

**MICHIGAN STATE**  

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**UNIVERSITY**

# Alpha Presentation

## clUML: Browser-Based UML Editor

The Capstone Experience

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*From Students...  
...to Professionals*

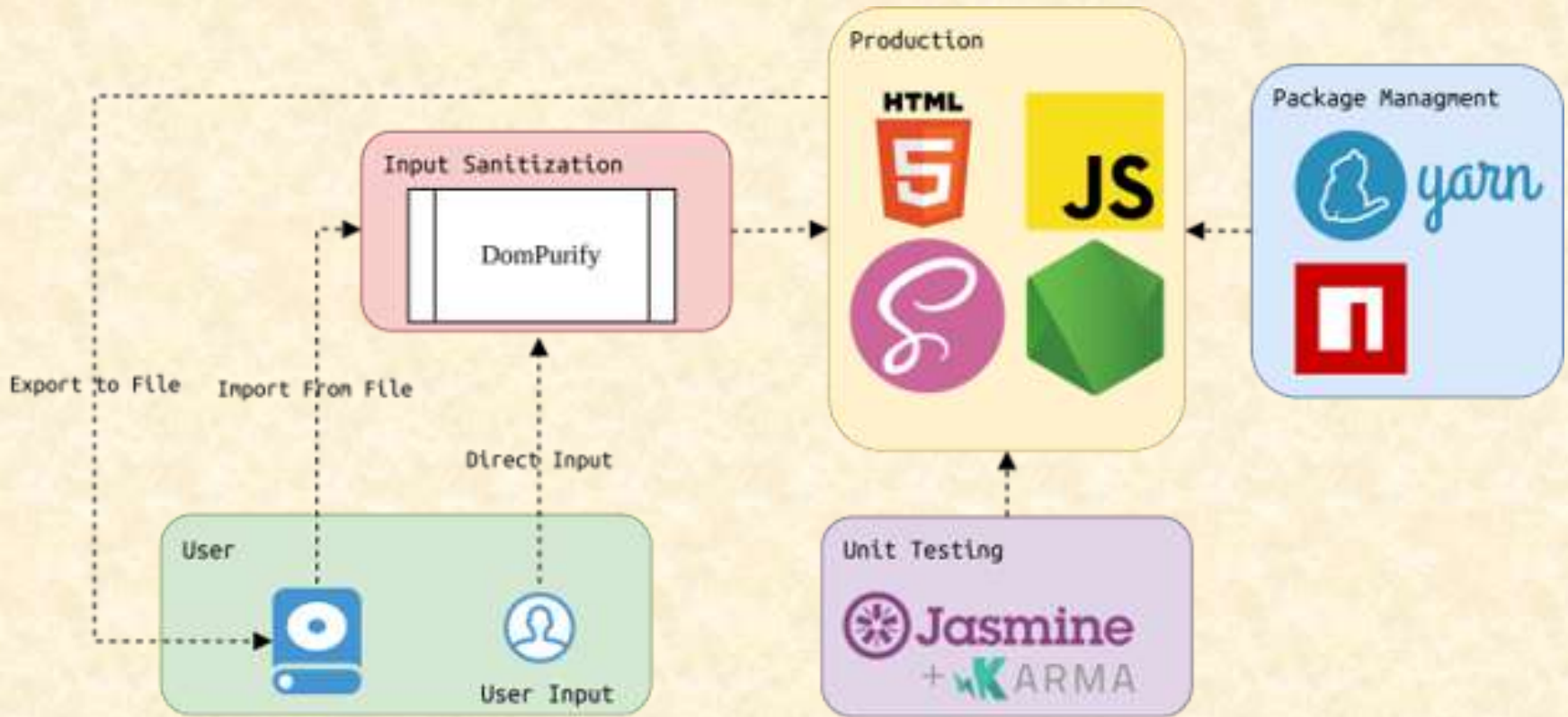
