May 14-04 CyRIS

Nathan Clague, Michael Krantz, Zach Patzwald,
Max Philips, Micah Stevenson, David Vriezen

Advisor: Dr. Manimaran Govindarasu
Client: Brock Ascher

The Video Wall, September

- Predominantly static content
- Lacking hardware to display high resolution video without lag
- Information instead of entertainment

Scope

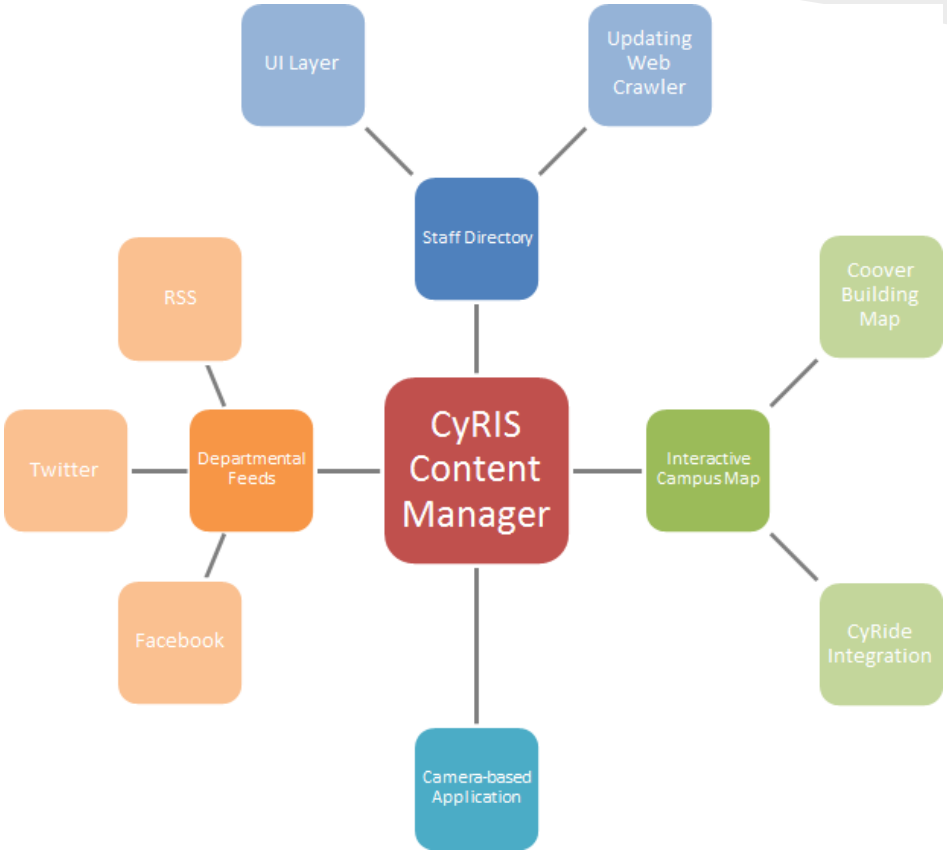
- Build a suite of touch applications
- Allow them to run simultaneously
- Integrate with the current platform
- Disallow users from browsing the internet

