabata is the writer of "Snow Country"

(Target languages: Japanese, Simplified Chinese, Traditional Chinese)

Three Subtasks in RITE

Binary-class subtask

- Given a text pair <t_1 ,t_2>, your system will detect whether t_1 entails a hypothesis t_2 or not

Multi-class (5-way) subtask

- Given a text pair <t_1 ,t_2>, your system detects whether t_1 and t_2
  - has entailment relation: $t_1 \rightarrow t_2$ / $t_1 \leftarrow t_2$ / $t_1 \leftrightarrow t_2$
  - does not have entailment relation: contradiction / independence

RITE4QA subtask

- Same input and output as the binary-class subtask
- Evaluated in an extrinsic way
  - Evaluation method: design the dataset/metric as if a system is an answer-filtering module in a Question Answering system.
  - Data: t_2 is a question converted to affirmative statement with a wh-word replaced with an answer candidate. t_1 is a sentence/paragraph containing the answer candidate.

Why you should participate

In addition to researchers in entailment and paraphrase, various research fields can benefit from RITE:

- Core technologies: Semantic processing, Lexical acquisition, Machine learning, …
- Applications: Information retrieval, Question answering, Summarization, …

We try hard to welcome wide variety of participations – from undergraduate students to industry researchers, from all over the world.

- Resource pool will be available to help you build a prototype system quickly or participate in collaboration by sharing useful resource with others.
- Mailing list is available for receiving important announcements and joining the task design discussion

Website: http://artigas.lti.cs.cmu.edu/rite

GeoTime

Calls for task participation

GeoTime2 (E, J, K?)

Organisers: Fred Gey, Ray Larson (UCB), Noriko Kando (NII),

- Second round of ad hoc IR for WHEN and WHERE
- GeoTime1 topic: *How old was Max Schmeling when he died, and where did he die?*

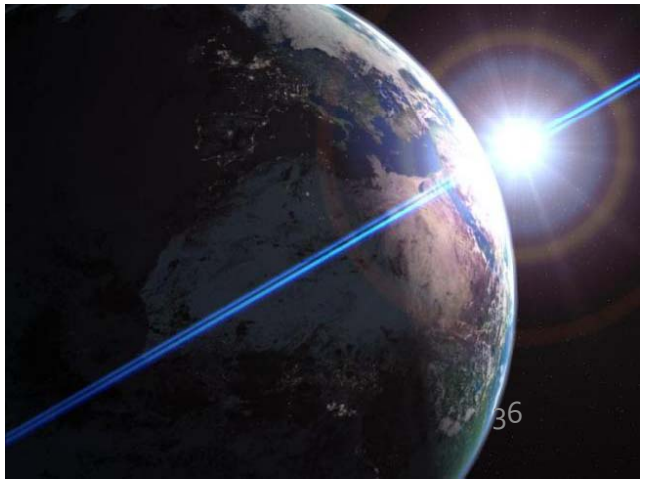
At GeoTime1, docs that contain both WHEN and WHERE were treated as relevant;

Those that contain only WHEN or only WHERE info were treated as partially relevant.

Can we do better?

Can we create more realistic

GeoTime topics?



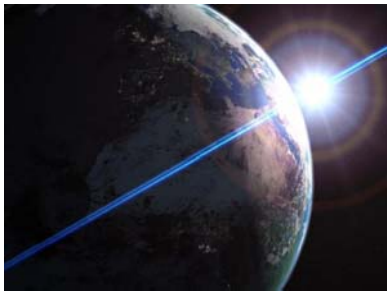
GeoTime2: Some ideas to make the task more challenging (under discussion):

Search New Information

all topics including timestamps to indicate the query period. Search new information on a topic since some start date (up to the query time).

Time Reasoning

- Relative expression such as “yesterday”, “last week”, “after”, etc.



