

UNIVERSITY OF TRENTO - Italy Information Engineering and Computer Science Department

Logging, Monitoring and Evalutation

Tools CASA Project



Logging, Monitoring and Evalutation Tools

These tools have these features:

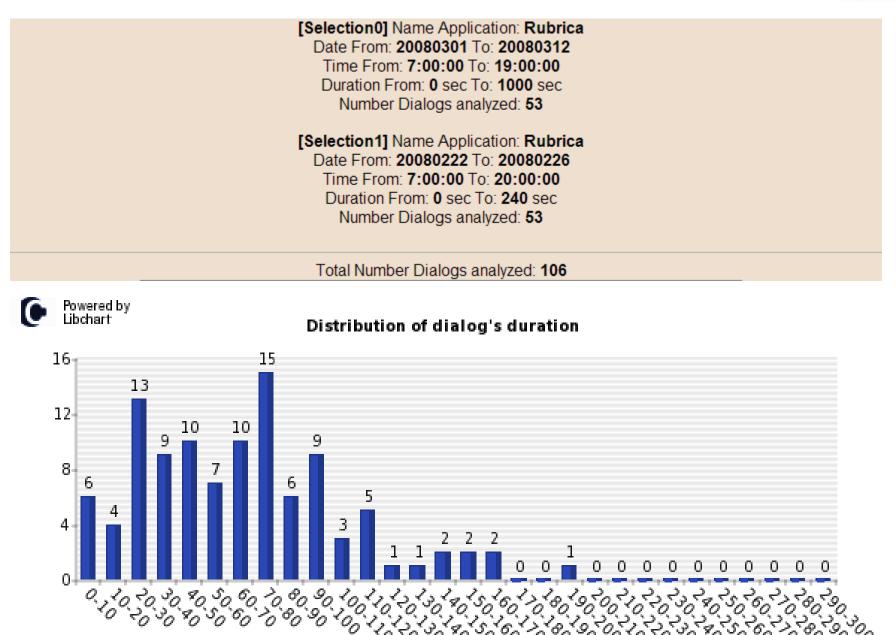
- recording what machine understood and also full recording of conversation, these are used to find comprehension errors for the ASR;
- browsing tool supporting the dialogs database indexed by (application, date, time, duration);
- transcription/annotation: for every turn dialog it's possible to made annotation;
- dialog trace visualization: concept, utterance, interpretation, confidence, bargein status, grammar used, transcription etc. for each turn, and information about events (nomatch, noinput, hangup), action's information and information about the IVR logs;
- create XML data set of all dialogs information that are relevant for statistics;
- dialogs evaluation:
 - Concepts Statistics: for each concept we report its occurrences, percentages, confidence average and histograms on the confidence scores.
 - Dialog Statistics: we made with an automatic analysis on the applications goals, on the strategy the user follows to achieve the goal and we recognize what appended when no goals are achieved;
 - Query design and visualization: is possible create XPATH queries based on XML data set and save them.

Calls selection (application, date, time, duration, annotator);

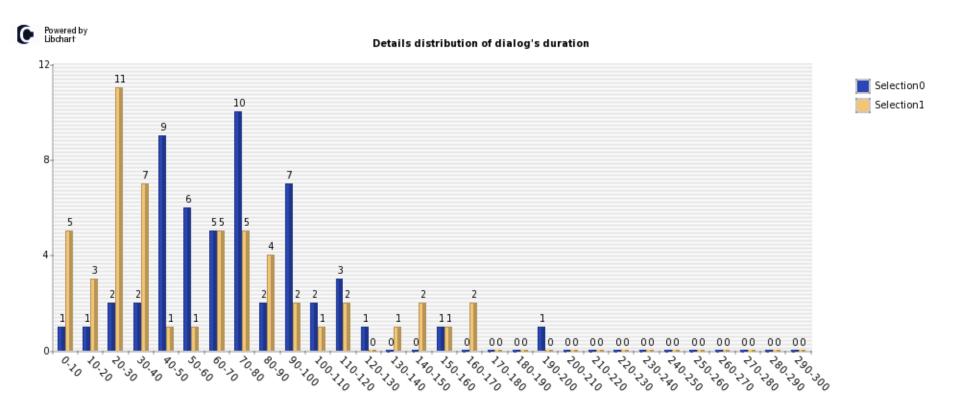
/er. 3.4.2	Statistics	Select IVR application	From Date 20080201	To Date 20080404	From Time	To Time 24:00:00	From Duration	n To Duration	
Reset Condition)	Rubrica 💌			0:00 💌	24:00 💌	0 sec 💌	No limits ⊻	Add
Extract Information)								
Dialog Details	XML Data Statistics:	Concept Statistics:	Dialogs S	tatistics: Quer	y Query	Design	Evaluation		
Dialog	Statistics	Select IVR application	From Date	To Date	From Time	To Time I	From Duration	To Duration	
/er. 3.4.2	otatistics	Rubrica	20080301	20080312	7:00:00	19:00:00	0	1000	
Reset Condition		Rubrica	20080222	20080226	7:00:00	20:00:00	0	240	
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Dialog Details	XML Data Statistics: (Concept Statistics: E	Dialogs St	atistics: Query	Query	Design	Evaluation		
		 Filter by A and or Gianni Ros Mario Vero Luca Neri Mario Biar 	ssi 🖉			O and Gi ☑ Ma □ Lu	r by Annotator ⊙ or anni Rossi ario Verdi ica Neri ario Bianchi		
Giuseppe UNITN	Riccardi,		Annotator Selection]		Rol	irrent Annotat perti Pierluigi onfirm Selectior	~	

