Building Assessment Functions into LMS for Efficient and Sustainable Accreditation Processes

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Good Program Assessment Takes Lots of Work …

- Collect student work for course journals and portfolios
- Conduct surveys of the constituencies
- Develop and evaluate rubrics
- Analyze, document, and present various assessment data
- …

… Good Program Assessment Takes Lots of Work

ABET Criterion 4
Continuous Improvement

"The program must regularly use appropriate, documented processes for assessing and evaluating the extent to which the student outcomes are being attained. The results of these evaluations must be systematically utilized as input for the continuous improvement of the program."

Program Assessment Systems (PAS) To The Rescue?

- Commercial PAS
  - Taskstream
  - LiveText
  - AEFIS
- Homegrown PAS
  - ABET Symposium 2015
    - [Ferri and Whiteman], [Aly]
    - [Ayers, Fontecchio, and Imhoff]

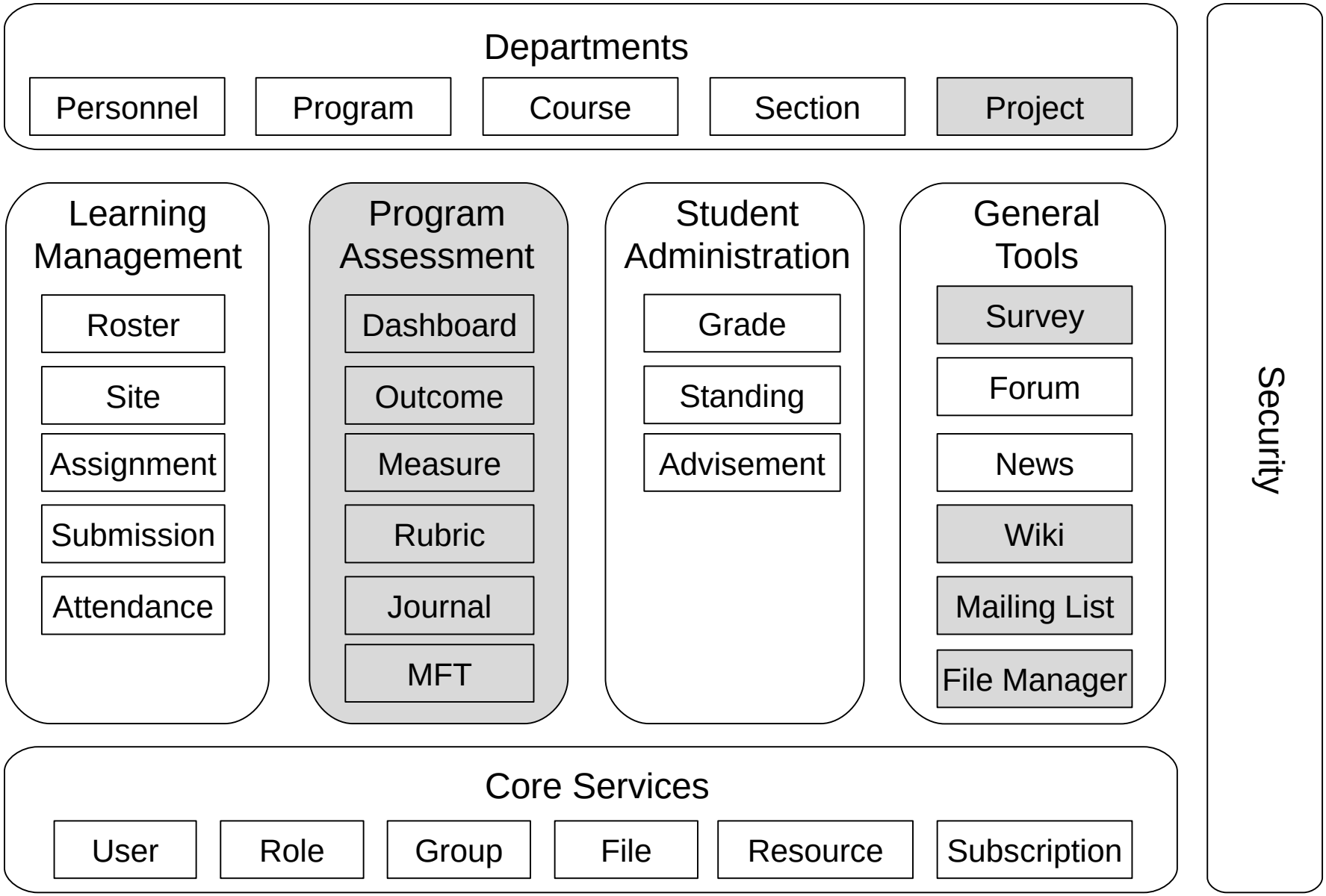
How About Learning Management Systems (LMS)?

