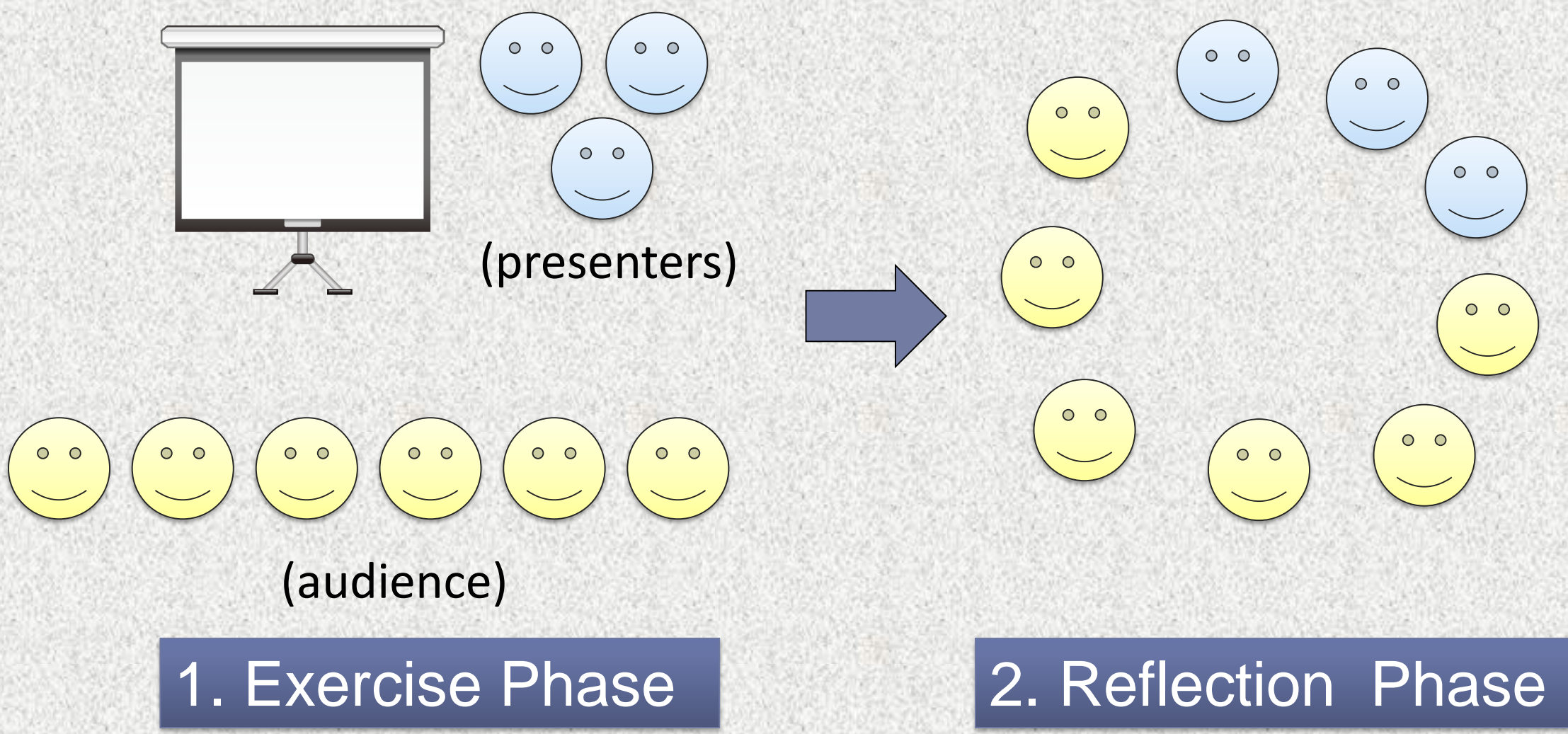


Development of a Mobile Observation Support System for Students: FishWatchr Mini

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Background and Objectives

- Cooperative Activity in Classroom (Presentation Exercise)



