

**MICHIGAN STATE**  

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**U N I V E R S I T Y**

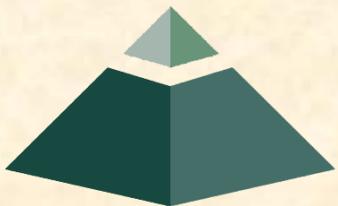
# Alpha Presentation

## Pulse

**The Capstone Experience**  
Team Michigan State University

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Department of Computer Science and Engineering  
Michigan State University  
Spring 2018



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

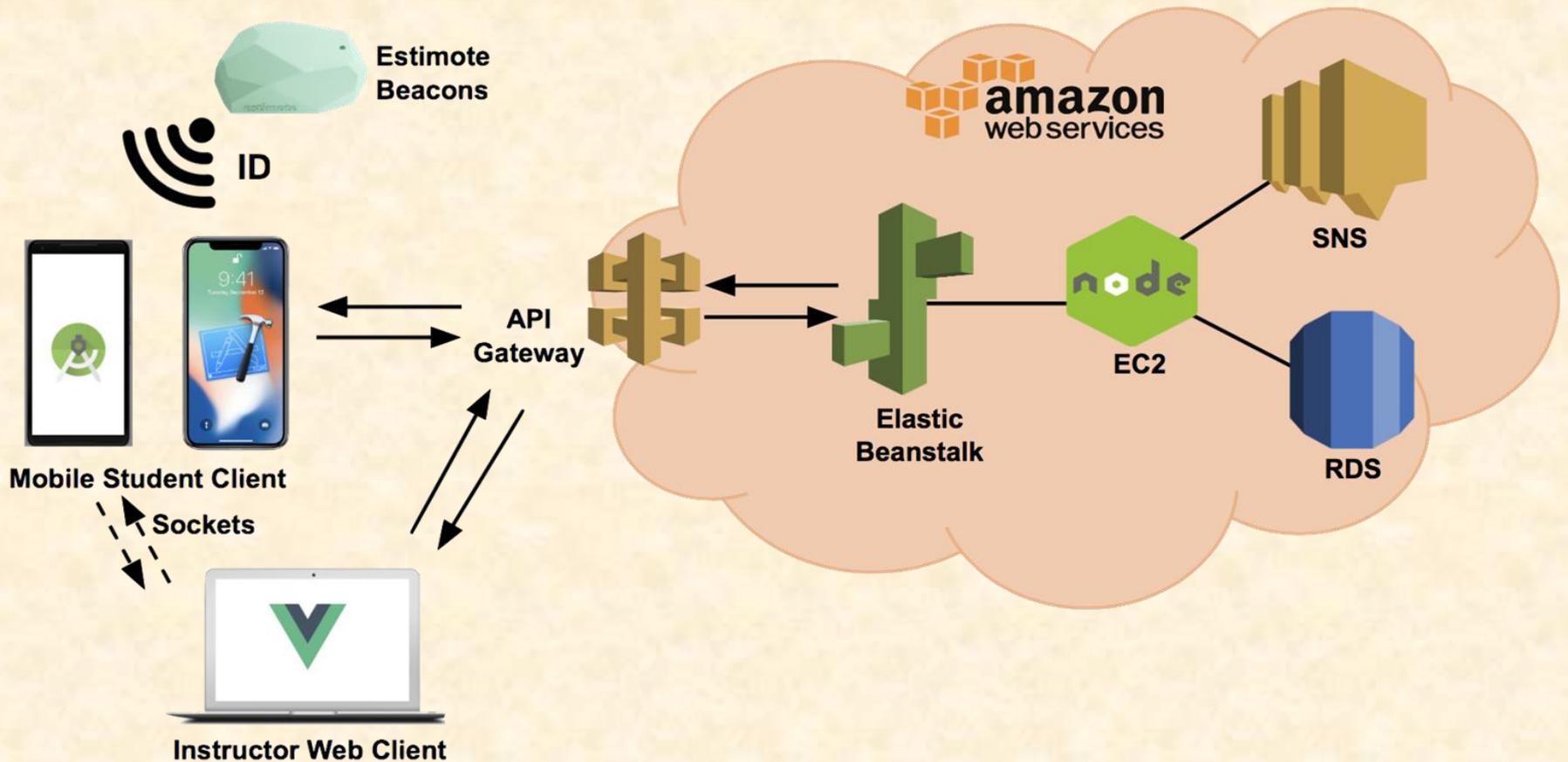
# Project Overview

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- In-class Questions and Results
- Capture Student Response Information
- Forum for Discussions
- Automatic Attendance