Geo Reference

- Geo Tagging: Annotating geographical names
- Geo Coding: Coding geographical points by codes – geographical reasoning such as “near”, “part of” feasible

Test Collection

- News Papers
  - English: New York Times (2002-2005) from LDC
  - Japanese: Mainichi News Papers (2002-2005)
  - Newspapers from Korea (2002-2005) (?)
- Topics 25 +?
- Topic creation and Relevance Judgments will be done by the participants

NTCIR-9 Core Task

IR for Spoken Documents (SpokenDoc)

Tomoyosi Akiba (Toyohashi University of Technology)
Hiromitsu Nishizaki (Yamanashi University)
Kiyoaki Aikawa (Tokyo University of Technology)
Tatsuya Kawahara (Kyoto University)
Tomoko Matsui (The Institute of Statistical Mathematics)

Spoken Document Processing WG, SIG-SLP,IPSJ

Background

- Current IR methods assume clean target documents, i.e. text without errors.
- However, the real-world documents are noisy!
  - UGC with typos and specific usage of terms.
  - Text data obtained by automatic processing like OCR or MT.
  - Speech data (spoken documents), e.g. podcasts, broadcast news clips, spoken lectures, etc.
  - …
- Require methodologies to deal with those noisy documents for IR.

Our Focus

Task Overview

- Target Documents
  - 2702 lectures in Corpus of Spontaneous Japanese (CSJ), 628hrs.
- Subtasks
  - Task1: Spoken Term Detection
    - Find the occurrences of the given queried term.
  - Task2: Spoken Document Retrieval
    - Find the passages including the relevant information related to a given query topic.
- We are going to provide the reference speech recognition results (N-best or lattice representation) so that those who are interested in SDR but not in ASR can participate our tasks.

Merits of the Participation

- Organizing groups (IPSJ SIG-SLP SDP working group) have already released 2 test collections.
  1. CSJ STD test collection [Itoh et al., 2010]
     - 250 query terms in total.
  2. CSJ SDR test collection [Akiba et al., 2009]
     - 39 query topics asking for passages in lectures.
     - Relevance Judgment has been conducted manually (maybe imperfect).
- Task Participants can get the extended and refined version of those test collections.
  - More query terms and query topics
  - Pooling based relevance judgment
  - New evaluation metrics (including time and space efficiency, document-level and passage-level relevancy)
- Visit our Web site for more information
  - *http://www.nlp.cs.tut.ac.jp/~sdpwg/index.php?ntcir9*

Cross-Lingual Link Discovery

Calls for task participation

Why Cross-Lingual Link Discovery?

維基百科
自由的百科全書

首页
分類索引
特色内容
新闻动态
最近更改
随机条目
帮助
帮助
社区入口
方针与指引
互助客栈
询问处
字词转换
IRC即时聊天
联系我们
关于维基百科
资助维基百科
工具
其他語言
粵語

香港十元紙幣

维基百科，自由的百科全书

example

cross-lingual link discovery

十元紙幣，現時流通的香港紙幣之一，面額為10港元，現時是港幣裡最小面值額的紙幣。目前只由香港金融管理局發行。由於最大發鈔銀行—香港上海滙豐銀行的10元紙幣長期以來都是以綠色為主調，所以香港民間俗稱「青蟹」。香港金融管理局發行的10元紙幣也被引申稱為「花蟹」。以鈔票編號計算，10元紙幣是兩間發鈔銀行當時所發行的鈔票中數量最多的。

but not linked yet in the text for the crabs

目录 [隐藏]
1 歷史
2 其他名詞
3 現時一般流通的十元紙幣
3.1 花蟹（紙製）
3.2 膠蟹（塑膠製）

歷史

10元紙幣早在19世紀中已由當時的3間主要發鈔銀行—香港上海滙理銀行（即後來的滙豐銀行）、印度新金山中國渣打銀行（即後來的渣打銀行）、印度倫敦中國三處匯理銀行（即後來的有利銀行）發行。而另一規模較

Language link here, but there is no language link to a page in languages other than Chinese

Hong Kong Monetary Authority

From Wikipedia, the free encyclopedia

The **Hong Kong Monetary Authority** (Chinese: 香港金融管理局) (authority founded on 1 April 1993 via the consolidation of "*Office* the Financial Secretary.[1]

香港金融管理局

维基百科，自由的百科全书

香港金融管理局（簡稱**金管局**；英語：**H**
理，擔當類似中央銀行的角色，直接向財政
香港金融管理局於1993年4月1日成立，由

mono-lingual link discovery

Actually, there is a page about "**花蟹**" in English

link these two pages with each other

WIKIPEDIA
The Free Encyclopedia

Main page
Contents
Featured content
Current events
Random article
Interaction
About Wikipedia
Community portal
Recent changes
Contact Wikipedia
Donate to Wikipedia
Help
Toolbox
Print/export

But there is no language link here to the equivalent page in Chinese

Hong Kong ten-dollar note

From Wikipedia, the free encyclopedia

The 10 dollar banknote was first produced in the 1868 by the Hong Kong and Shanghai Banking Corporation with the formal adoption of a currency system just for Hong Kong. There have been various issued by banks which were phased out with the introduction of the ten dollar coin in 1994. Due to demand the banknote was reissued in 2002 in paper form, this was changed to polymer in 2007 as a trial of this product.

