



A modern & innovative space for educational research: the "Jacques Ginestié" experimental platform

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Plan

1. Context

2. Furnishings

3. Methodologies

4. Future prospects

Opening – 01.16.2023



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Structurer le pôle pour articuler recherche-formation-terrain



2. Furnishings

2.1. Main classroom



- 2 fixed white board
- 2 mobile white board
- 1 interactive video-projector
- Chairs and tables with different sizes for youngs and adults
- Camera & Microphones
- Indoor tracking

2. Furnishings

2.2. Control room



- Control of the camera
- Control of the microphones
- Data storage Server

2. Furnishings

2.3. Physiological room



- Eye-tracking (screen based)
- EEG (128 ch.)
- Facial emotion recognition (FaceReader)
- Computers « Big Data »

2. Furnishings

2.4. Virtual Reality room



- 2 headsets
- 1 headset VR + Eye-tracking
- Totally secured for users

2. Furnishings

2.5. Observation room



- 2 one-way windows
- 1 computer for VE creation
- 3D Printer

2. Furnishings

2.6. Reserve



- Tablets (iOS, Windows, Android)
- Wireless EEGs
- Wireless Eye-trackers
- Robots
- Cameras
- Microphones
- Smartwatch

3. Methodologies

3.1. Behaviour

ELAN 5.7-FX - 031_18M_SYMPPLAY_S1_C1_MIN1.ACLEW.eaf

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Grid Text Subtitles Lexicon Comments Recognizers Metadata Controls

MA1

Nr	Annotation	Begin Time	End Time	Duration
6	oh .	00:00:08....	00:00:09....	00:00:00....
7	a square .	00:00:09....	00:00:10....	00:00:00....
8	oh .	00:00:13....	00:00:13....	00:00:00....
9	what's that ?	00:00:15....	00:00:15....	00:00:00....
10	the blue cross .	00:00:15....	00:00:16....	00:00:00....
11	and the +... [+ IN]	00:00:17....	00:00:17....	00:00:00....
12	oh dear .	00:00:17....	00:00:18....	00:00:00....
13	where's the basket gone ?	00:00:20....	00:00:21....	00:00:00....
14	where's it gone ?	00:00:22....	00:00:22....	00:00:00....

Selection: 00:00:08.074 - 00:00:08.359 285

031_18M_SY... :07.000 00:00:08.000 00:00:09.000 00:00:10.000 00:00:11.000 00:00:12.000 00:00:13.000 00:00:14.000 00:00:15.000 00:00:16.000 00:00:17.000

CHI [9] the C W 1

vcm@CHI [9]

lex@CHI [9]

mwu@C [3]

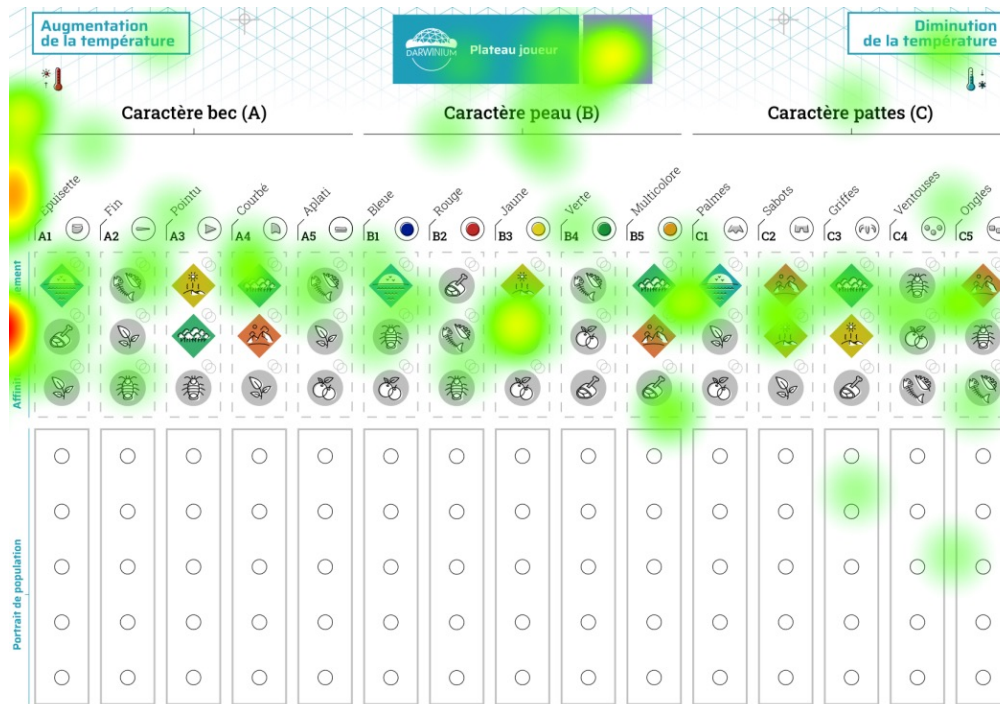
MA1 [37] oh . a square oh . wha the blue cross and th

xds@MA1

- Qualitative & quantitative analysis with ELAN
- Transcription With Python algo. based on Whisper