UNIVERSITY OF TRENTO - Italy Information Engineering and Computer Science Department Results for the previous calls selections





Results for the previous calls selections

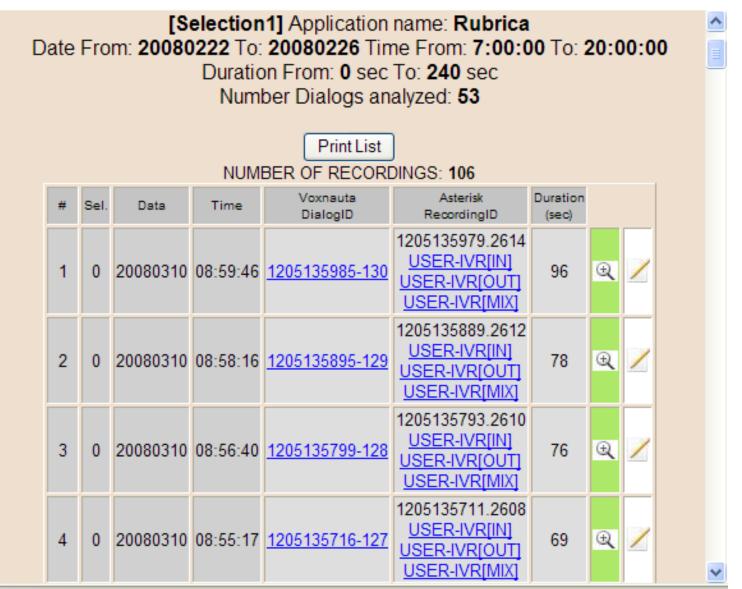


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Giuseppe Riccardi, UNITN

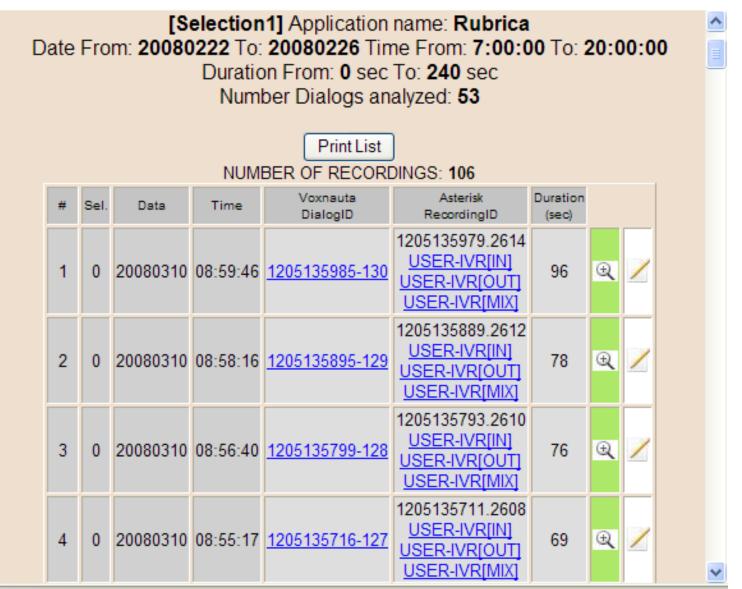
Browsing tool supporting the dialogs database indexed by (application, date, time, duration);





Browsing tool supporting the dialogs database indexed by (application, date, time, duration);





