



Description & Function of Subjective test analysis tool

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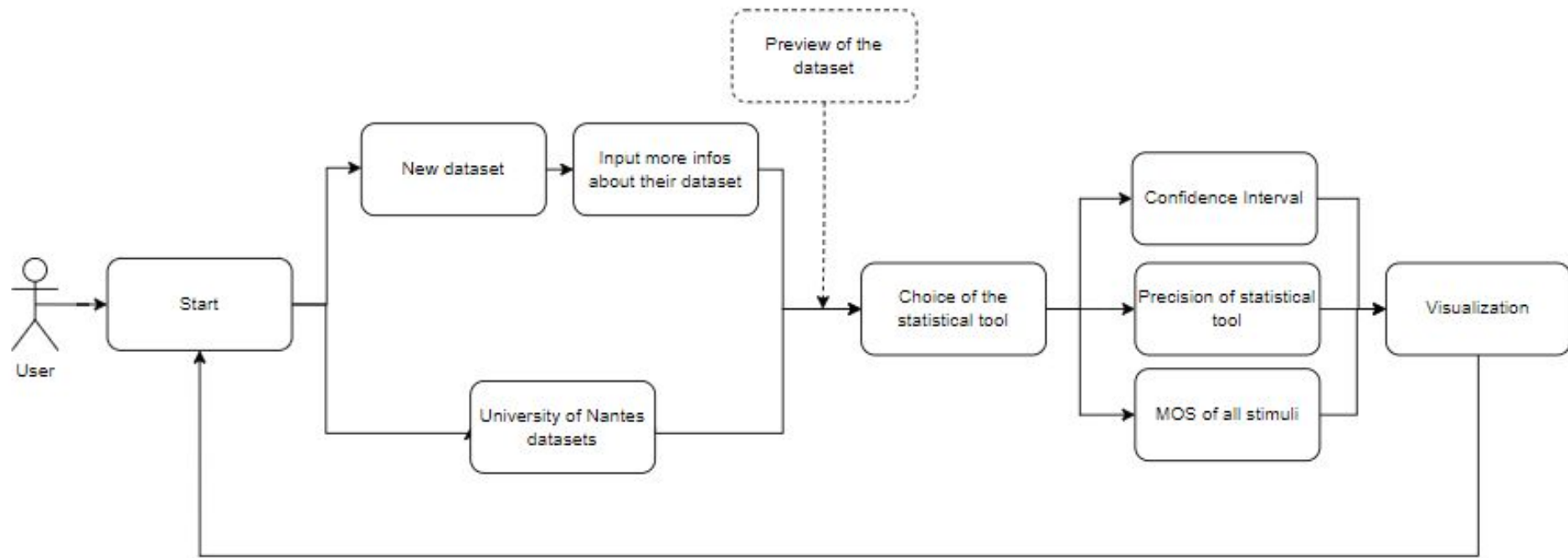
Outline

- Introduction
 - Context and goal of the project
 - The tool
- Our data input
 - University of Nantes' datasets
 - New dataset
- Our statistical tools

Introduction : Context and goal of the project

- ❖ Students from the Graduate School of Engineering of the University of Nantes :
Polytech Nantes
- ❖ Supervised by a professor
- ❖ Commissioned by **The Institute for Telecommunication Sciences (ITS)**
- ❖ Goal : create a centralized tool that allows user to use several statistical tools on datasets





USER INPUT

- Dataset
- Information on the dataset
- Statistical tool type

OUTPUT

- Visualization of the processing results by statistical tools

Our data input

 PTRANS

— □ ×

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Welcome to our tool !

You want to add your own dataset

You want to use the datasets that we have

Our data input : University of Nantes' datasets

Here are the already available datasets, you may choose one to use.

IRCCyN_IVC_1080i_Database_Score

IRCCyN_IVC_DIBR_Videos_Scores

IRCCyN_IVC_H264_HD_vs_Upscaling_Interlacing_Database_Score

IRCCyN_IVC_Influence_Content_Database_Score

IRCCyN_IVC_SVC4QoE_QP0_QP1_Database_Score

IRCCyN_IVC_SVC4QoE_ReplaceSlice_Database_Score

IRCCyN_IVC_SVC4QoE_Temporal_Switch_Database_Score

JEG264HMIX1_Score

MOS

Scores

VQEG_HDTV_Pool2_Database_Score

VR_rawdata

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Standard Format

In this format, observers' ratings of each individual stimuli are presented like a matrix.

For example, the 5 highlighted represents the rating result of stimulus 2 by observer 2. This format can be directly entered into the system for analysis.

