



**System and Software Specification**  
For  
***MyDesign***  
***UMCP Ventures Program***

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# Revision History

Date	Rev	Author	Description
22-Sept-15	-	MBitner	Initial submittal
27-Oct-15	V1	MBitner	Updates to requirements for Portfolio Storage and Assessment
15-Nov-15	V2	MBitner	Update to requirements for Project Indicators

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# Requirements for Completing the Alpha Version of MyDesign

This document defines System Requirements for implementation of additional features to complete the Alpha version of the MyDesign web application. Acceptance testing is defined in the Appendix A. System Test Matrix. As the design progresses, Software Requirements are derived from the System Requirements and documented herein.

## Portfolio Storage Feature F-001:

**System Requirement SYS-001:** The Student Dashboard shall provide for saving student created Design Work Products and relevant metadata for teacher review and assessment.

**Software Requirement SWS-001:** The Student Dashboard page shall include a MyPortfolio tab that provides for storage of student created design work products and relevant metadata for teacher review and assessment.

**Software Requirement SWS-002:** There shall be a new NoSQL collection named Assessments that includes an ever increasing number of documents named Portfolio Document.

**Software Requirement SWS-003:** The student created Design Work Product shall accept only PDF files and shall check the file extension for errors.

**Software Requirement SWS-004:** The following metadata describing each student created design work product shall be gathered in the Student Dashboard and stored in the Assessment Document:

- Student ID
- Project ID
- Design Step Number (1 – 12)
- Student Comment text
- In Progress Flag shall be set 1 to support progress indicators and trigger events
- Work Product filename
- Work Product byte array

## Portfolio Assessment F002:

**System Requirement SYS-002:** The Teacher Dashboard shall provide for teacher review of student saved Design Work Products against the provided Rubric and saving of the resulting assessment.

**Software Requirement SWS-005:** The Teacher Dashboard shall include an “Assessment” tab that supports teacher assessment of student saved Design Work Products and storage of assessment data.

**Software Requirements SWS-006:** Results of teacher assessments shall be stored in the Assessment Document created in the Student Dashboard for the student created Design Work Product.

**Software Requirements SWS-007:** The “In Progress” Flag shall indicate on the Teacher Dashboard that a new Design Work Product has been saved and is ready for review.

**Software Requirements SWS-008:** The following metadata describing each teacher assessment shall be gathered in the Teacher Dashboard and stored in the Portfolio Document created for the student created Design Work Product:

- Teacher ID
- Assessment Value (0 – 5)
- Teacher Comment text

**Software Requirements SWS-012:** The Assessment Document “In Progress” flag shall be set to 2 when an assessment has been entered by the teacher to support progress indicators.

## **Progress Indicators F-003:**

**System Requirement SYS-003:** The Student Dashboard shall display a Progress Bar at the top of the Student Dashboard.

**Software Requirement SWS-13:** The Student Dashboard Progress Bar shall indicate percentage of Design Steps for which Student Work Products have been stored.

**System Requirement SYS-13:** The Student Dashboard shall provide for display of Design Work Products saved and assessed.

**Software Requirement SWS-14:** The Student Dashboard page shall include a MyProgress tab that provides for display of Design Work Product filenames and status (“saved and not assessed”, “saved and assessed”) for each Design Component and Design Step.

**System Requirement SYS-004:** The Teacher Dashboard shall display Progress Indicators for each team and the entire class derived from progress through the design process and assessment results of student created Design Work Products.

## **Class Management F005:**

**System Requirement SYS-005:** The Teacher Dashboard shall allow the teacher to view a student roster created by the Scenario Generator described in SYS-010.

**System Requirement SYS-006:** The Teacher Dashboard shall provide for assigning and managing teams of students from a class roster.

**System Requirement SYS-007:** The Teacher Dashboard shall allow the teacher to create projects.

**System Requirement SYS-008:** The Teacher Dashboard shall provide for teacher assignment of projects generated by teachers, students or the Scenario Generator to students and teams within the class.

**Special Features F-007:** The NSF EAGER and NSF SBIR grants will use MyDesign Alpha as a test bed. As such, there will be requests for special additional features to support their efforts

**System Requirement SYS-009:** Tabs on the Student Dashboard shall be grouped into a smaller number of categories to minimize the number of tabs on the Dashboard.

**System Requirement SYS-010:** There shall be a Scenario Generator tool to read a text file and pre-store data into the MyDesign database collections.

**Software Requirement SWR-009:** The Scenario Generator shall read a text file and load the data into the MyDesign database collections.

**Software Requirement SWR-010:** Text file data shall be created to support testing of the requirements defined in this document.

**Software Requirement SWR-011:** Text file data shall be created to support the four EAGER workshops.

**System Requirement SYS-011: (Goal)** MyDesign shall be modified to support use on tablets and the Safari browser.

***System Requirement SYS-012:*** MyDesign shall be modified to allow teachers to sign in as students or teachers.



## Appendix A. System Test Matrix

Tests shall be performed against System Requirements as Inspections (I), Demonstrations (D) or Measurements (M) as defined in the following System Test Matrix. Test scenarios are required for each Demonstration or Measurement.

System Requirement ID	Test Method
SYS-001	M
SYS-002	M
SYS-003	D
SYS-004	D
SYS-005	D
SYS-006	D
SYS-007	D
SYS-008	D
SYS-009	D
SYS-010	M
SYS-011	D
SYS-012	D
SYS-013	D

The Inspection method shall be used to verify successful completion of other program deliverables.