

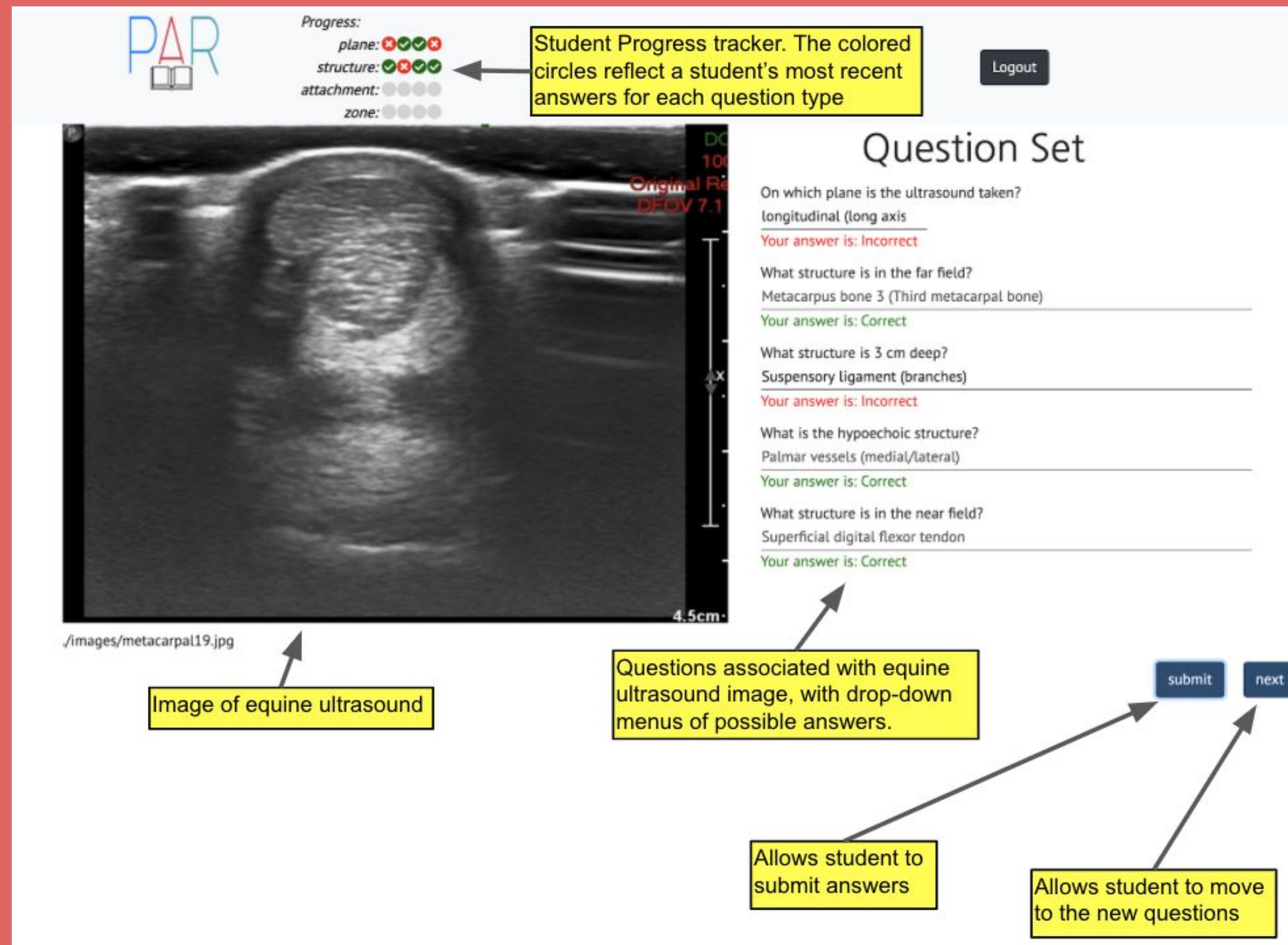
Practice, Assessment, and Review: The Pedagogical Model Behind an Intelligent Tutoring System

