MD-PAEDIGREE

SAPIENZA
UNIVERSITÀ DI ROMA

Infostructure
URLS - WP 13

WP Leader: HES-SO

Status of the WP

Infostructure group needs to design and develop a Data Repository, which allows partners to:

- Share data collected on patients by clinicians;
- Share models developed by the technical partners;
- Allow all the partners involved in the project to have access to the data and models by using some keywords and characteristics.

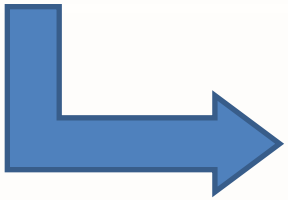
URLS has experience on working with Clinical Gait Analysis (CGA) also with a close scientific cooperation with the OPBG. In this perspective, URLS has been charged of connecting clinical partners within the Infostructure group about what concerns the gait data, and to analyze requirements and criticalities about the CGA parameters to be included within the repository.

Status of the WP

Some issues about CGA data collection were raised as:

- Data collection within JIA uses different protocols with respect to data collected within NND.
- CGA is stored in different ways/file formats, depending on the manufacturer of the system
- CGA may be processed in different ways among the labs and computed parameters/tracks may be different

It is important to identify the most relevant parameters to be included within the data repository and to define the search criteria that satisfy the requirements of all groups. The parameters must be consistent between different labs.



Consensus operation

Status of the WP

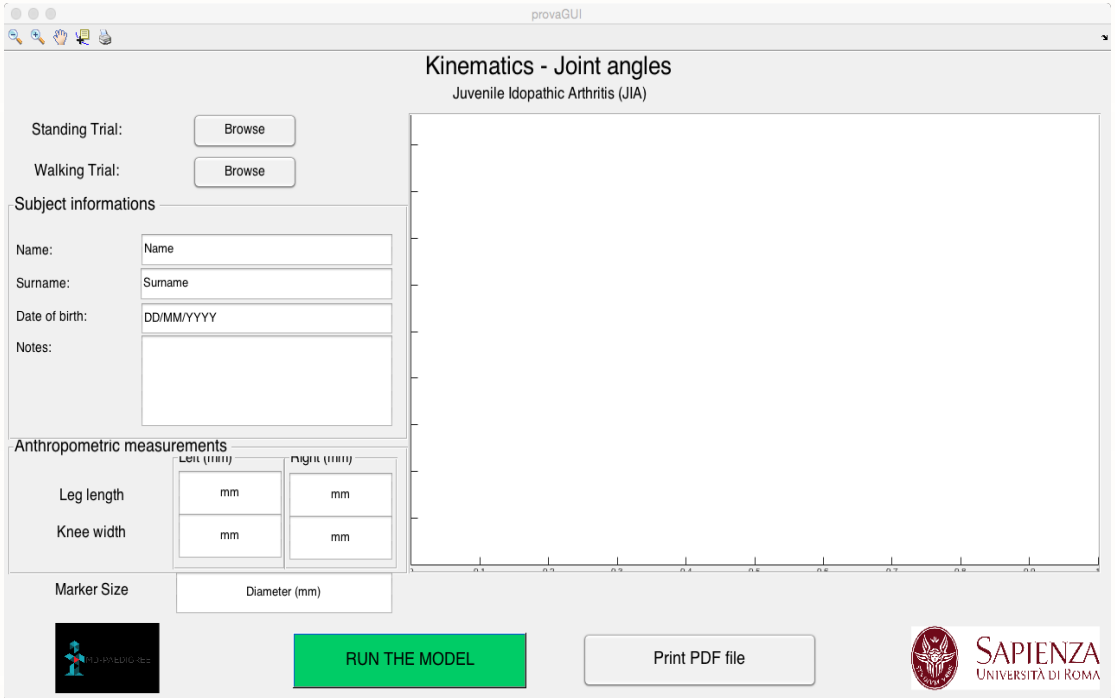
Consensus operation

A list of parameters to be included in the infostructure is actually being discussed by the partners and needs to be finalized.

Search criteria and methods (semantic, visual, cross-correlation) need to be defined according to requirements of all partners.

Status of the WP

URLS is actually developing a Graphical User Interface that is able to solve the kinematics model and give to the clinicians the estimated articular angles. Labels conventions are shown in the table.



Stebbins et al. - labels	JIA study - labels	
	Left limb	Right limb
KNE	LKNE	RKNE
N/A (medial condyle; static only)	LMFC	RMFC
TTUB	LTUB	RTUB
HFIB	LHFB	RHFB
LMAL	LANK	RANK
MMAL (static only)	LMMA	RMMA
SHN1	LSHN	RSHN
CAL1	LHEE	RHEE
CAL2	LPCA	RPCA
CPEG	LCPG	RCPG
LCAL	LLCA	RLCA
STAL*	LSTL	RSTL
P1MT	LP1M	RP1M
D1MT (static only)	LD1M	RD1M
P5MT	LP5M	RP5M
D5MT	LD5M	RD5M
TOE	LTOE	RTOE

Next steps:

The GUI is currently providing angles as figures (*.fig, *.png and *jpg files) as output of the calculation. The export session needs to be developed and the exported parameters should be defined with the clinical partners.

The code of the Graphical User Interface can be modified in order to:

- Calculate the extra gait variables. (ROM or stride length etc.).
- Export all the variables and kinematics in a unique C3D file. This allows uniformity in the file extension within the project.
- Anonymize data.
- Once the consensus lists will be finalized searching may be implemented.
- URLS will also study the possibility to include retrospective data, already acquired by OPBG, into the repository, and the costs of retrospective data curation.