- Blackboard
- Moodle
- Canvas

CSNS = LMS + PAS

- CSNetworks Services (CSNS)
- Started in 2006 for homework submission
- A web-base, open-source software system for learning management, program assessment, student administration and advisement

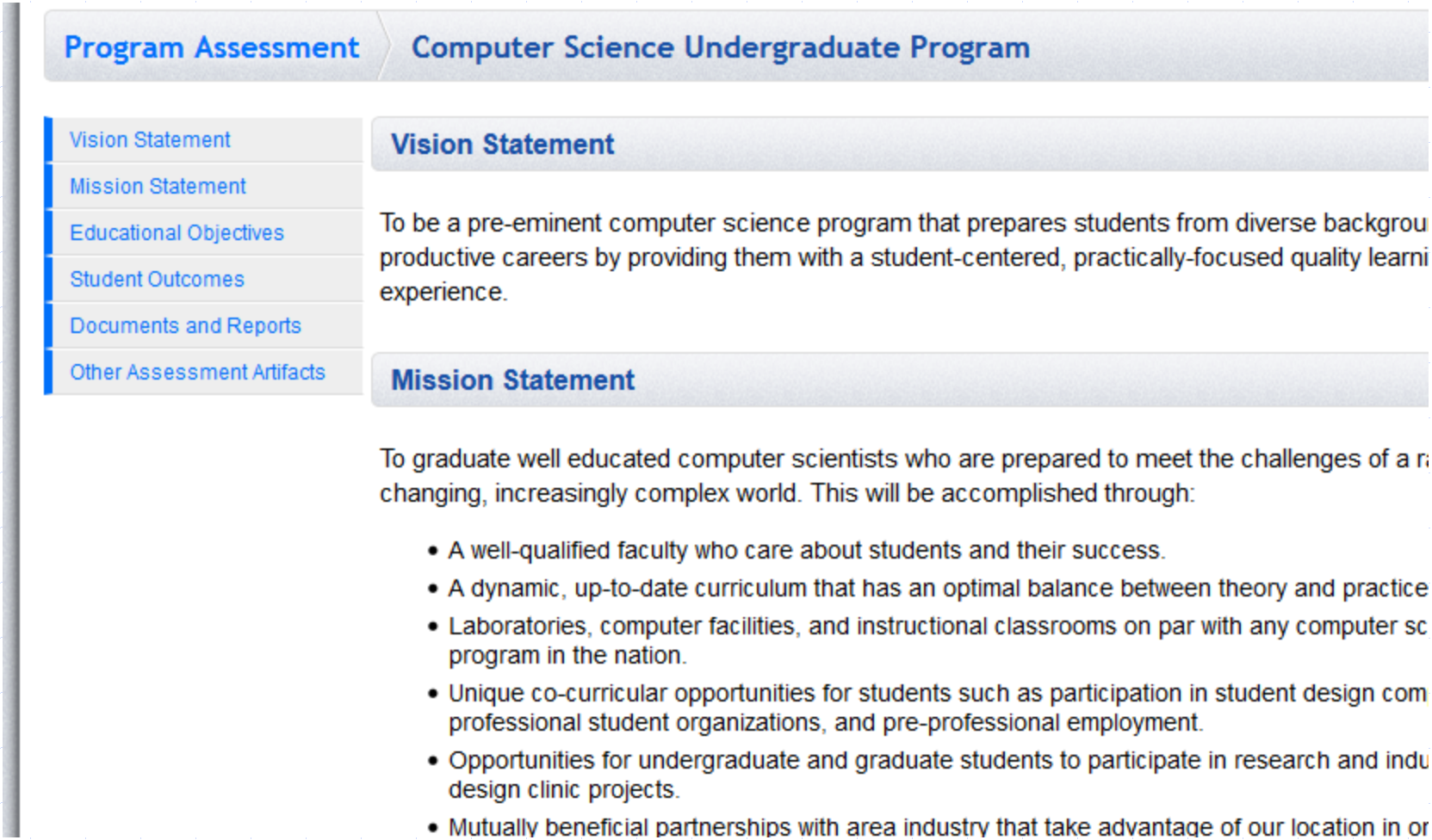
CSNS Architecture



CSNS Demo

- YouTube video - https://www.youtube.com/watch?v=s7bU2MrhF9I

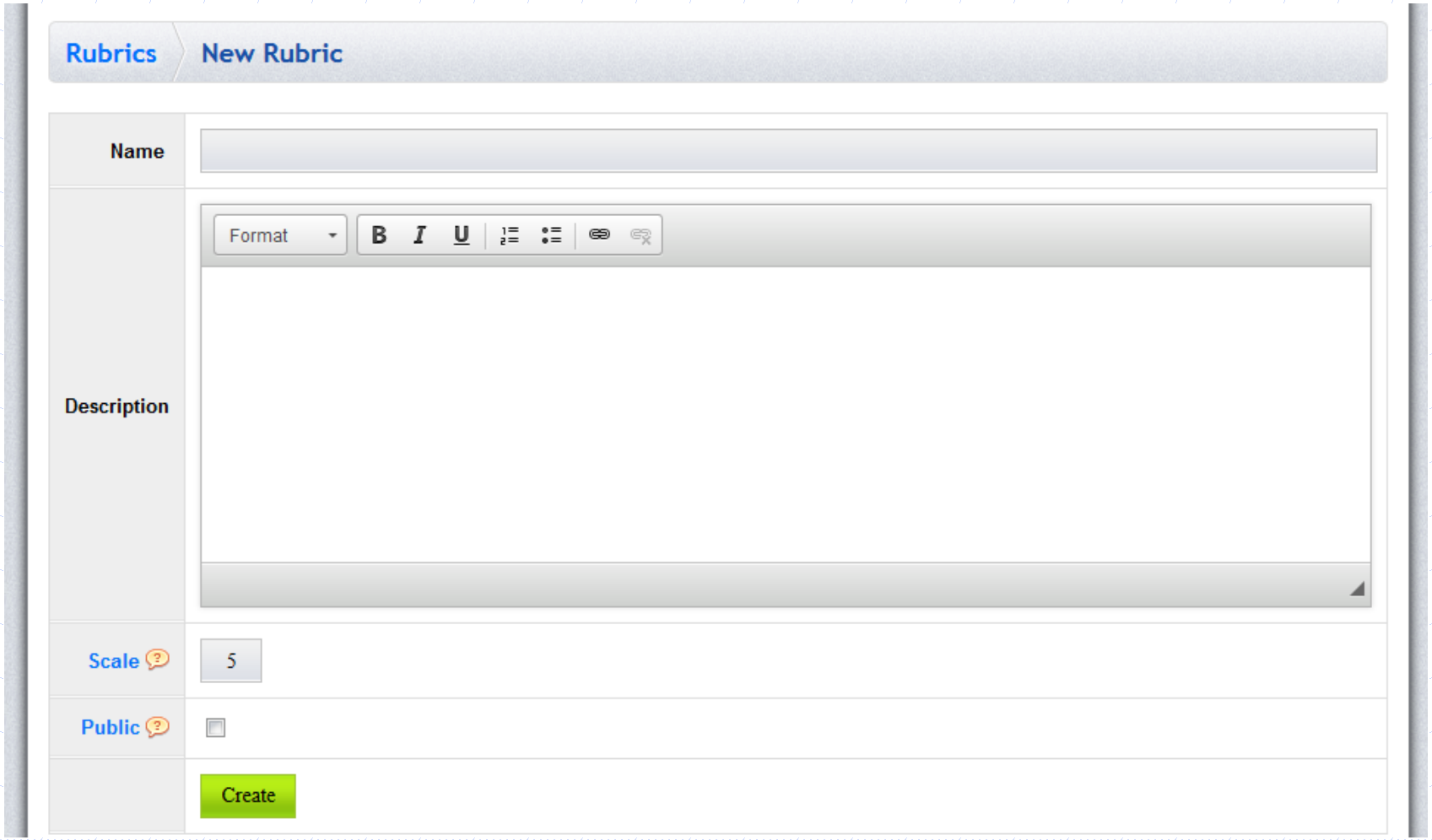