External links [edit]

Ten Dollars (Hong Kong)	
Value:	10 Hong Kong dollars
Width:	134 mm
Height:	66 mm
Security Features:	Window, Watermark
Paper Type:	Cotton and Polymer
Years of Printing:	2002-03, 2005 and 2007
Obverse	

Design:

1.Trying to search what is "**花蟹**" on Wikipedia, and maybe the "**花蟹**" articles in other languages.

2. Wikipedia brings you the "**香港十元紙幣**(Hong Kong ten-dollar note)" not the "flower crab".

3. What about the actual crab? Where can we find the English page about**花蟹**?

4. What link discovery can do?

Cross-lingual Link Discovery Task in NTCIR-9

- Cross-lingual link discovery (CLLD) is a way of automatically finding potential links between isolated documents in different languages.
- Task goal: to create a reusable resource for evaluating automated cross language link discovery approaches. The results of this research will be used in building and refining systems for automated link discovery.

We Need Cross-Lingual Link Discovery

- Not just for Wikipedia and not just for wiki.
- Cross language link discovery can allow us to discover documents on web or on a digital library in languages which we either are more familiar with, or which have a richer set of documents than in our language of choice.

logos of various Wiki software

FACT:
•There are at least 83 popular Wikis in the world serving people from different language background for different needs.
•There are at least 44 wiki-style documentation management software and their forks to help numerous projects or corporations to manage knowledge.
(source from Wikipedia)

