



Proposal for
NTCIR-11 Pilot task
QA Lab

Madoka Ishioroshi (NII)

Kelly Itakura

Noriko Kando (NII)

Yoshinobu Kano (PRESTO/NII)

Teruko Mitamura (CMU/NII)

Hideyuki Shibuki (Yokohama National University)

Advisor: Tatsunori Mori (Yokohama National University)

NTCIR-11 Kickoff Event

Sept. 2, 2013

Thanks Madoka for slides

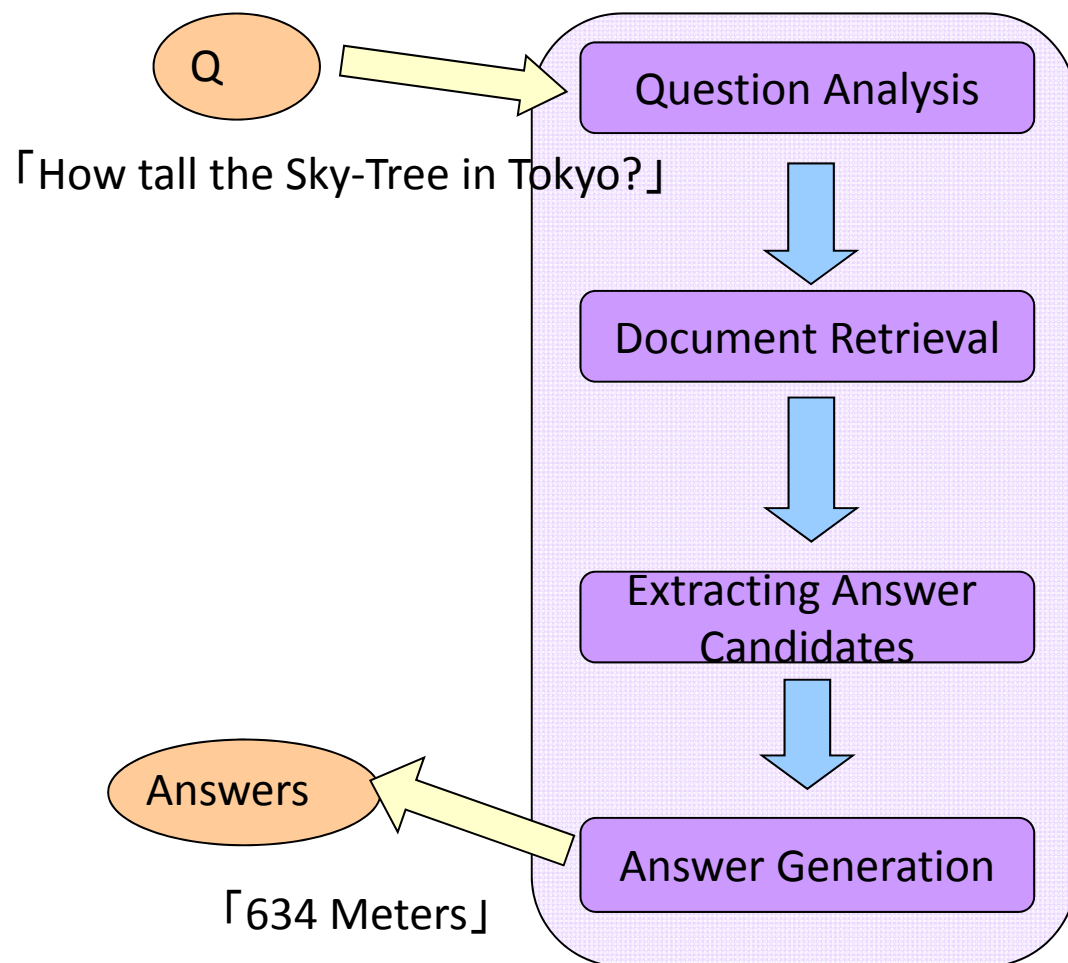


Main Idea

- 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 – Module-based, 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