- The first column gives the names of all stimuli, no column names are required for this column, i.e. cellA1 is empty.
- There are no requirements for stimuli names.
- The last column name is MOS (main opinion score).
- Each remaining column represents an observer. The column name is the observer's number or name.
- The number of columns can vary depending on the number of observers.

Stimulus ID	Observers ID					
	Observer_1	Observer_2	Observer_3	...	Observer_n	MOS
Stimulus_1	1	2				
Stimulus_2	4	5				
Stimulus_3						
...						
Stimulus_n						

Individual scores

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Our data input : University of Nantes' datasets

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Choose precisely what part of the file you want to use

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Book_arrival_A1_8_to_10.avi	2	1	2	3	3	2	2	4	2	1	1	2	2	2
Book_arrival_A1_10_to_8.avi	2	2	2	3	3	3	2	3	4	1	1	2	2	3
Book_arrival_A1_8_to_9.avi	4	2	4	4	3	4	4	5	3	2	3	4	4	4
Book_arrival_A1_10_to_9.avi	4	4	3	3	3	5	4	5	5	2	2	4	3	3
Book_arrival_A2_8_to_10.avi	3	3	2	2	2	1	1	3	3	1	1	2	2	2
Book_arrival_A2_10_to_8.avi	3	1	3	2	2	2	2	3	3	1	1	2	2	2
Book_arrival_A2_8_to_9.avi	4	2	4	3	3	4	4	4	4	2	3	3	4	3
Book_arrival_A2_10_to_9.avi	4	3	3	3	3	4	3	3	4	2	3	3	4	2
Book_arrival_A7_8_to_10.avi	1	1	1	1	1	1	1	2	1	1	1	2	1	2
Book_arrival_A7_10_to_8.avi	1	1	1	1	1	1	1	2	1	1	1	1	1	1
Book_arrival_A7_8_to_9.avi	1	1	1	1	1	2	1	2	2	1	1	1	2	1
Book_arrival_A7_10_to_9.avi	1	1	2	1	1	2	1	2	2	1	1	3	1	1

Select this SubDataset ?

Use the full dataset ?

Our data input : New datasets

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Open a File

Name of the file : MUSHRA_Kinesthetic_Scores.xlsx

Which sheet to use ? 5

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Other format

In this format, each row records an observational experiment, and it contains all the data generated by a stimuli seen by an observer.

The data in this format needs to be converted into our standard format and then entered into the system for analysis. Please follow the system prompts and enter the corresponding column name.

Three columns of information are necessary: observer, stimulus name, score.

Datasets can contain additional attribute columns (but these attributes will be ignored).

There is no requirement for column names, but you need to enter column name information during format conversion.

Mandatory attributes (names may vary)

Stimuli	Observers	Rating	other Attribute	other Attribute
Stimulus_1	Observer_1	3		
Stimulus_2	Observer_1	1		
...				
Stimulus_n	Observer_1	4		
Stimulus_1	Observer_2	...		
Stimulus_2	Observer_2			
...				
Stimulus_n	Observer_2			

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Our data input : New datasets

To simplify the ingestion of your dataset, please select the three necessary parts

	Test Subje	Session	Bitrate	File	TestSignal	Sys	Score	Pd
0	sub1	Test1-3	2	./Test1-3/Originals/BigBuckBunny_pad.wav	TestSignal1	Hidden_REF	100	1
1	sub1	Test1-3	2	./Test1-3/Test1-3_sys1_kin_2_BigBuckB	TestSignal1	Sys1	100	1
2	sub1	Test1-3	2	./Test1-3/Test1-3_sys2_kin_2_BigBuckB	TestSignal1	Sys2	100	1
3	sub1	Test1-3	2	./Test1-3/Originals/BikeRiding_pad.wav	TestSignal2	Hidden_REF	100	1
4	sub1	Test1-3	2	./Test1-3/Test1-3_sys1_kin_2_BikeRidin	TestSignal2	Sys1	100	1
5	sub1	Test1-3	2	./Test1-3/Test1-3_sys2_kin_2_BikeRidin	TestSignal2	Sys2	100	1
6	sub1	Test1-3	2	./Test1-3/Originals/ForceXFast_pad.wav	TestSignal3	Hidden_REF	100	1
7	sub1	Test1-3	2	./Test1-3/Test1-3_sys1_kin_2_ForceXFa	TestSignal3	Sys1	100	1
8	sub1	Test1-3	2	./Test1-3/Test1-3_sys2_kin_2_ForceXFa	TestSignal3	Sys2	80	1
9	sub1	Test1-3	2	./Test1-3/Originals/ForceXSlow_pad.wav	TestSignal4	Hidden_REF	100	1
10	sub1	Test1-3	2	./Test1-3/Test1-3_sys1_kin_2_ForceXSI	TestSignal4	Sys1	100	1
11	sub1	Test1-3	2	./Test1-3/Test1-3_sys2_kin_2_ForceXSI	TestSignal4	Sys2	80	1

Select this SubDataset ?