# Project Overview

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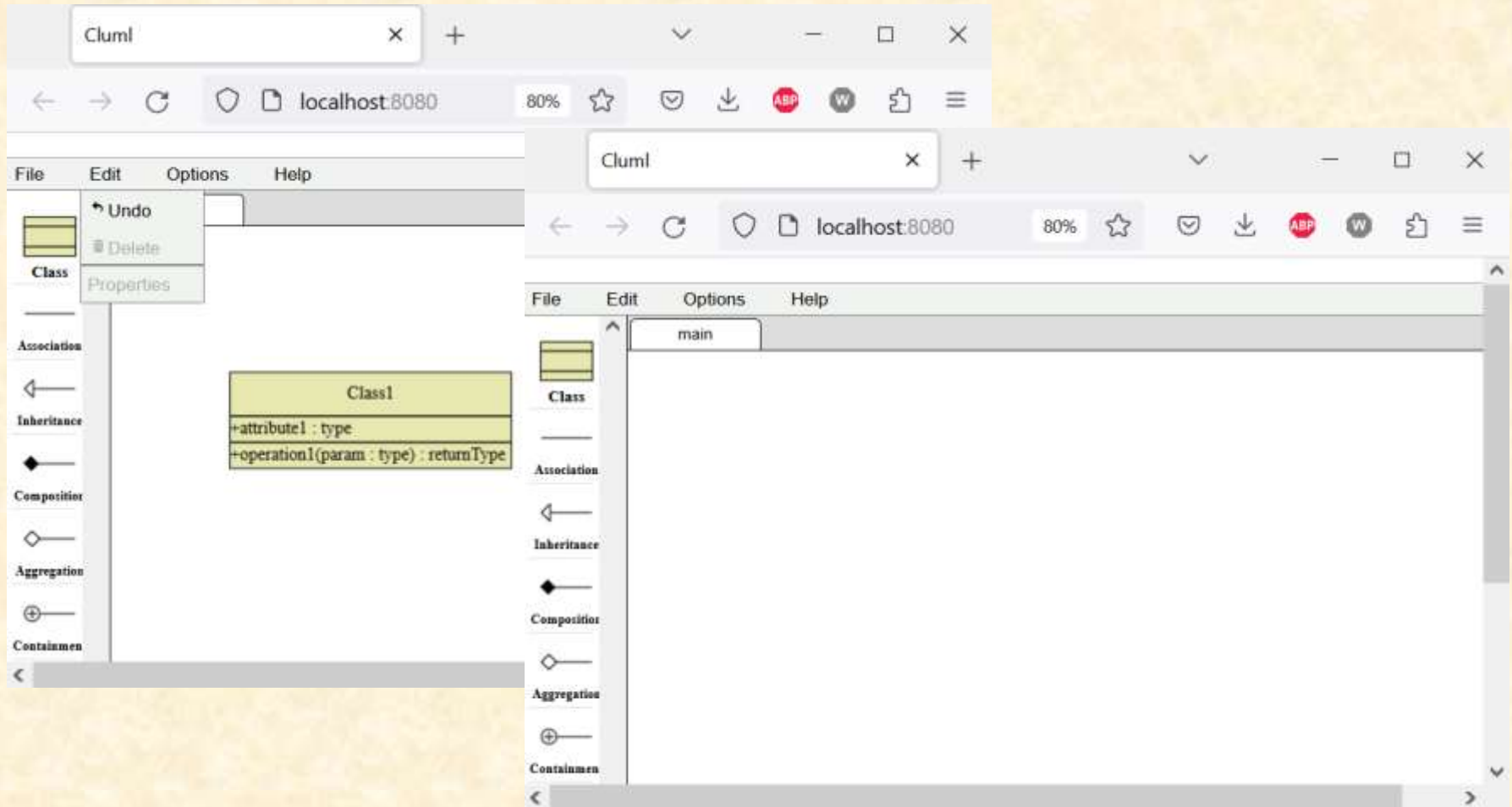
- An easy-to-use, web-based UML class diagram editor designed for future MSU CSE classes
- Embedded in CourseLib-based websites
- Includes sanity check for common mistakes
- Supports both mouse and touchscreen devices