Video annotation systems (VAS) must be effective for such activities

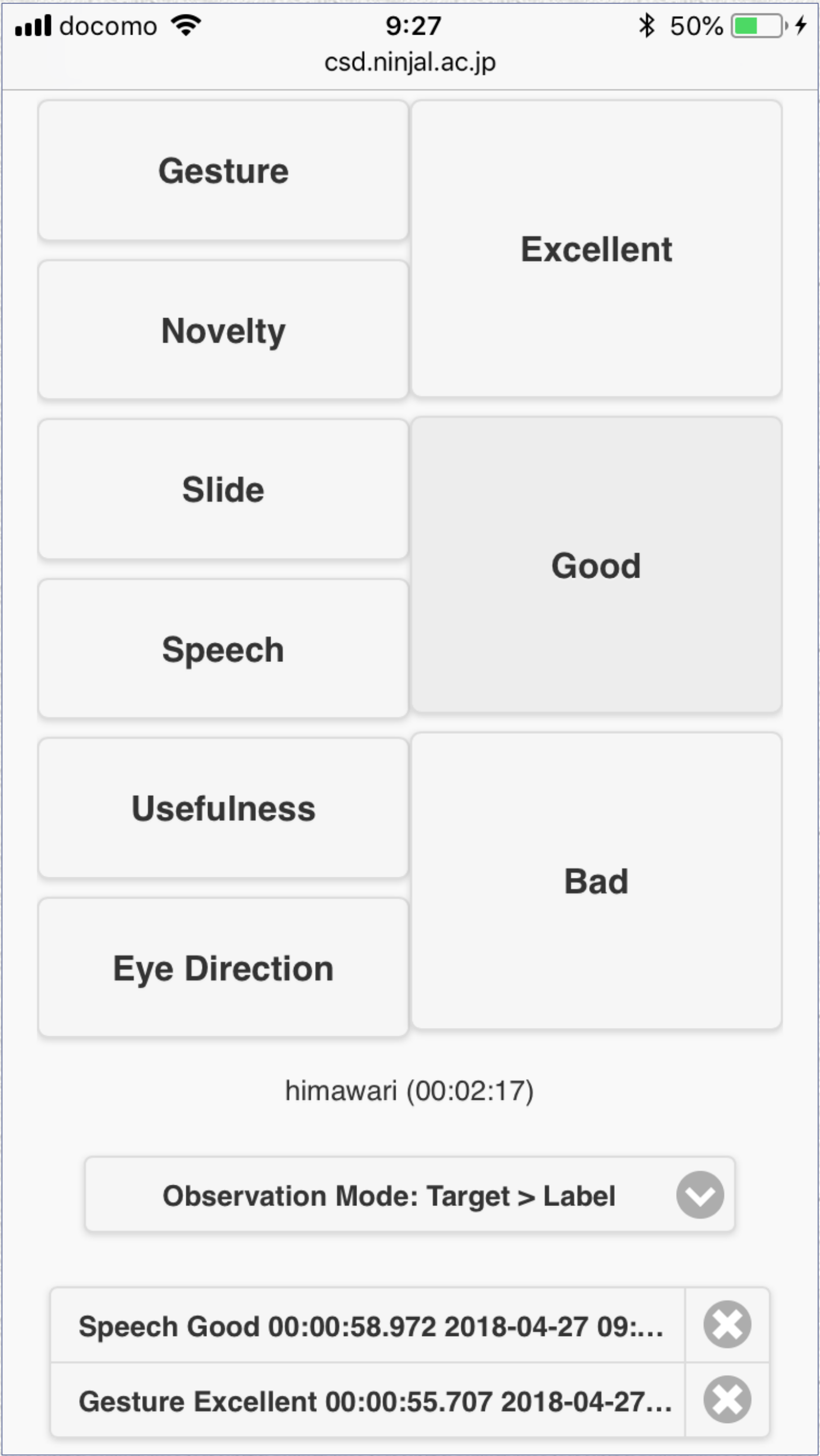
- Problems in Introducing VAS in Classrooms
 - Preparation of devices for real-time annotation systems
 - Burden of learning the system
 - Means of using annotation results

- Objectives of This Study

- To develop FishWatchr Mini (FWM) to solve the problems
- To validate the effectiveness of FWM in a presentation exercise