Current Design

Intuiface Presentation

Multi Touch 4 Java

App | App | App | App

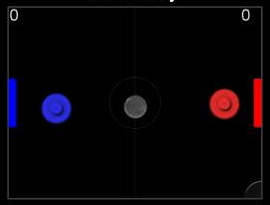


Introduction to CyRIS

Touch Tails

Maps

Air Hockey



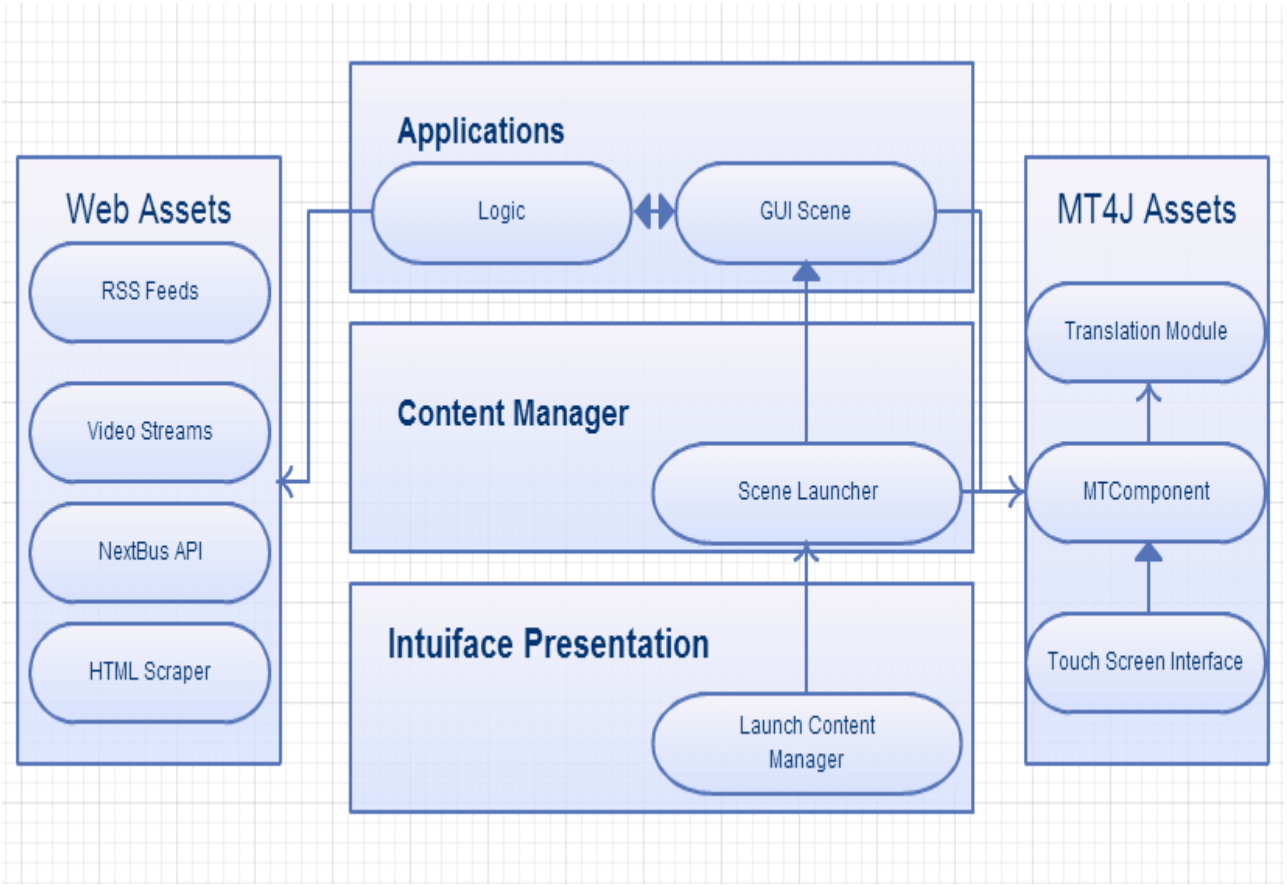
Staff Directory

MT Paint

Eye on ISU

Physics Pla

Overall Concept



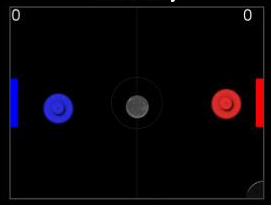
- Integration with Intuiface
- Multiple scene assets
  - Decorator design
  - Observer class

Feeds

Touch Tails

Maps

Air Hockey



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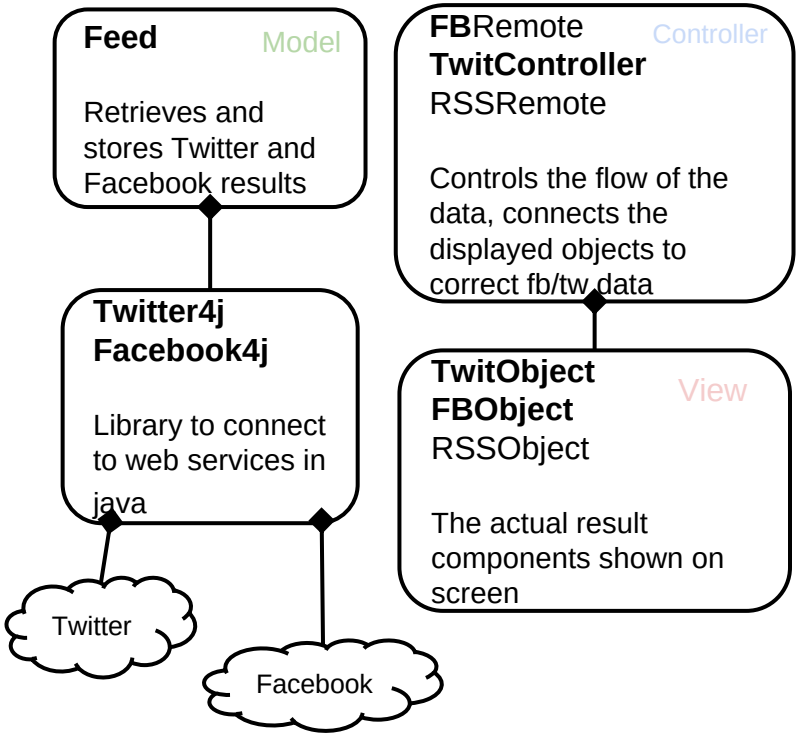