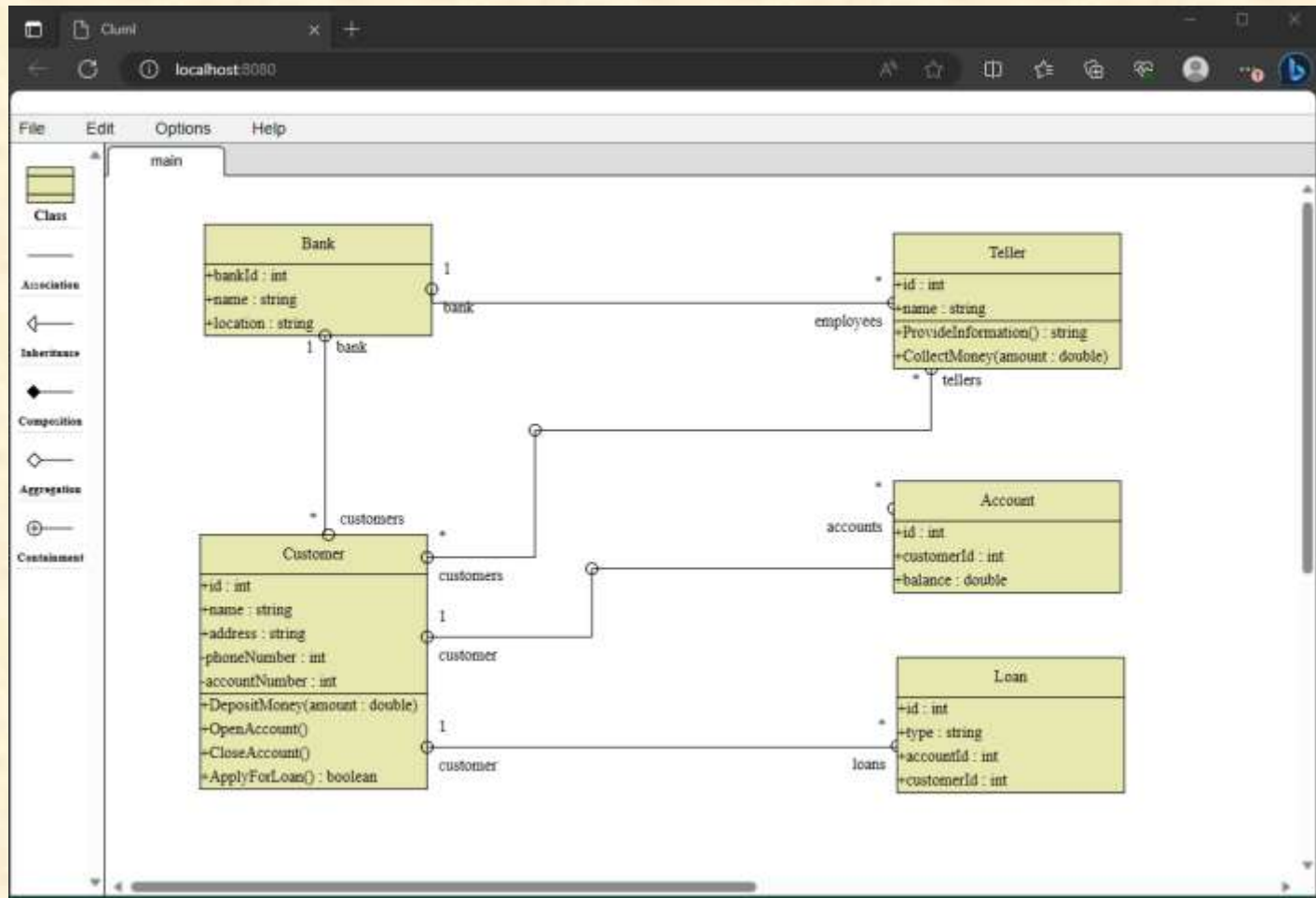
# System Architecture



# Reverting States with Undo



# Connecting Classes Together



# Sanity Checking

The screenshot shows a web-based IDE window titled 'Cluml' with a browser address bar at 'localhost:8080'. The IDE interface includes a menu bar (File, Edit, Options, Help), a toolbar, and a left sidebar with icons for Class, Association, Inheritance, Composition, Aggregation, and Containment. The main workspace displays a UML class diagram with two classes: 'graph' and 'Node'. The 'graph' class has an attribute 'nodes' and an association to the 'Node' class labeled 'graph'. The 'Node' class has an attribute '\_value: float' and an association to itself labeled 'next'. A 'Cluml Sanity Check' dialog box is open in the foreground, displaying the following text:

**Cluml Sanity Check**

## Sanity Check

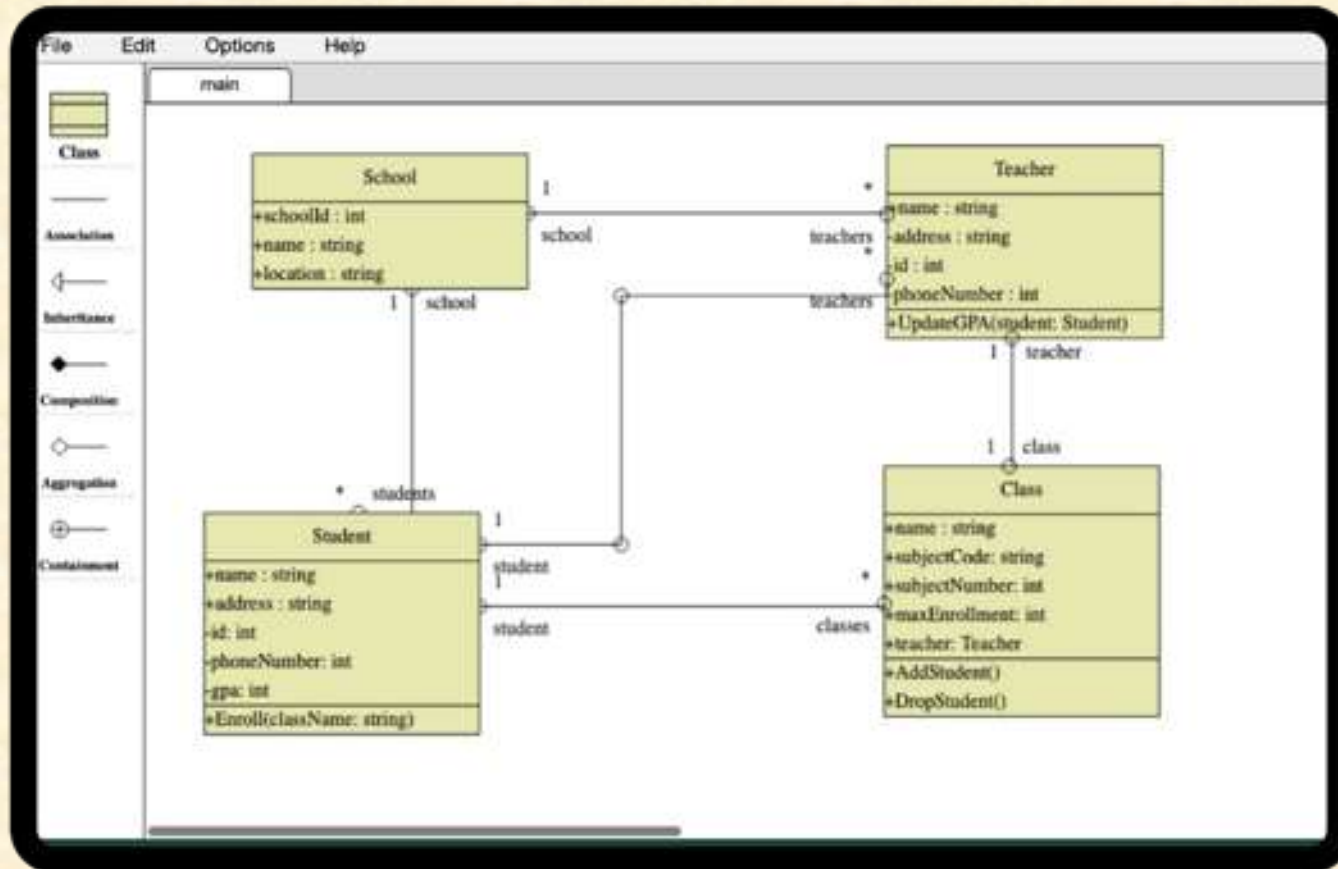
**3 error(s) have been detected**

- Class graph: name not capitalized.
- Class Node, attribute \_value: Name's first character is not alphabetical.
- Class Node, attribute \_value: Name contains non alphanumeric characters.

Ok



# Touchscreen Support



# What's left to do?

- Improve relationships (associations, compositions, etc.) functionality
- More sanity checks for upside-down inheritance, composition cycles, etc.
- Changing attributes/operations visibility/abstraction
- Continue support for undo, importing, and exporting





# Questions?

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