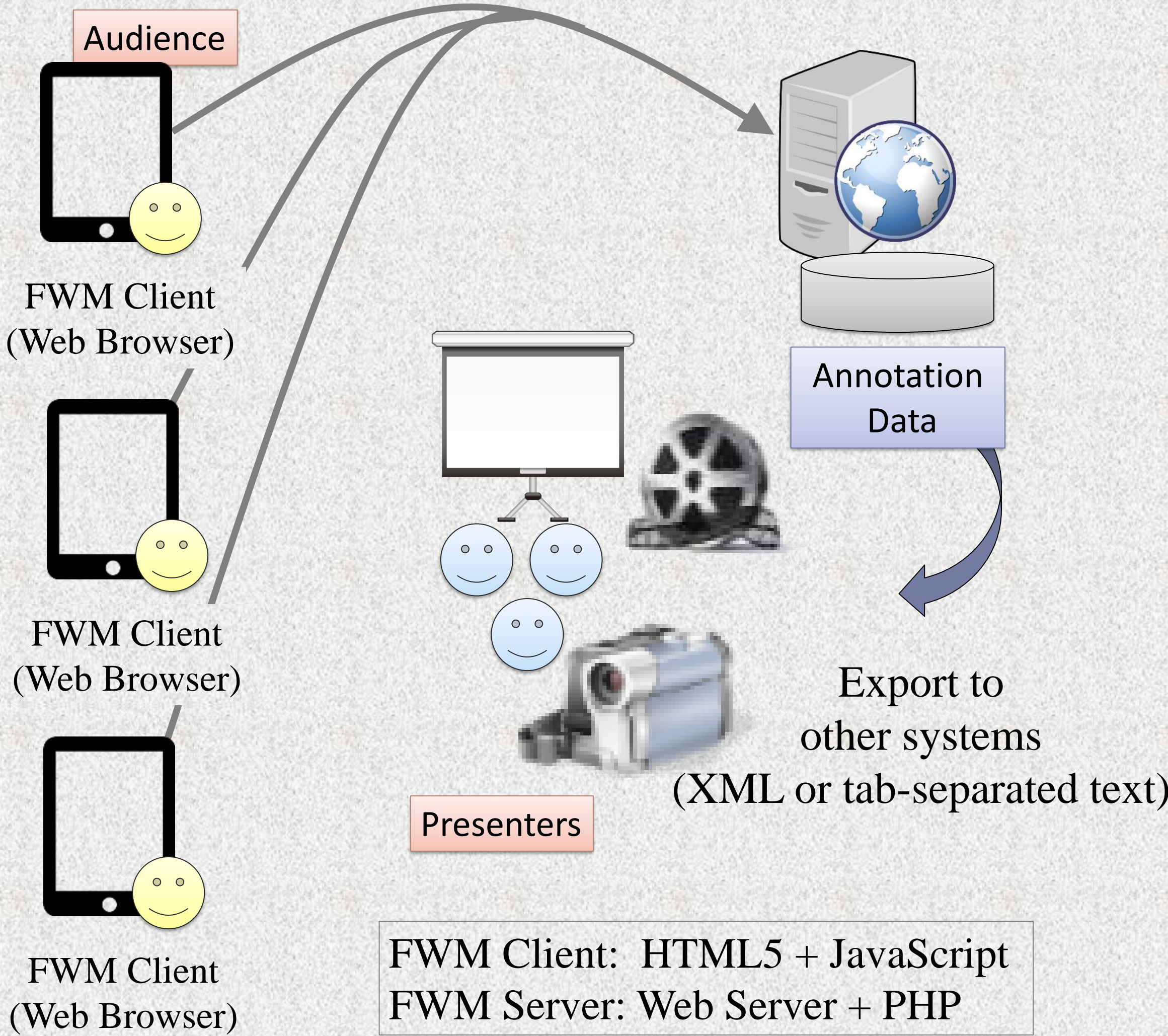
- Characteristics of FWM

- Running on the mobile devices of students
- No software installation on the devices
- Automating as many operations as possible except annotation
- Students can visualize their annotations right after the exercises
- Easy to export annotation data to VAS synchronizing with the video