Name of stimuli column

Name of observers column

Name of score column

Mandatory attributes (names may vary)

Stimuli	Observers	Rating
Stimulus_1	Observer_1	3
Stimulus_2	Observer_1	1
...		
Stimulus_n	Observer_1	4
Stimulus_1	Observer_2	...
Stimulus_2	Observer_2	
...		
Stimulus_n	Observer_2	

Our statistical tools

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Add a dataset

Statistical tools

Which statistical tool do you want to use ?

Precision of subjective test (ACR-100) ▾

The Precision of subjective test is a statistical tool developed by Margaret H.Pinson as seen in "Confidence Intervals for Subjective Tests and Objective Metrics That Assess Image, Video, Speech, or Audiovisual Quality".

It uses the Student t-test on all pairs of stimuli A and B, where both stimuli were rated by the same subjects and the stimuli are drawn from the same dataset, to compare their rating distribution at 95% confidence level.

This tool is for ACR-100 ratings !

Start

Which statistical tool do you want to use ?

Choose an option ▾

MOS of all stimuli

Precision of subjective test (ACR-5)

Precision of subjective test (ACR-100)

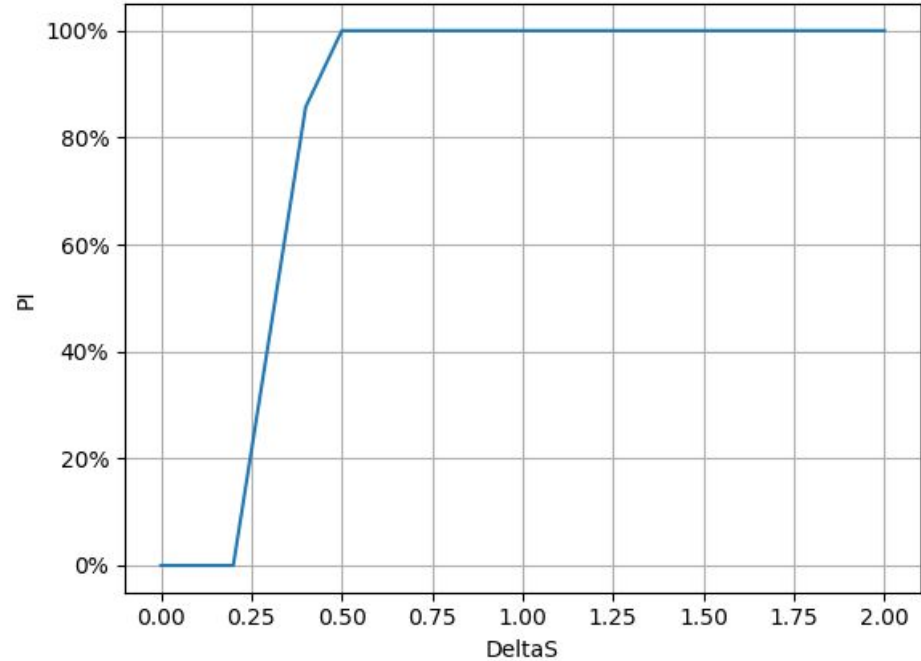
Confidence Interval

Accuracy

Standard deviation of MOS

Our statistical tools : some examples

	A	B
1		MOS
2	Aix_QuantGeom_1_1_R	5
3	Aix_QuantGeom_2_1_R	2,5
4	Aix_QuantGeom_3_1_R	1,16667
5	Aix_QuantGeom_4_1_R	1
6	Aix_QuantLAB_1_1_R	4,83333
7	Aix_QuantLAB_2_1_R	4,5
8	Aix_QuantLAB_3_1_R	2,83333
9	Aix_QuantLAB_4_1_R	1,5
10	Aix_SimpMesh_1_1_R	4,66667
11	Aix_SimpMesh_2_1_R	4,83333
12	Aix_SimpMesh_3_1_R	4,33333
13	Aix_SimpMesh_4_1_R	3
14	Aix_SimpVal_1_1_R	4,5
15	Aix_SimpVal_2_1_R	4,16667
16	Aix_SimpVal_3_1_R	3,16667
17	Aix_SimpVal_4_1_R	1,83333
18	Ari_QuantGeom_1_1_R	4
19	Ari_QuantGeom_2_1_R	2
20	Ari_QuantGeom_3_1_R	1
21	Ari_QuantGeom_4_1_R	1



Thanks for your attention !