Dialog trace visualization: concept, utterance, interpretation, confidence, bargein status, grammar used, transcription etc. for each turn, and information about events (nomatch, noinput, hangup), action's information and information about the IVR logs

> Giuseppe Riccardi, UNITN

TURN - StartTime

4 - 13:19:52

ASR Concept

Event

ASR Utterance

Data	Time		oxnauta ialogID		terisk rdingID	Duration (sec)	Print Page	Sav	e Page
20080309	13:19:31	12050	65170-123	USER USER-I	5163.2600 - <u>IVR[IN]</u> IVR[OUT] IVR[MIX]	113	Dialog [Udo Kalu] 20	annotateo 080310 1:	
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attamento d	ei dati racco		ettuato nel risp	etto della r	normativa sul	lla pra'ivasi	-		
	- StartTime		Even	t		ask/Action		Grammar	
· ·	13:19:31					nitial/Start		rVuota it-	
ASF	R Concept		ASR Utter	rance	ASR	Interpretation	ASR Con	fidence	Rank
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Task/Action

AddressBook/DoReadNumber

ASR Interpretation

Rank

Grammar

GrammarVuota it-IT.grxml

ASR Confidence



Dialog trace visualization for the dialog annotation and transcription

Data	Time	Voxnauta DialogID	Asterisk RecordingID	Duration (sec)	Print Page	e Save Page
20080309 1	13:19:31	1205065170-123	1205065163.2600 <u>USER-IVR[IN]</u> <u>USER-IVR[OUT]</u> <u>USER-IVR[MIX]</u>	113	Dia No	log annotated ✓ SAVE
			! La telefonata potrebbe petto della normativa su		ta per migliorare i	il servizio offerto. Il
Task completed						
		Task requested by us	er 🗡			SAVE ALL
TURN - Sta	artTime	Event	Task/Action		Gram	nmar
1 - 13:19	9:31		initial/Start		GrammarVuo	ta_it-IT.grxml
ASR Con	ncept	ASR Utterance	ASR Interpretation	ASR C	Confidence	Rank
		on chi desidera parla	re?			TV#TIK
Buongiorno sor Task completed	d by system		re? T OK Transo Annots	ription		SAVE ALL
Task completed	d by system		re? T OK Transo Annots	ription		
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Task completed AL PC TURN - 2 - 13 ASR (Person_Na Conce	d by system M StartTime 3:19:42 Concept ameSurnam apt Name	Task requeste Event ASR Utters	re? T OK Transo Annota d by user Task/Actio initial/AskPe ince ASR Interpret Jan_Kolar Concept Value	ription ation on erson tation AS	Gra <u>Gramma</u> R Confidence 0.71108 Source	SAVE ALL ammar arNomi_it-IT Rank 1 Confidence
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Dialog evaluation

UNIVERSITY OF TRENTO - Italy Information Engineering and Computer Science Department

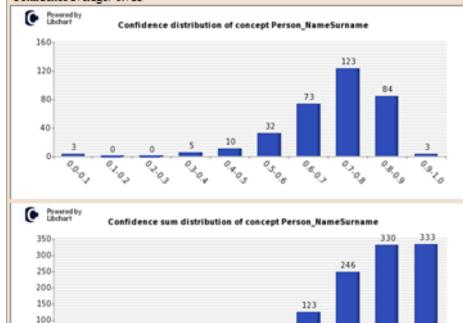
Concepts Statistics: for each concept we report its occurrences, percentages, confidence average and histograms on the confidence scores.

[Selection 0] Application name: Rubrica Date From: 20080301 To: 20080312 Time From: 7:00:00 To: 19:00:00 Duration From: 0 secTo: 1000 sec [Selection 1] Application name: Rubrica Date From: 20080222 To: 20080226 Time From: 7:00:00 To: 20:00:00 Duration From: 0 secTo: 240 sec

Number of analyzed Dialogs: 106 Total duration 6945 sec Total duration 1 hours and 55 minutes Average duration 65.52 seconds

Concept analysis: Concept Query://Dialog[Turn/Concept/ConceptName[contains(text(),'Person_NameSurname')]] Annotator Query:

Concept: Person_NameSurname Number ofDialogscointaining thisconcept:96 Concept Type: NamedEntity Number of times that it appears: 333 Corresponding percentage: 90.57% Confidence average: 0.713



50

Dialog evaluation



Dialog Statistics: we made with an automatic analysis on the applications goals, on the strategy the user follows to achieve the goal and we recognize what appended when no goals are achieved