VisEx

Interactive Visual Exploration Task

Organized by

Tsuneaki Kato

The University of Tokyo

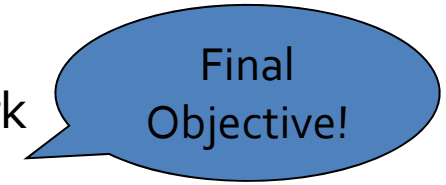
Mitsunori Matsushita

Kansai University

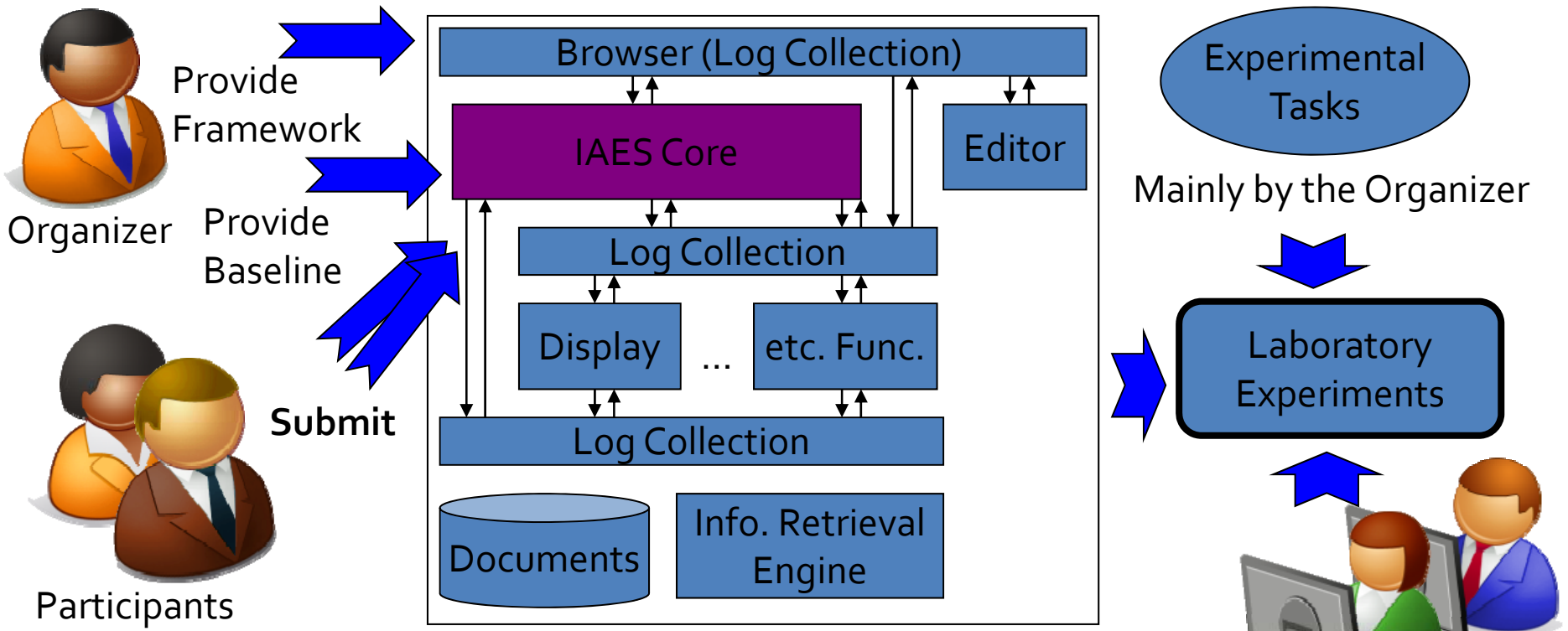
What is VisEx

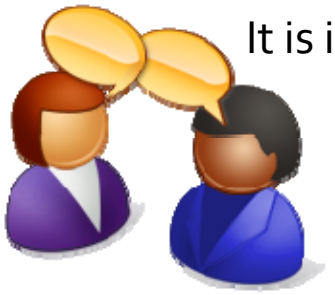
- A pilot task for establishing an evaluation framework of explorative information access environments
- Participants submit their proposing Information Access Environment Systems (IAESs)
  - which should be able to be embedded in a common framework
  - which shoud be able to hundle given experimental tasks
- Submitted IAESs are evaluated in laboratory experiments with human subjects for gathering subjective and objective data
- Reports are requested, that explain the experimental results in terms of the process primives and process model of subimitted IAEs

An efficient and effective evaluation framework
A model of explorative information access



Task Outline





It is important to discuss the followings through the WS

- I/F between an IAES core and the framework
- Taxonomy of process primitives
- Detailed design of the laboratory experiments

Experimental Tasks

- Event Collection Task
  - Uses the event-list questions in the NTCIR-7 ACLIA Task
    - Please tell me about incidents where NATO has recognized cases of friendly fire.
    - Please tell me about airplane crashes that have happened in Asia.
  - Requests subejcts to gather nuggets (event characteristics such as its time and place) as many as possible in a given time period
- Trend Summarization Task
  - Is on summarization of the trend (not only changes but also those background and influence) of time-series statisitcal information such as the subjects of NTCIR-5,6,7 MuST
    - Please tell me a summary of the states of the cabinet approval rating from 1998 to 1999.
  - Requests subjects to gather nuggets as many as possible in a given time period, which are primitive information that constitute a requested summary

Info.

- Schedule
  - End of Oct. 2010 Participation Registration (First) Due
  - End of Dec. 2010 IAE I/F description Release
  - Latter part of Mar. 2011
    IAE Framework and Baseline IAE Core Release
  - Latter part of Jul. 2011 Laboratory Experiments
  - Latter part of Aug. 2011 Experiment Results Release
- Contacts
  - Tsuneaki Kato kato@boz.c.u-tokyo.ac.jp
  - Mitsunori Matsushita mat@res.kutc.kansai-u.ac.jp
- Home Page
  - http://must.c.u-tokyo.ac.jp/visex

Patent Machine Translation task (PatentMT)

Call for task participation

Background

- **Patent** information is **important** information in society **worldwide**
- There is a **large need for translation** **to access patent information** written in foreign languages and to apply for patents in foreign countries
- We have organized patent machine translation tasks **to address this significant practical need**

Outline

- Participants machine translate patent sentences

New

Subtasks	Parallel data
Chinese to English	**1 million** sentence pairs
Japanese to English	**3 million** sentence pairs
English to Japanese	

Test data: 2,000 sentences

Data type: patent **description**

- Participants select subtasks in which they want to participate
- **Human evaluations** for MT quality will be carried out

Primary evaluation

Why is it so exciting to participate in?