Program Assessment Dashboard



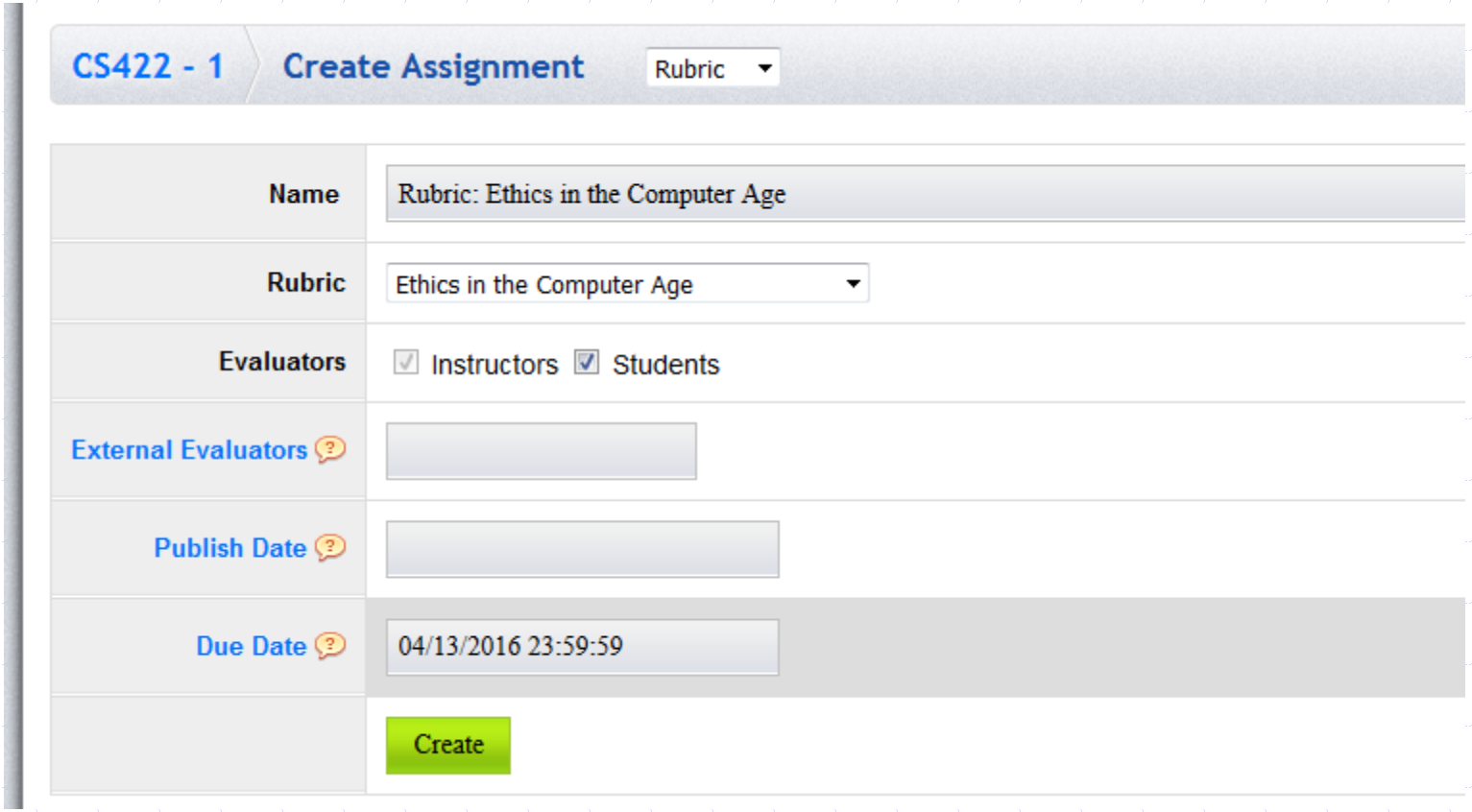
Rubric Functions

- Rubrics management
- Rubrics evaluation
- Result aggregation and display

Create A Rubric



Rubric Assignment



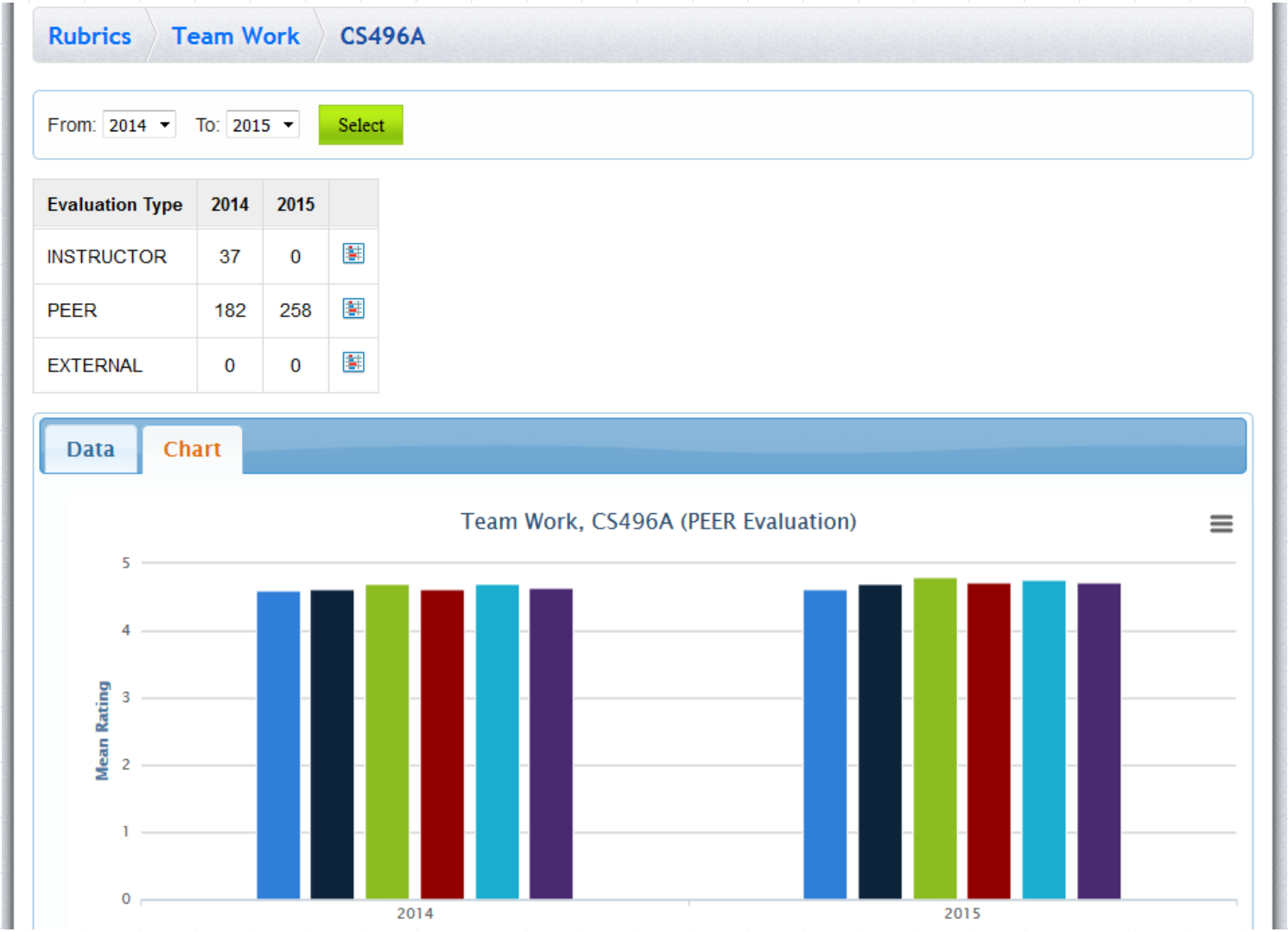
Rubric Evaluation

CS422 - 1 | Rubric: Ethics in the Computer Age | John Doe | Evaluate

Ethics in the Computer Age

1	2	3	4	5
Lifelong Learning (SLO 8)				
Very poor and lacking understanding of basic knowledge.	Very basic knowledge base.	Fair amount of knowledge base and shows a basic understanding of theoretical/practical concepts.	Good amount of knowledge base. Good grasp of theoretical/practical foundations.	Outstanding showcase of knowledge and a comprehensive understanding of theoretical/practical foundations.
Global Impact (SLO 9)				
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Ethics (SLO 10)				

Rubric Evaluation Results



The CSNS Advantages

- LMS + PAS
- Automate many mundane and tedious tasks in assessment
- Promote *the right way* to do assessment
- Built by faculty and for faculty
- Open-Source

More Information about CSNS

- CSNS - http://csns.calstatela.edu/
- Source code - https://github.com/cysun/csns2