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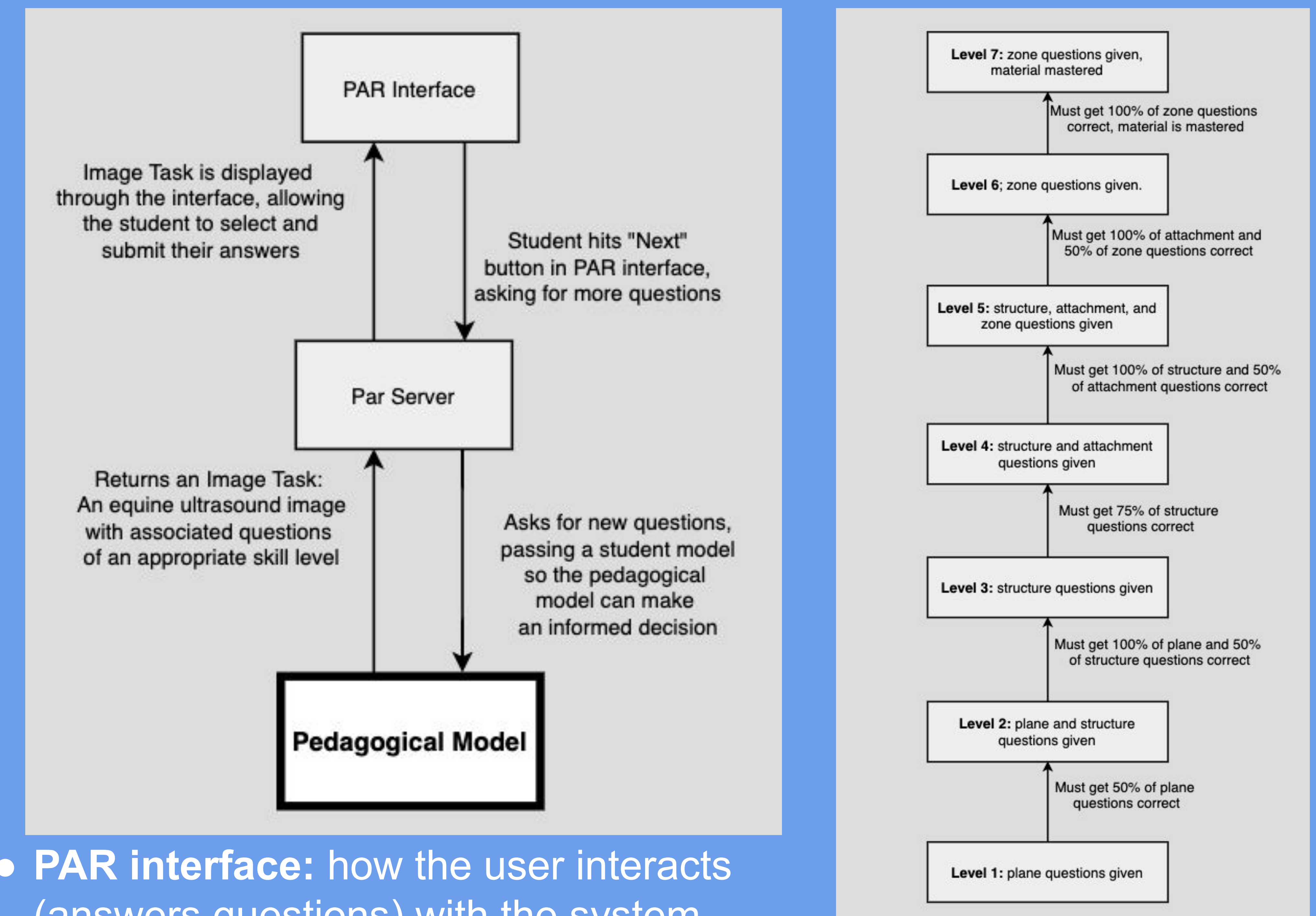
PAR's Interface



How the Pedagogical Model makes Informed Decisions

- The purpose of the pedagogical model is to select appropriate questions for a student's knowledge level, maximizing student learning. The PAR pedagogical model accomplishes this by:
 - Calculating a student's knowledge level by looking at recent answers for every kind of question.
 - Using that knowledge level to determine which kind of questions to give to a student.
 - Looking at a student model to select questions that have been seen the least by the student. This helps to prevent memorization
 - Recalculating the knowledge level every time answers are submitted, to ensure the most accurate representation of the student's knowledge.

The Pedagogical Model and Its relation to the PAR System



- **PAR interface:** how the user interacts (answers questions) with the system.
- **PAR Server:** contains all student models and acts as the connection between the interface and the rest of the system.
- **Pedagogical model:** responsible for making informed decisions to give a student appropriate questions for their level of knowledge.
- **Student level:** determined on how well they've done on recent questions of each type. If a student no longer meets the qualifications for a level, they will drop to a lower one,

Future Study on the PAR System

- This spring, the larger project team will pilot the PAR system in courses
- We will conduct a study regarding the effectiveness of the system, including the pedagogical model.
- Participants will evaluate the speed at which PAR is presenting new kinds of questions and the appropriateness of their difficulty levels through agreeing or disagreeing with a series of statements.