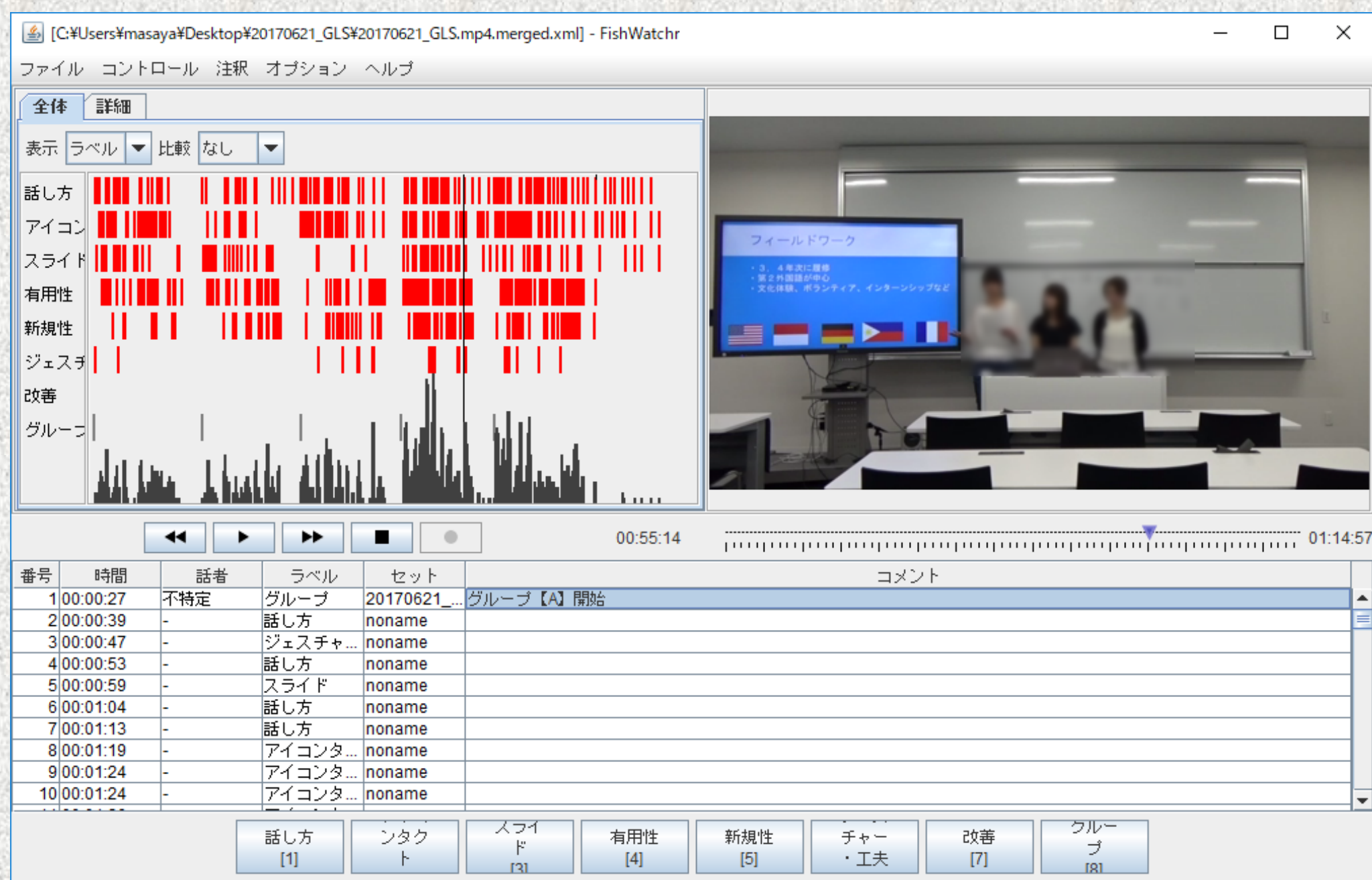


Development of FishWatchr Mini

- System Structure



- Importing Annotation Data to FishWatchr (VAS)



Synchronizing annotation data with the video by dragging and dropping the folder that includes them

- PC application written in Java
- Editing the annotation data
- Making new annotations

Introduction to Presentation Practice

- Conditions

- Two class periods (90 min + 90 min) in a university
- 13 students (divided into 5 groups)
- Procedures
 - Presentation exercise
 - A group conducts a 10-min presentation.
 - Other students make annotations (six evaluation points) on the presentation with FWM
 - All groups perform exercises.
 - Reflection
 - A teacher synchronizes all annotation data with the video using FW.
 - Each student reflects on his/her group's presentation using FW.

