

BrightBoard – A Course and Quiz System (Individual Contributions)

CSCI 441 VA: Software Engineering

Jul 7, 2025

Team Members: Shadow Love-Erckert, Conner Erckert

Project URL: <https://csci441-brightboard.onrender.com/>

GitHub URL: https://github.com/Element713/CSCI441_BrightBoard.git

Table of Contents

Table of Contents.....	2
Work Assignment.....	3
a. Individual Contributions Breakdown.....	3
1. Project Management.....	5
a. Plan of Work.....	5
2. References.....	7

Work Assignment

a. Individual Contributions Breakdown

While both team members actively collaborated on all aspects of the project, specific responsibilities were divided to optimize workflow based on individual strengths. The following table summarizes each member’s contributions across major report and development components.

Component / Task	Shadow Love-Erckert	Conner Erckert
1. Requirements Specification		
Functional Requirements (Use Cases)	A/R	A/R
Non-Functional Requirements (FURPS+)	A/R	A/R
Glossary of Terms	A/R	A/R
Requirements Consolidation	A/R	A/R
2. Domain Modeling		
Entity Identification	R	R
Relationship Mapping	C	R
Mongoose Schema Implementation	C	A/R
Data Validation Rules	A/R	A/R
3. Software Design		
Backend Architecture Design (Express.js)	C	A/R
File Structure Planning	C	A/R
Middleware (JWT Auth, Validation)	C	A/R
Routing Logic	A/R	A/R
API Endpoint Specification	A/R	A/R
4. Report Preparation		

Cover Page, Purpose, Work Plan, TOC	A/R	C
Requirements Section	A/R	A/R
Functional & UI Specification	A/R	C
Formatting and Final Edits	A/R	A/R
Diagrams and Illustrations	A/R	A/R
5. Other Contributions		
UI Design & Styling	R	C
Frontend Development (React, CSS)	R	A
Backend Integration (MongoDB, Express)	C	R/A
Quiz System Development	A/R	A/R
Testing & Debugging	A/R	A/R
Deployment (Local & Final)	A/R	A/R
Integration Management	A/R	C
Team Communication & Weekly Check-ins	A	C

1. Project Management

a. Plan of Work

Task	Developer	Est. Begin	Est. Complete	Done
Set up GitHub repo & task board	Both	6/7/2025	6/8/2025	X
Define tech stack	Both	6/7/2025	6/8/2025	X
Design DB schema (users, courses, etc.)	Conner	6/7/2025	6/10/2025	X
Set up backend project (Express.js)	Conner	6/7/2025	6/10/2025	X
Wireframe UI: login, dashboard, courses	Shadow	6/7/2025	6/10/2025	X
Setup frontend scaffolding (React, CSS)	Shadow	6/9/2025	6/11/2025	X
Implement auth (login, register)	Conner	6/12/2025	6/15/2025	X
Role-based access (Instructor/Student)	Conner	6/12/2025	6/15/2025	X
Build login/register UI	Shadow	6/12/2025	6/14/2025	X
Responsive styling + validation	Shadow	6/13/2025	6/15/2025	X
Create course + lesson API	Conner	6/16/2025	6/19/2025	X
Instructor dashboard UI	Shadow	6/16/2025	6/19/2025	X
Lesson upload + preview	Shadow	6/18/2025	6/20/2025	X
Student course listing + enroll API	Conner	6/23/2025	6/25/2025	X
Serve lessons securely (student view)	Conner	6/24/2025	6/26/2025	X
Student dashboard UI (browse/enroll/view)	Shadow	6/23/2025	6/26/2025	X
Add mobile responsiveness	Shadow	6/25/2025	6/27/2025	X
Quiz creation API (MCQs)	Conner	6/30/2025	7/2/2025	x
Quiz-taking + feedback API	Conner	7/2/2025	7/4/2025	x
Quiz builder UI (MCQs)	Shadow	6/30/2025	7/2/2025	x
Quiz interface + feedback design	Shadow	7/2/2025	7/4/2025	x
Progress tracking API	Conner	7/7/2025	7/9/2025	
Visual progress UI (bars, badges)	Shadow	7/7/2025	7/9/2025	
UI polish + accessibility	Shadow	7/9/2025	7/11/2025	

User docs + test cases	Shadow	7/9/2025	7/11/2025	
Final testing + bug fixes	Both	7/10/2025	7/11/2025	
Deploy app to server	Both	7/11/2025	7/12/2025	
Prepare final demo & presentation	Both	7/14/2025	7/18/2025	

2. References

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Rhode, Jason, et al. "Understanding Faculty Use of the Learning Management System." *Online Learning*, vol. 21, no. 3, 2017, pp. 68–86. <https://doi.org/10.24059/olj.v21i3.1217>.

Turnbull, Deborah, Rajeev Chugh, and Jo Luck. "Learning Management Systems, An Overview." *Encyclopedia of Education and Information Technologies*, edited by Arthur Tatnall, Springer, 2020. https://doi.org/10.1007/978-3-030-10576-1_248.