# System Architecture



# Web Home

The screenshot shows a web browser window with the URL `default-environment.sryhjpnmx.us-east-1.elasticbeanstalk.com/#/Home`. The page is for Michigan State University and displays the following content:

- Navigation:** A green header bar with a sidebar menu (CSE 100, CSE 231, HST 101) and a top navigation bar (Home, Assignments, Sessions, Forum, Instructor Tools).
- Course Title:** CSE 100: Computer Science as a Profession
- Course Information:**
  - Instructor: Mark McCullen
  - Meeting Time: MWF 10:20-11:10
  - Class Location: 1345 EB
  - Links button
- Class Resources:** Three buttons labeled Lectures, Grades, and Assignments.
- Important Dates:**
  - Next lecture: 2/10/18 10:20-11:10
  - Next lab: 2/12/18 3:00-4:20
  - Project 2 Due: 2/15/18
- Forum:** A list of discussion posts:
  - Hi [avatar]: This is an example post.
  - Maybe?: He my polite be object oh change. Consider no mr am overcame yourself throwing sociable children. Hastily her totally conduct may. My solid by stuff first smile fanny. Humoured how advanced mrs thirty length afford.
  - Woking?: Is this working, that is the question?
  - Vector vs Linked List: What are the main differences between these two? And what are the pros and cons of each. For project 3, would it be more efficient to just use a vector or go with a linked list instead?
  - Exam 3: Are there any study materials that are going to be made available for Exam 3? Such as a study guide, old exams, or any other practice materials? This would be much appreciated!
  - Specific topics for final: Although I'm aware of the final being cumulative, are there any topics that will carry more weightage than the previous ones? Perhaps, the topics that were done after the 2nd mid-term?
  - Pointers: Is anyone else having a very difficult time understanding pointers? I have been trying to wrap my head around them for a while now and just can't seem it figure them out.
  - Seg Fault Issue: I am having a difficult time finding where up program is seg-faulting. Can anyone give me some guidance as to where to start looking?
  - Copy Constructor How-To: My copy constructor will not work at all. I've tried multiple solutions and so far I can't get it. My program is failing to compile as a result. Does anyone have any idea where to start with this program?

Classroom Engagement App ALPHA



# Web Forum

The screenshot displays a web browser window with the URL `default-environment.sryhjpnmx.us-east-1.elasticbeanstalk.com/#/Forum`. The page is titled "Michigan State University" and features a green navigation bar with the following menu items: Home, Assignments, Sessions, Forum (highlighted), and Instructor Tools. On the left side, there is a vertical menu with the following items: CSE 100, CSE 231, and HST 101.

The main content area contains a form for creating a new forum post. The form has two input fields: "Post Title" and "Post Body". Below the "Post Body" field is a blue "Submit Post" button.

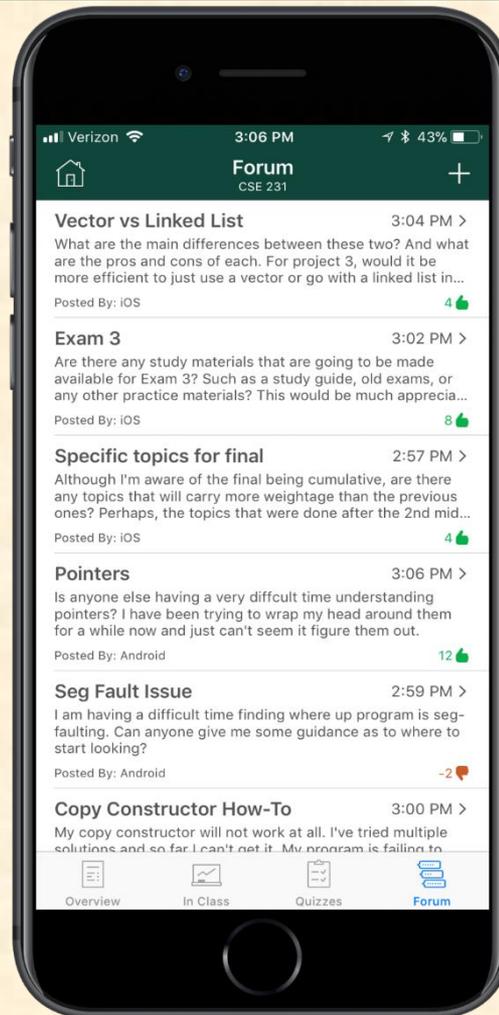
Below the form, there is a list of forum posts. Each post includes a title, a brief description of the content, and a timestamp. The posts are as follows:

- Copy Constructor How-To**: My copy constructor will not work at all. I've tried multiple solutions and so far I can't get it. My program is failing to compile as a result. Does anyone have any idea where to start with this program? Posted at 02/19/2018 03:00 PM
- Seg Fault Issue**: I am having a difficult time finding where up program is seg-faulting. Can anyone give me some guidance as to where to start looking? Posted at 02/19/2018 02:59 PM
- Pointers**: Is anyone else having a very difficult time understanding pointers? I have been trying to wrap my head around them for a while now and just can't seem to figure them out. Posted at 02/19/2018 03:06 PM
- Specific topics for final**: Although I'm aware of the final being cumulative, are there any topics that will carry more weightage than the previous ones? Perhaps, the topics that were done after the 2nd mid-term? Posted at 02/19/2018 02:57 PM
- Exam 3**: Are there any study materials that are going to be made available for Exam 3? Such as a study guide, old exams, or any other practice materials? This would be much appreciated! Posted at 02/19/2018 03:02 PM
- Vector vs Linked List**: What are the main differences between these two? And what are the pros and cons of each. For project 3, would it be more efficient to just use a vector or go with a linked list instead? Posted at 02/19/2018 03:04 PM
- Woking?**: Is this working, that is the question? Posted at 02/19/2018 07:48 PM
- Maybe?**: He my polite be object oh change. Consider no mr am overcame yourself throwing sociable children. Hastily her totally conduct may. My solid by stuff first smile fanny. Humoured how advanced mrs thirty length afford. Posted at 02/19/2018 07:52 PM
- Hi**: This is an example post. Posted at 02/19/2018 08:06 PM

At the bottom of the page, there is a footer that reads "Classroom Engagement App ALPHA".



# iOS Forum



# Web Session List

The screenshot shows a web browser window with the address bar displaying "default-environment.sryhjpnmx.us-east-1.elasticbeanstalk.com/#/Sessions". The application has a green header with "Michigan State University" and a navigation menu with "Home", "Assignments", "Sessions", "Forum", and "Instructor Tools". The "Sessions" page features a search bar and a list of five session entries. Each entry includes a session ID, a title, and a "Start New Session" button with share and delete icons. A green plus icon is visible in the bottom right corner of the application area.

Session ID	Session Title	Action
NewQuiz-1518991003983		Start New Session
NewQuiz-1519078065203		Start New Session
Andrew's Fake Quiz		Start New Session
Andrew's iBeacon Quiz		Start New Session
NewQuiz-1519085332520		Start New Session



# Web Session Edit

Michigan State University

CSE 100  
CSE 231  
HST 101

Home Assignments **Sessions** Forum Instructor Tools

Quiz Name: Andrew's Fake Quiz Quiz Type: In-Class Save Changes

1) The Time Complexity of this Algorithm is:

- O(n)
- Constant
- $O(n^2)$
- $O(\log N)$

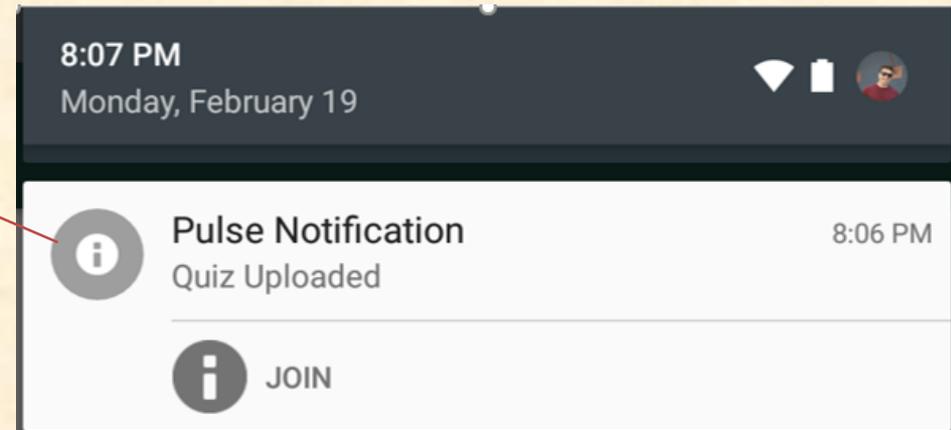
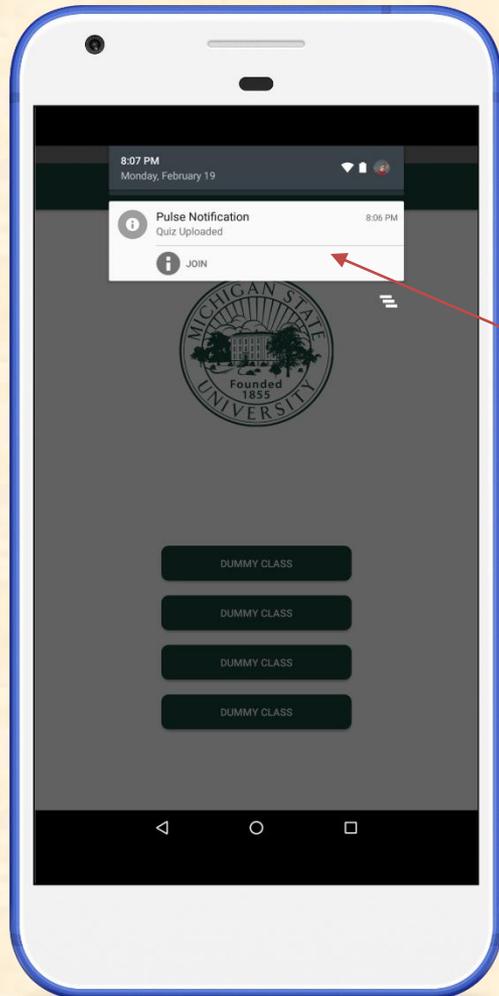
Add Choice

Timer (optional) Randomize each responder's choice order

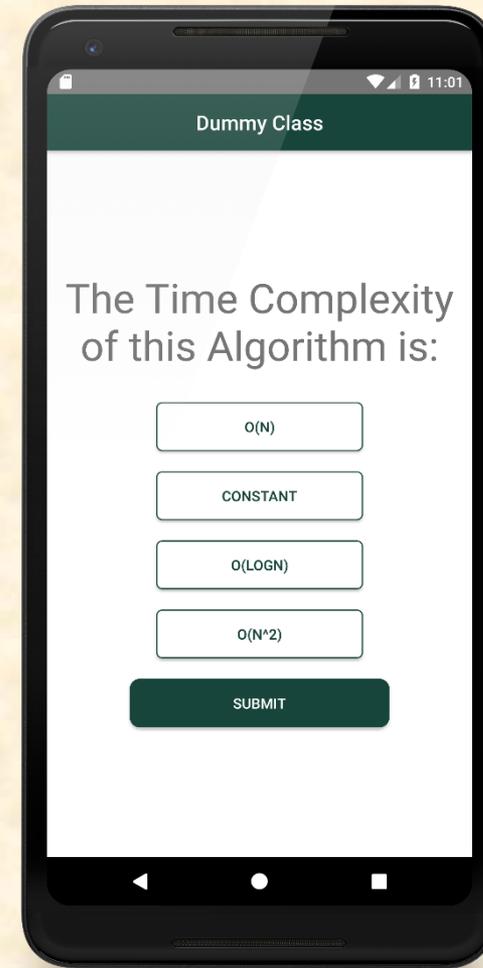
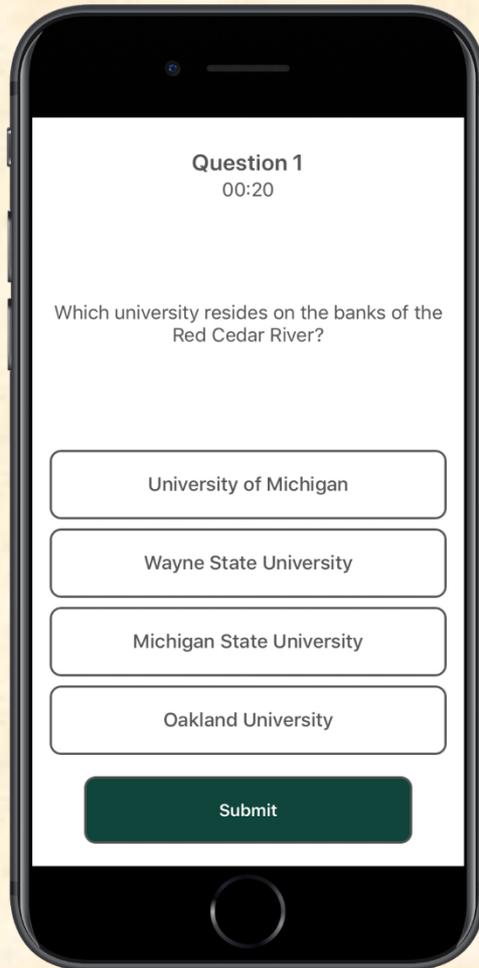
Classroom Engagement App ALPHA