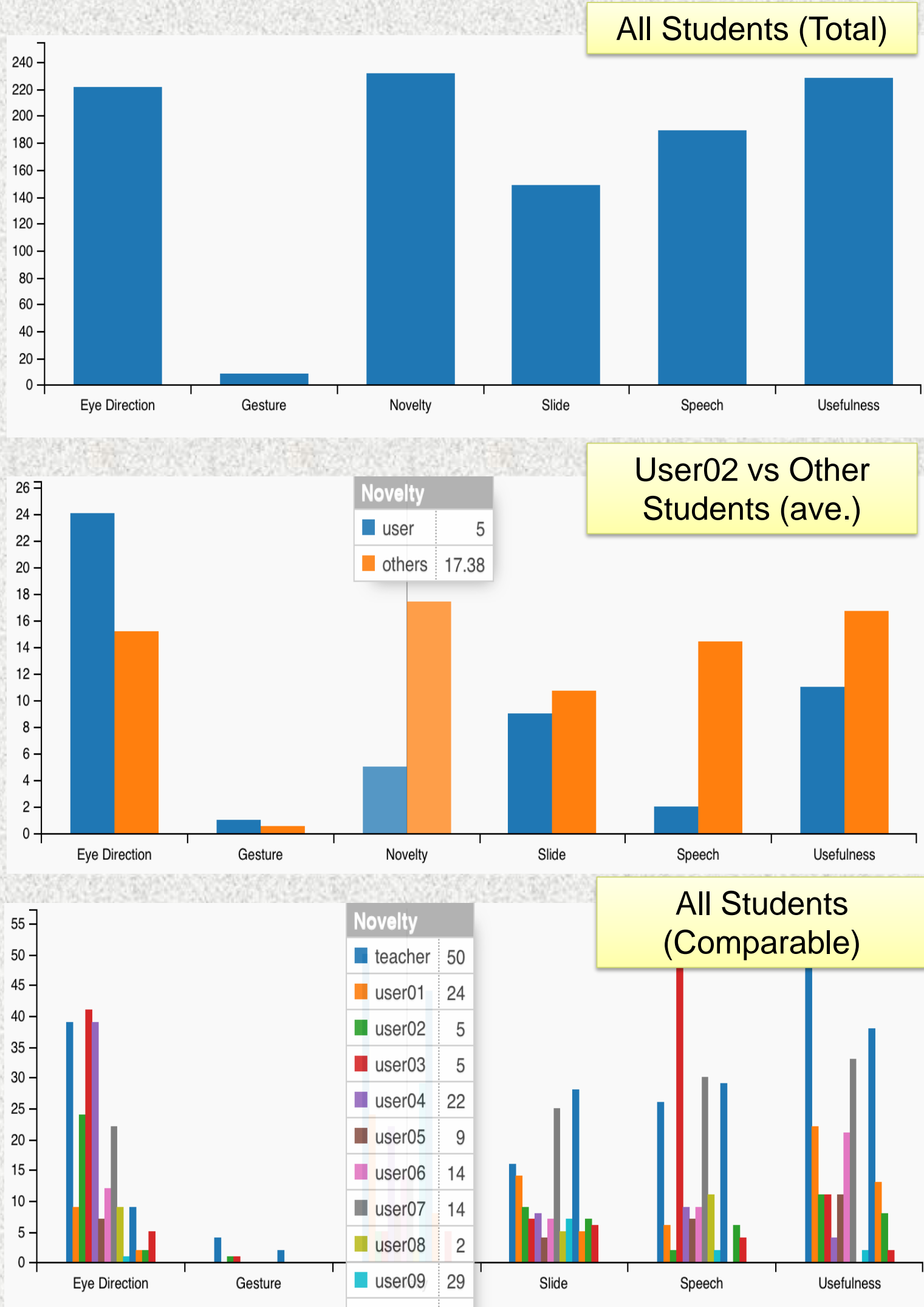
- Results

- No significant problem occurred during classes
- 838 annotations by 13 students

Question	Score (1-5)
[EASE of USE] Could you observe practices with FWM smoothly?	4.29
[ADEQUATE ANNOTATION TYPES] Were the evaluation points sufficient for evaluating the presentations?	4.36
[HELPFUL TO KNOW ONE'S STRONG POINTS] Was it helpful for you to know when your group's practice was evaluated positively in correspondence with the video	4.21
[HELPFUL TO FIND IMPROVEMENTS] Did it help you find problems in your presentation by reflecting on scenes where other members of your groups were evaluated positively?	4.00

- Visualization of Annotation Data

- Summary Histograms



- Time-Series Histogram