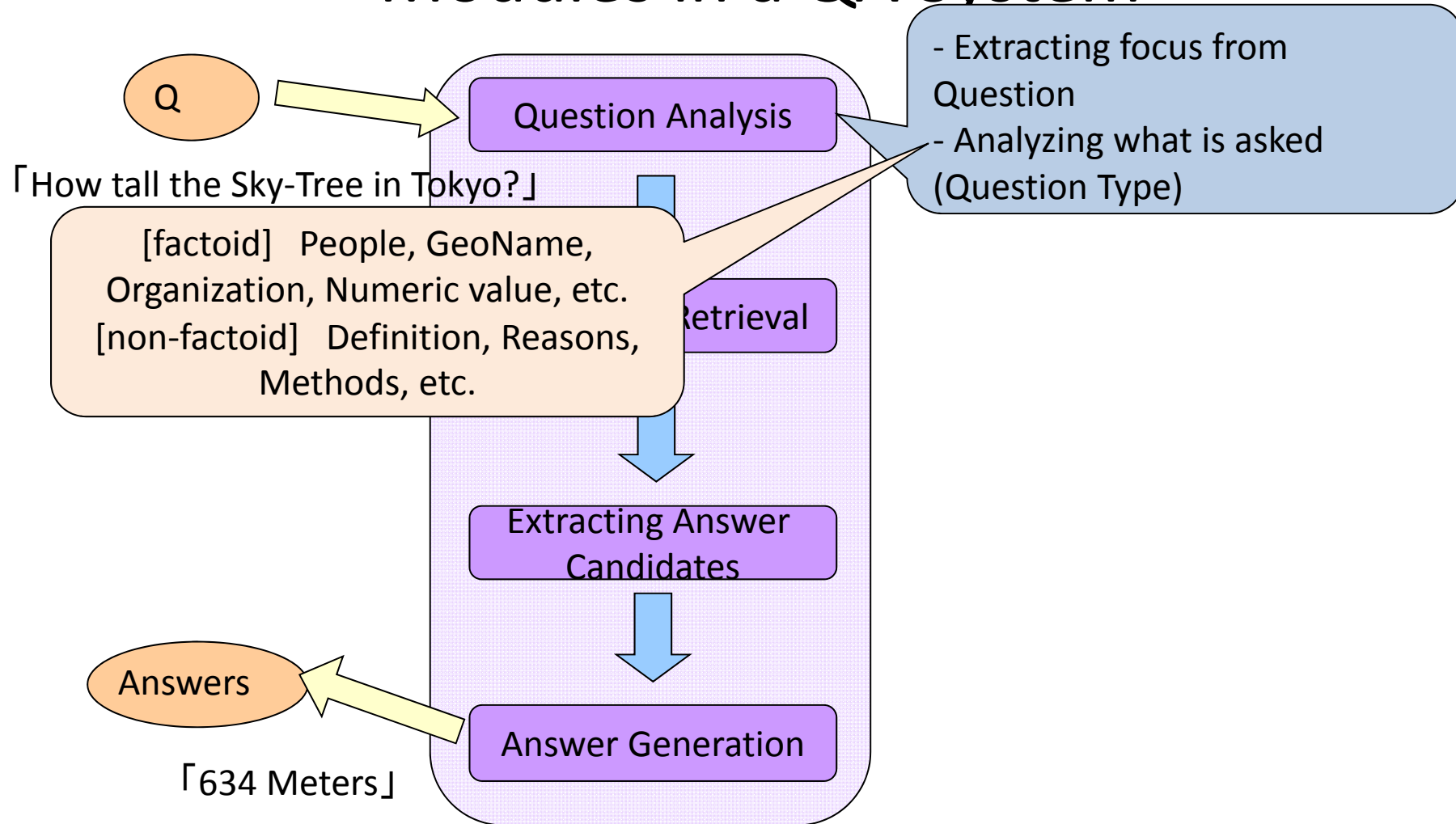
Background-1

Modules in a QA System



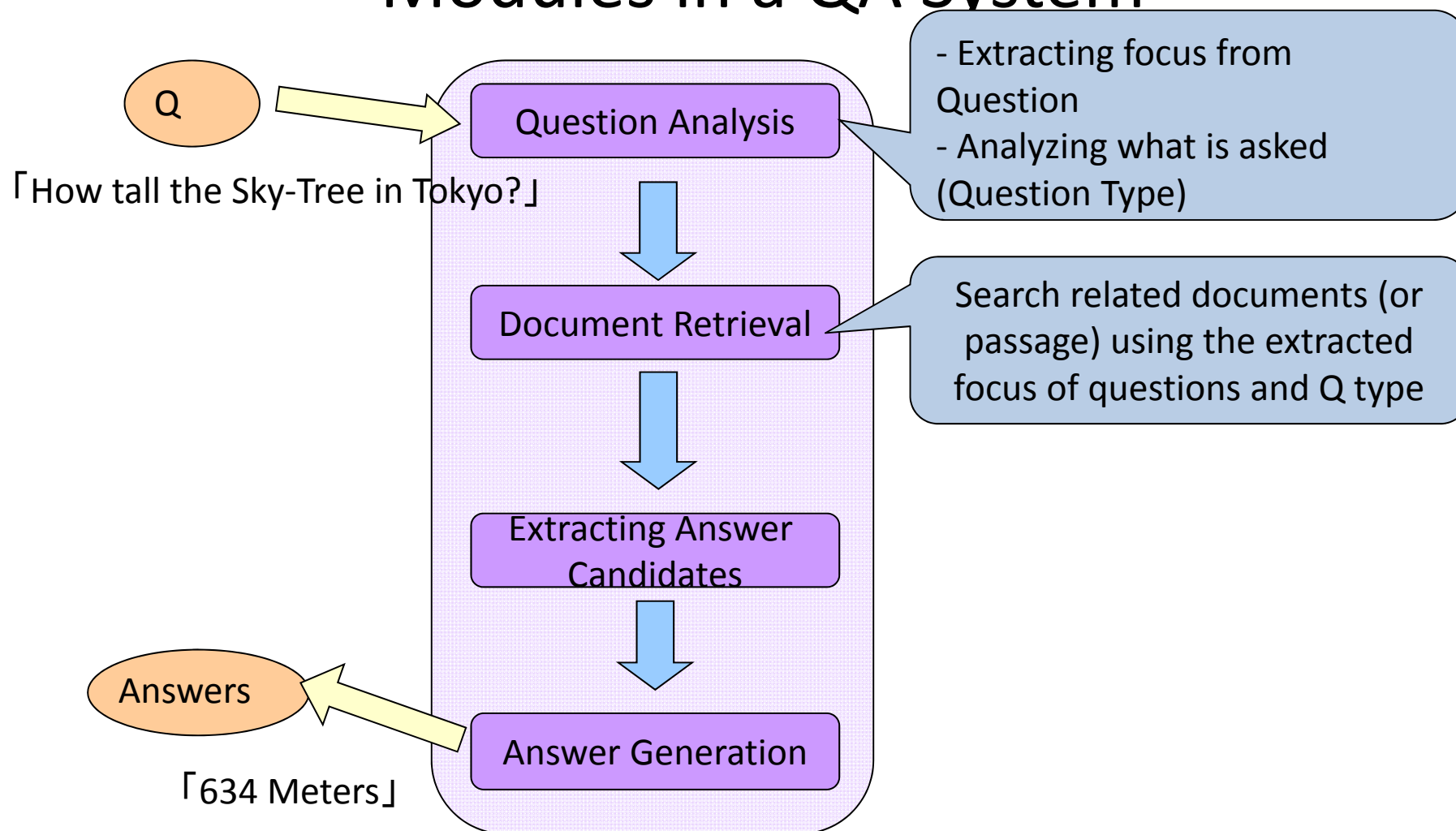
Background-1

Modules in a QA System



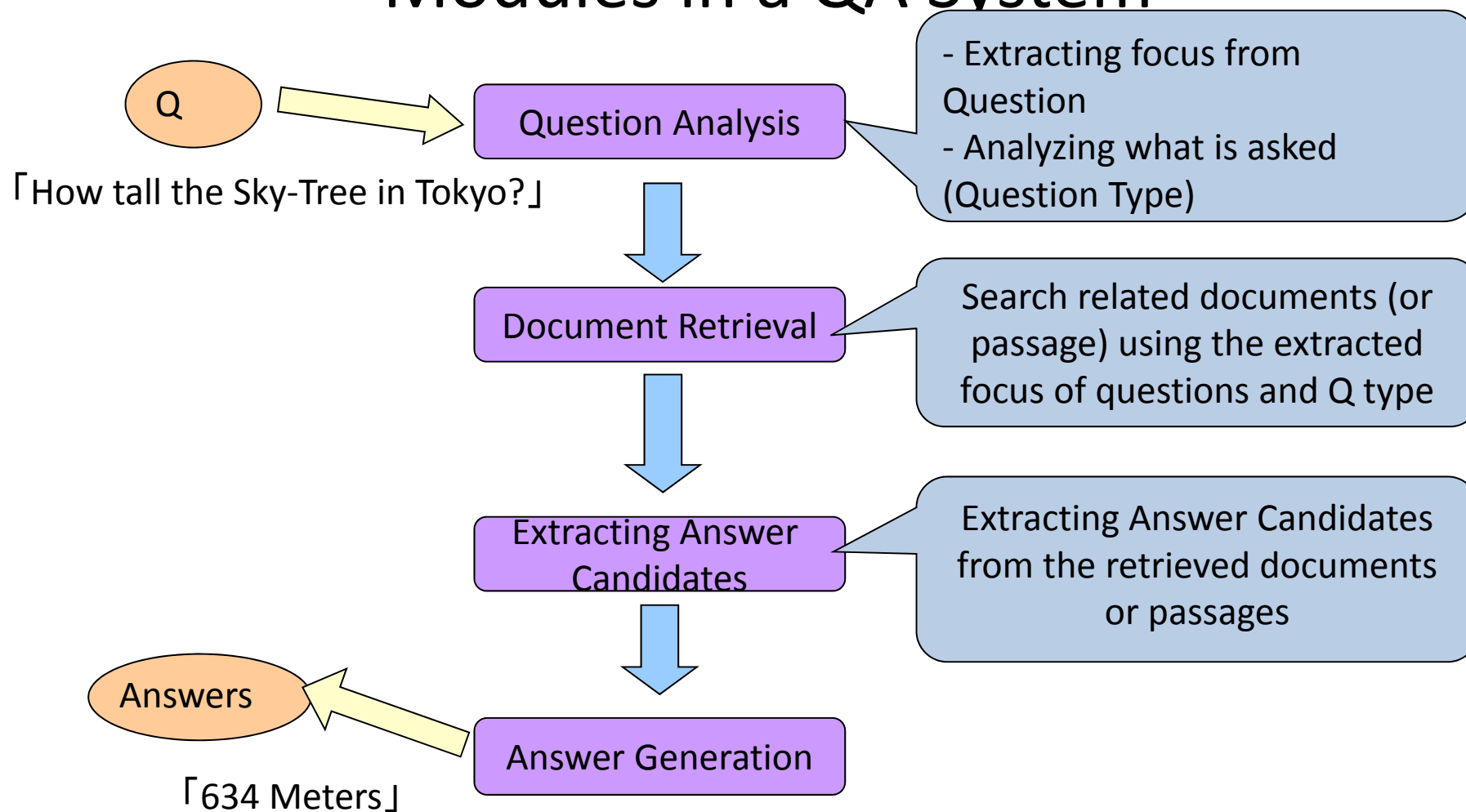
Background-1

Modules in a QA System



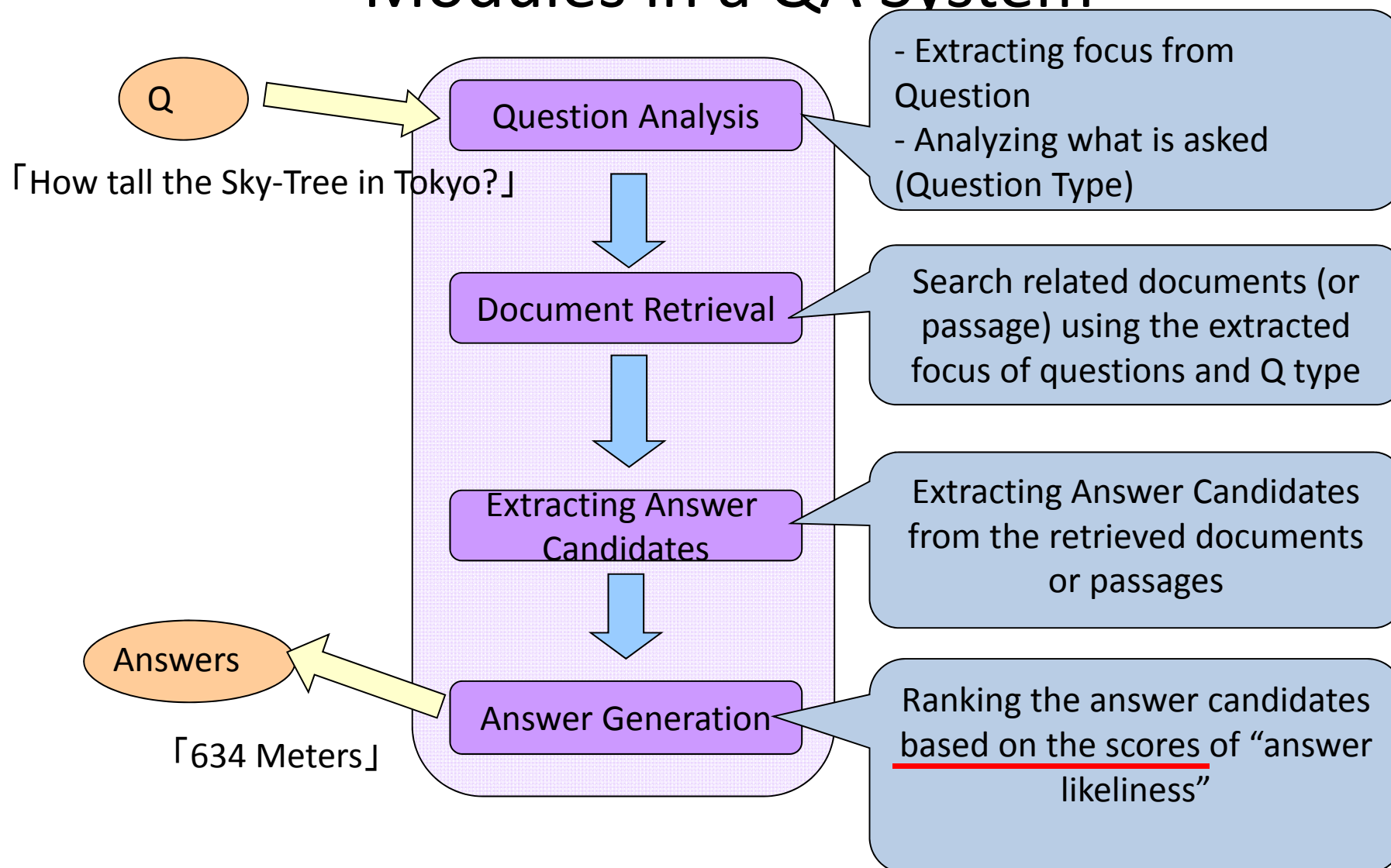
Background-1

Modules in a QA System



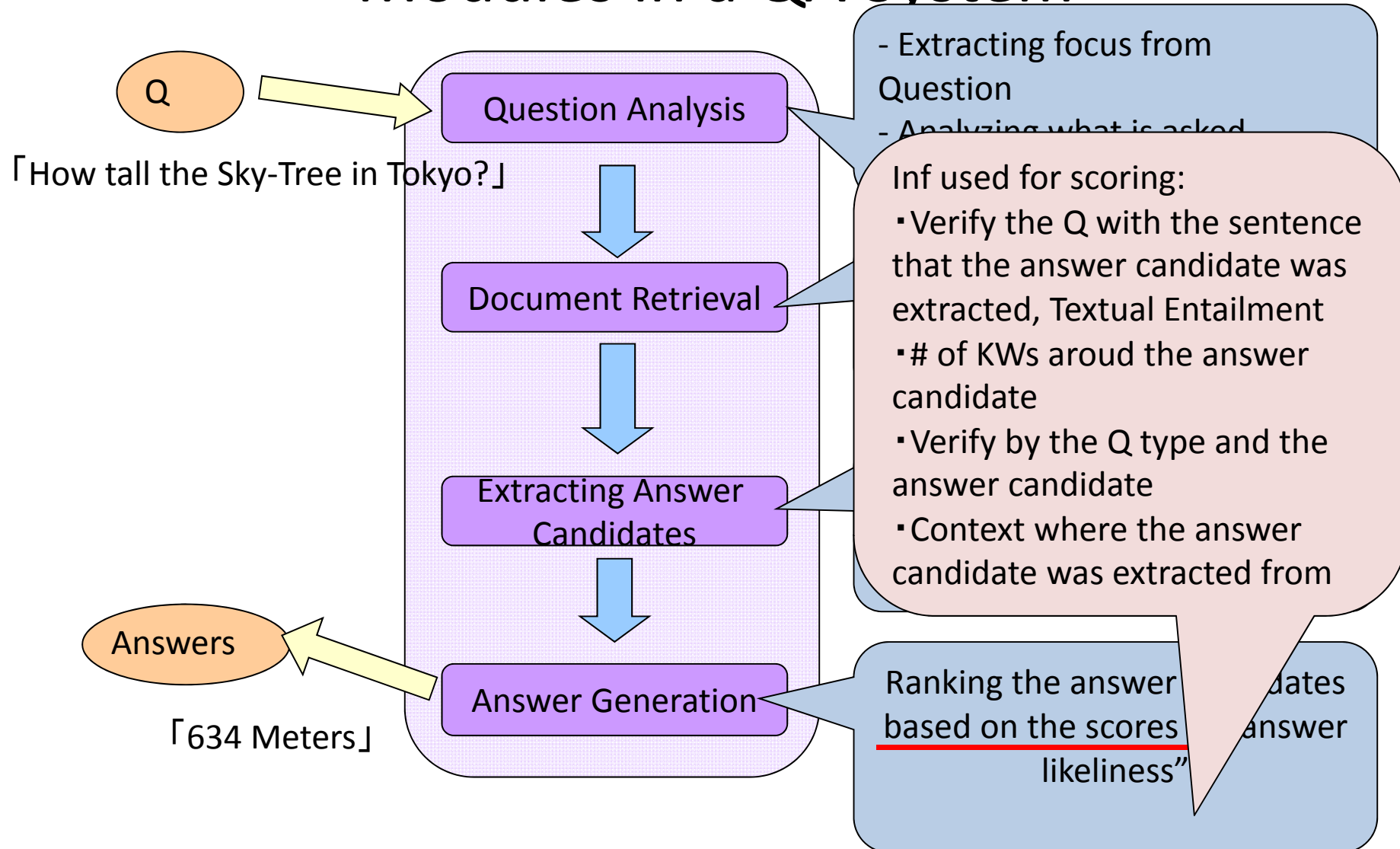
Background-1

Modules in a QA System



Background-1

Modules in a QA System





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



Collection Processing Engine Configurator

File View Help

Unstructured Information Management Architecture
An Apache Incubator Project

Collection Reader

Upload the Q file

Descriptor:

Input Xml File Name:

Analysis Engines

Set various parameters to run

InformationExtractorDescriptor KnpProcessorDescriptor 2 CabochaProcessorDescriptor FindAnswersDescriptor

KnpProcessorDescriptor QueryAnalysisDescriptor IndriRetrievalStrategistAnalysisEngineDescriptor

Indri Default Server:

Indri Command File:

Indri Max Docs:

Sofa Prefix:

Indri Indices File Path:

Indri Encoding:

Indri Mode:

Document Directory:

Specifies the index file for Indri (RS)

Document directory

CAS Consumers

Output directory

Xmi Writer CAS Consumer

Output Directory:

Initializing

Run

UI for the QA Platform to examine the results of each module



A screenshot of a Mozilla Firefox browser window displaying the QA Platform interface. The browser's address bar shows the file path: file:///home/ishioroshi/center-test/output-html/doc0.html. The page title is "質問応答システム". The interface is divided into a left sidebar and a main content area. The sidebar contains a "質問応答システム" header and a vertical stack of colored buttons labeled "Question", "QA", "RS", "IX", and "AG". The main content area displays the results of various modules, each with a "Folding" and "Expanding" button. The modules shown are "Question Analysis" (green), "Retrieval Strategist" (green), "Information Extractor" (teal), and "Answer Generator" (purple). The "Retrieval Strategist" module shows a sub-section "RS.1 JA-4" with a "qa:Document" link. The "Answer Generator" module shows a list of answer candidates: "AG.1.1 巻頭", "AG.1.2 日本", and "AG.1.3 沖縄". The "AG.1.3 沖縄" item is highlighted with a red box. Callout boxes provide instructions: "Results of each module" points to the module headers; "Show the representative results for the first. To see more detailed results by click on the bottun of 'Expanding'" points to the "Expanding" button of the "Retrieval Strategist" module; "Click to jump to the module" points to the "AG" button in the sidebar; and "Answer Candidates" points to the list of candidates in the "Answer Generator" module.

Results of each module

Show the representative results for the first. To see more detailed results by click on the bottun of "Expanding"

Click to jump to the module

Answer Candidates



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



Tasks

	Multiple Choice (Center Exam)			2nd Exam		2nd Exam	
	Japanese	English	English	Japanese	Japanese	English?	English?
NTCIR-11	World History			Factoid		Factoid	
NTCIR-12	World History		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



Multiple Opportunities to Run

	Jan-14	Feb-14	Mar-13	Apr-14	May-14	Jun-13	Jul-14	Aug-14	Sep-14
1st Round	runs								
		return results							
2nd Round			R-table						
				runs					
3rd Round					return results				
						R-table			
							runs		
								return results	
									R-table

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!