- **Patents** are one of the **challenging domains** for MT
  - Patent sentences could be quite **long** and contain **complex structures**
- Participants will receive **reliable evaluation** for their MT quality
  - **Human evaluations** will be carried out
- Participants can use **large-scale patent parallel and monolingual corpora**
- Participants can choose subtasks from three language directions, including **the popular language direction of Chinese to English**

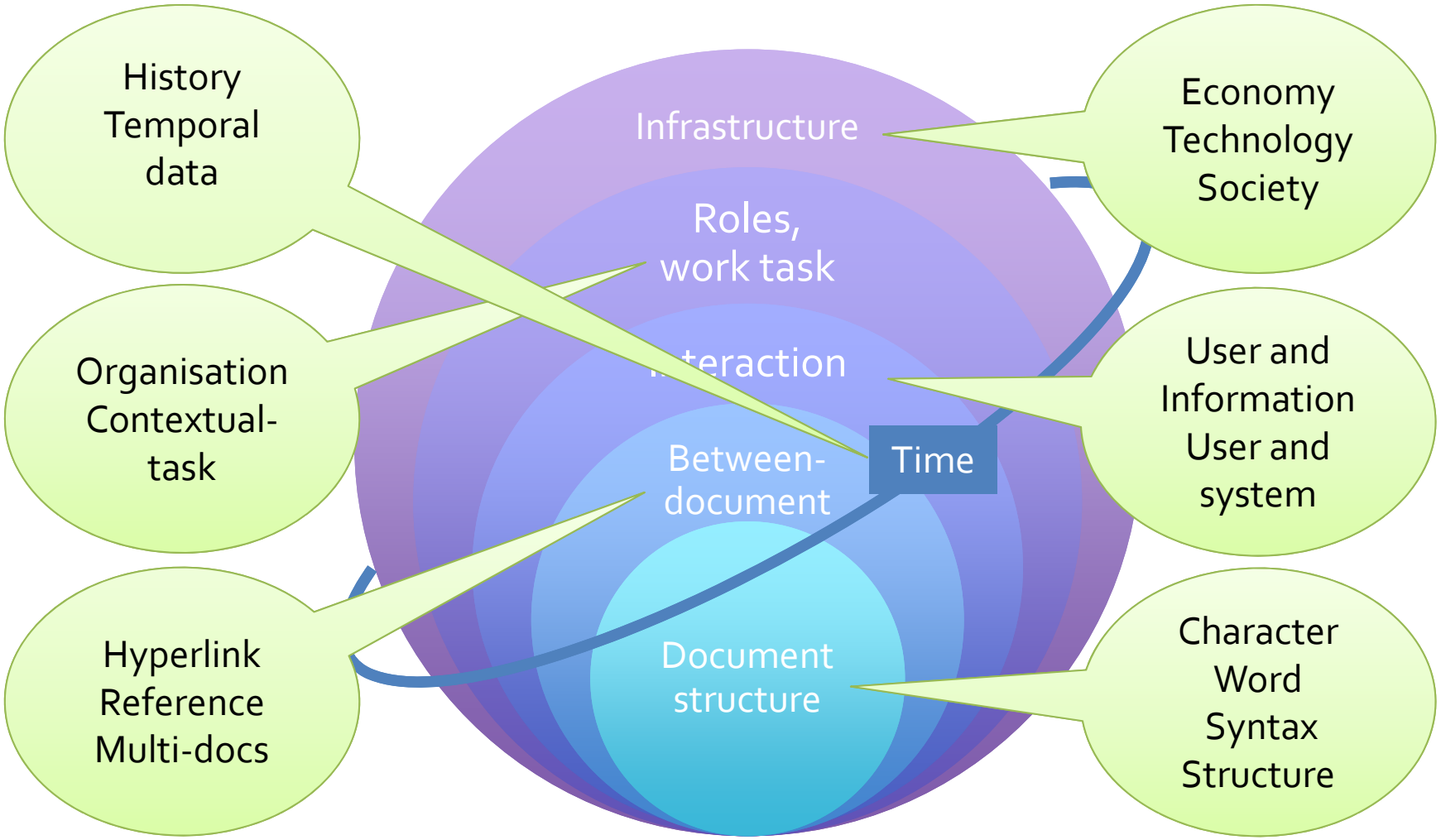
Highlights

- **Chinese to English** subtask has been added
- **Human evaluations** will be carried out
- **1 million Chinese-English** and **3 million Japanese-English patent parallel corpora** will be provided