3. Methodologies

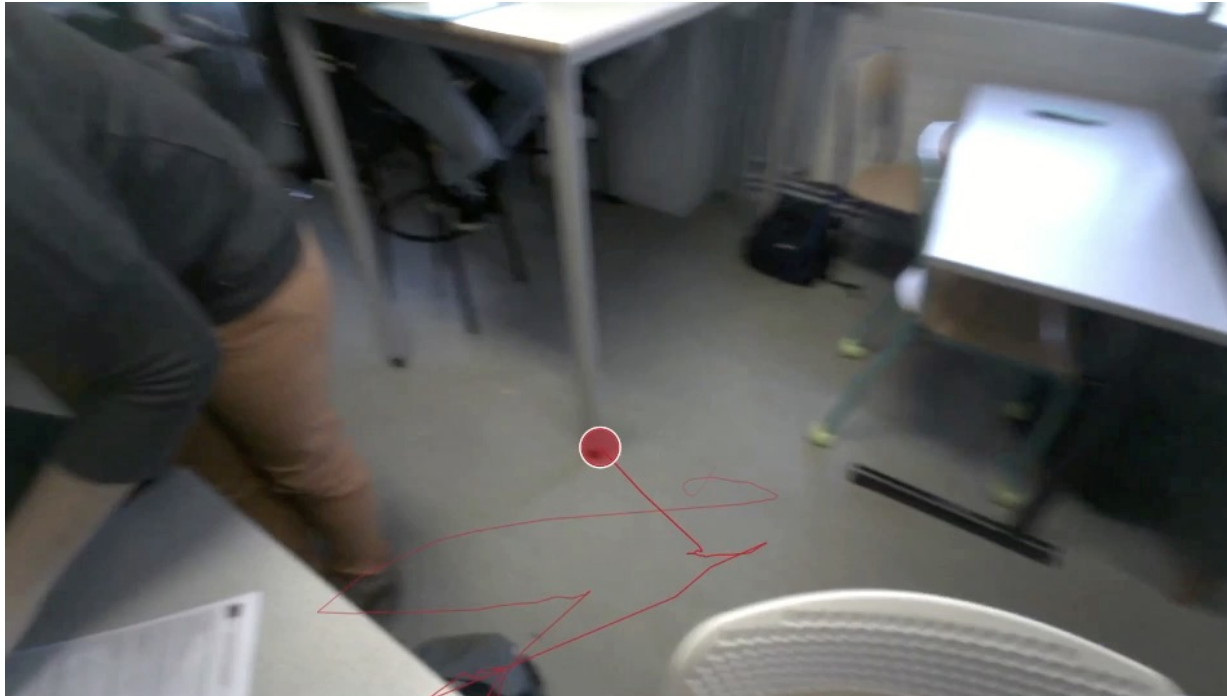
3.2. Eye-tracking (desktop)



➤ Pupil's gaze behavior during an exercise

3. Methodologies

3.2. Eye-tracking (mobile)



➤ Teacher's gaze behavior in class

3. Methodologies

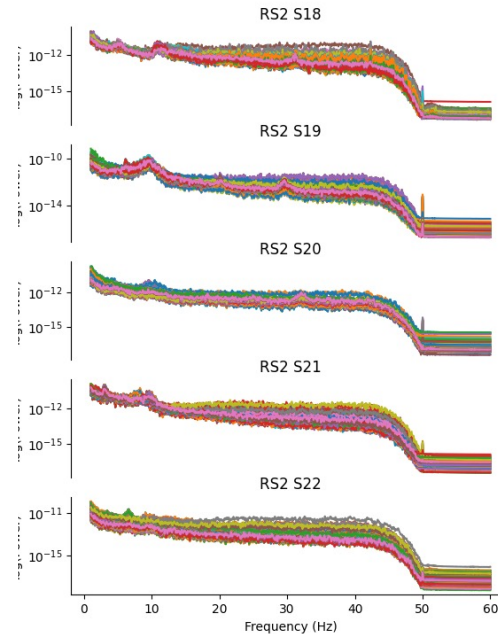
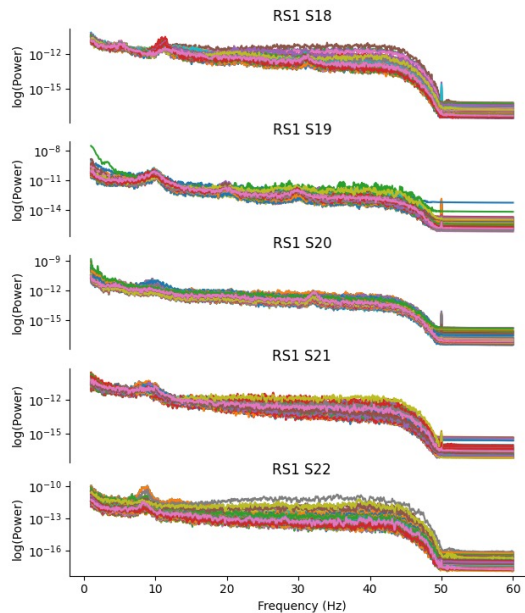
3.3. EEG