# Android Notification



# Mobile Questions



# Web Question View

The screenshot shows a web application interface for a question session. The browser address bar shows the URL: `default-environment.sryhjpnm:us-east-1.elasticbeanstalk.com/#Sessions/2`. The application header includes the Michigan State University logo and navigation links: Home, Assignments, Sessions (active), Forum, and Instructor Tools. A dropdown menu for 'Chepullers' is visible, and the session is identified as 'Session: 24'. The main content area displays the question: 'The Time Complexity of this Algorithm is:'. Below the question are four radio button options:  $O(n)$ , Constant,  $O(n^2)$ , and  $O(\log N)$ . A 'Close Question' button is located below the options. Below the question is a bar chart with four bars labeled A, B, C, and D. The y-axis ranges from 0 to 20. The bars have the following approximate heights: A (14), B (20), C (9), and D (5). An 'Update Graph' button is located below the chart. The footer of the application reads 'Classroom Engagement App ALPHA'.

Michigan State University

CSE 100  
CSE 231  
HST 101

Home Assignments Sessions Forum Instructor Tools

Chepullers Session: 24 Open Session

The Time Complexity of this Algorithm is:

$O(n)$   
 Constant  
  $O(n^2)$   
  $O(\log N)$

Close Question

20  
18  
16  
14  
12  
10  
8  
6  
4  
2  
0

A B C D

Update Graph

Classroom Engagement App ALPHA



# Web Beacon Configuration

The screenshot shows a web browser window with the URL `default-environment.ryhjjgnm.us-east-1.elaticbeanstalk.com/#/Tools`. The application is for Michigan State University and has a navigation menu with options: Home, Assignments, Sessions, Forum, and Instructor Tools. The 'Instructor Tools' menu item is highlighted in green.

The main content area is titled 'Beacon Configuration' and contains the following sections:

- Beacon Location:** A text input field with the placeholder 'Location (I.E. EB1340)'.
- Beacon Signal:** A text input field with the placeholder '32 digit alphanumeric'.
- Add Beacon:** A blue button.
- Beacon List:** A table with three rows of beacon data.

Name	Signal	Session	Action
Mint	9c40c3a5dc517011e831685b7572a07	NewSession-1519088556578 <span>Unbid from Session</span>	
Chepullers	12345678901234567890123456789012	Open	
Ice	7d406f563dec079d25677dbff577b12	Open	

At the bottom of the page, it says 'Classroom Engagement App ALPHA'.



# What's left to do?

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- Refine Session/Class Joining
- Web Sockets
- Web App Permissions
- Different Types of Questions
- External Resource Integration
- Forum Threads



# Questions?

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