NTCIR-9 Task Map

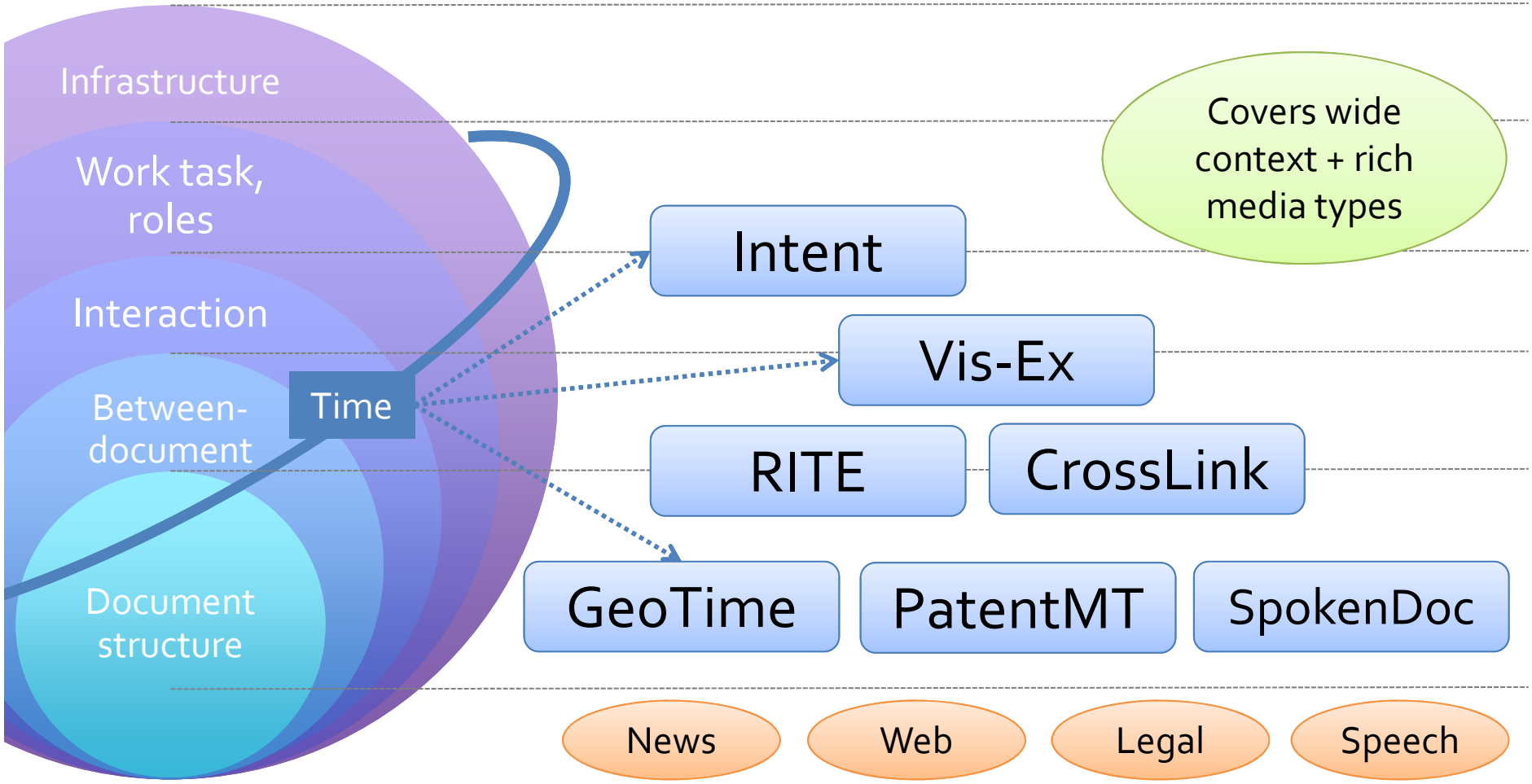
Summary

Context of Information Access

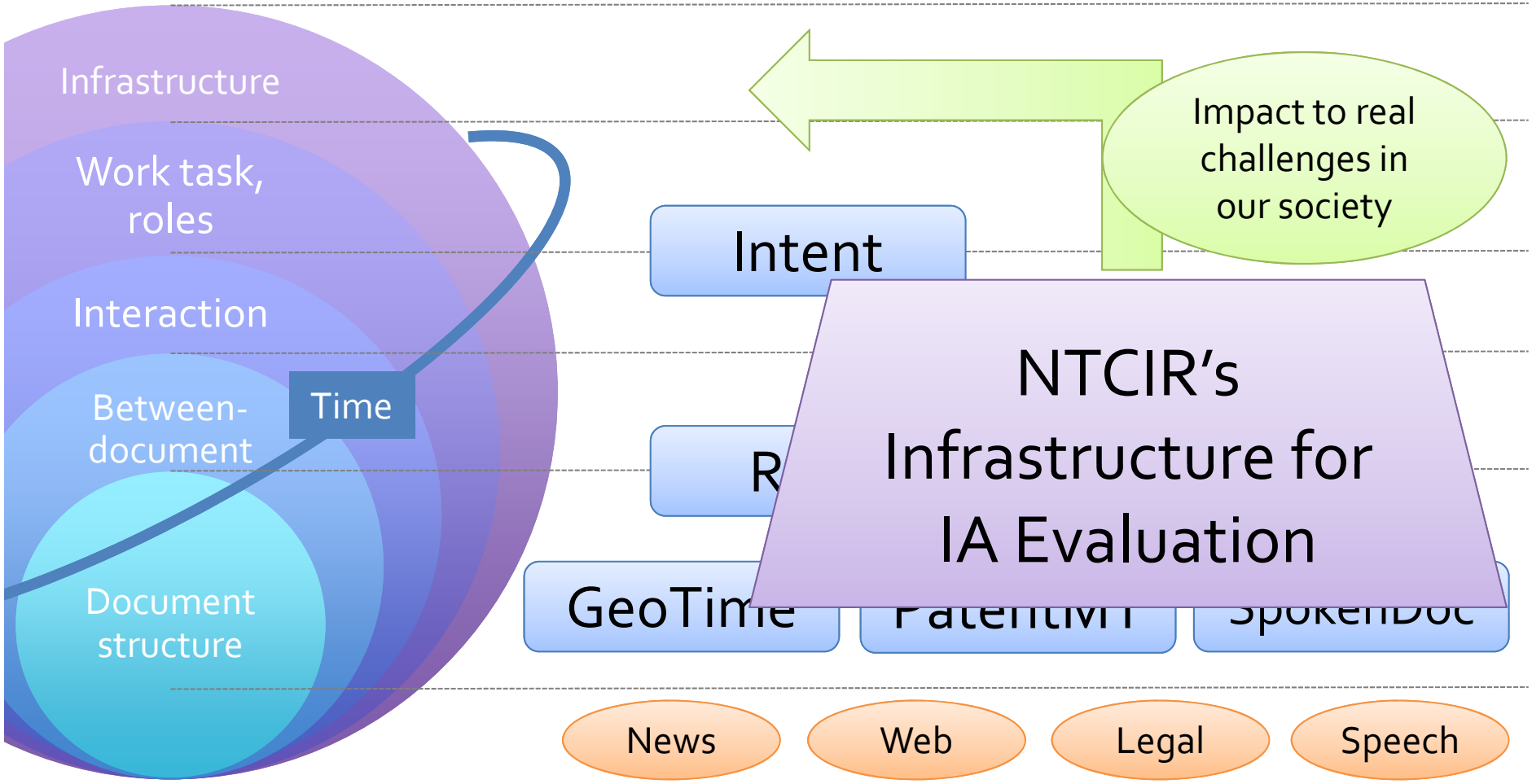


Adapted from Ingwersen & Järvelin (2005)

NTCIR-9 Tasks



NTCIR's Grand Challenge



Why participate?

Case for students and industry

Why participate? (Students)

- Perfect schedule
  - Task: Jan - Aug 2011
  - Writing: Sep – Nov 2011
  - Presentation: Dec 2011
- 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 biased
  - Critical self-assessments
- Faster development
  - Brush up your product or eliminating bugs in a short 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

1. Read the task description and CFP carefully
2. Contact a TO if you have questions
3. 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

Important Dates

For your diary

Important Dates

05/10/2010	Kick-off event in Tokyo
20/12/2010	Task registration due
05/01/2011	Document set release
01 - 05/2011	Dry run
03 - 07/2011	Formal run
22/08/2011	Evaluation results due
22/08/2011	Task overview partial release
20/09/2011	Participant paper submission due
04/11/2011	All camera-ready copy for the Proceedings due
06-09/12/2011	NTCIR-9 Meeting, NII, Tokyo, Japan

Contact TO for the exact schedule

Wrap-up

- The ninth cycle of NTCIR has started
  - Under the new structure
- Seven exciting tasks are running
  - Organised by 31 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-9/

Thank you for your attention!

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

Q & A