➤ Brain activity
during task
(resting state)

3. Methodologies

3.3. EEG



➤ Brain activity
during task
(resting state)

3. Methodologies

3.4. Virtual reality



- Presentation and interaction in virtual environment

3. Methodologies

3.5. Video (machine learning, gesture)



➤ Body detection
and gesture analysis

Source : www.outlookindia.com

3. Methodologies

3.7. Robotics (educative bots)



➤ Bots as a tools
for teaching

3. Methodologies

3.8. Conception 3D (creation and print)

➤ Educational board game



Coupaud et al., (2023)

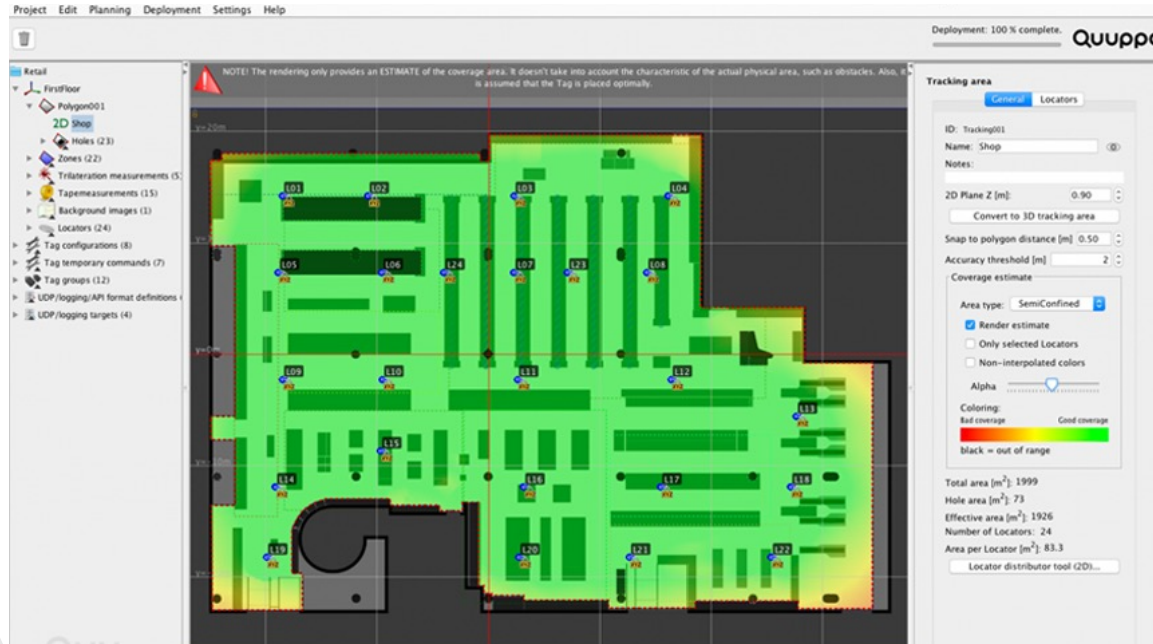
➤ study of room layouts materialized with 3D objects



Diop et al., (2023)

3. Methodologies

3.9. Indoor tracking



➤ Body tracking
in link with
motivational
and perceptive
styles

4. Future prospects

A CHALLENGE FOR EDUCATIONAL RESEARCH



- * A unique space for experimental studies in a quasi-ecological context
- * Interdisciplinarity through the cross-fertilization of theoretical models
- * Multimethods (physiological, psychological, behavioral measurements, etc.)

A CHALLENGE FOR TEACHING, STUDENT LEARNING, AND TEACHER TRAINING



- * Understanding teaching and learning processes
- * Testing the effects of new teaching methods and devices
- * Linking pre-service and in-service teacher training to research

Thank you for your attention !



Scan me!