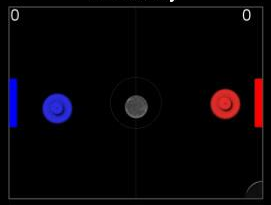
- MVC architecture
- Requirements
- Client requests

Camera Viewer

Touch Tails

Maps

Air Hockey



Staff Directory

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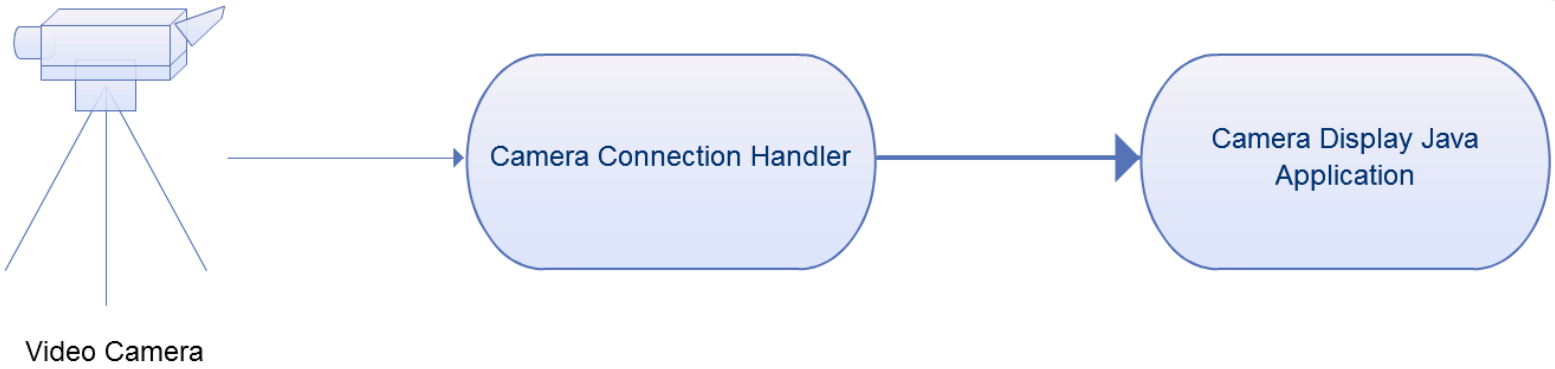
Eye on ISU

Physics Playg

s Proud of them! @IowaSta…

Will The Late Show with Stephen Colb

Camera Viewer

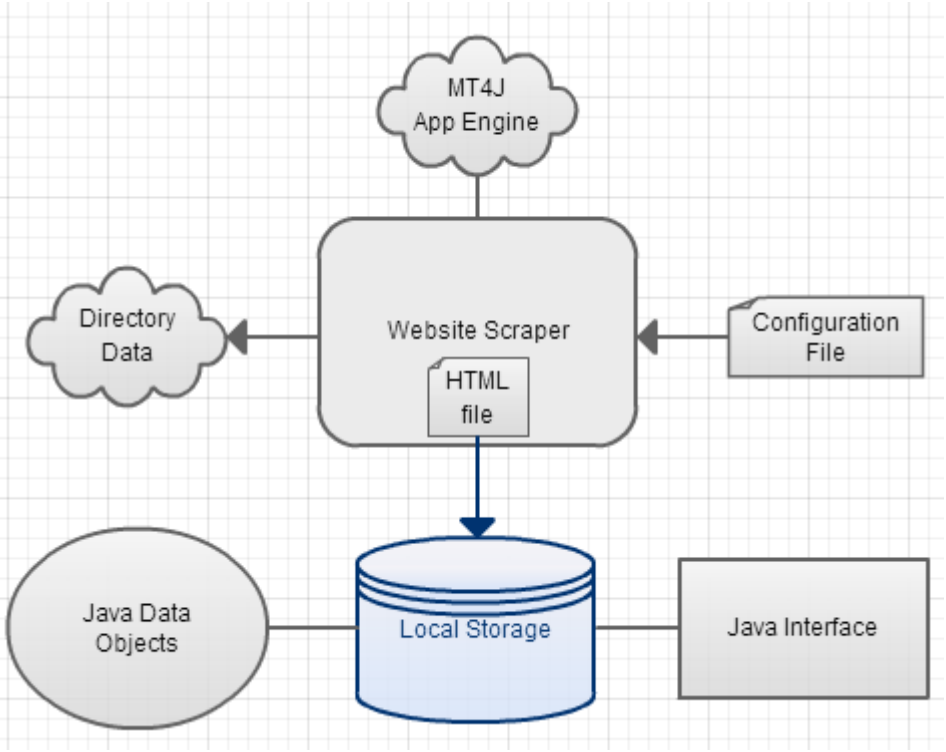


- IPCapture Processing library
- Interfacing with MT4J
- Accessing external camera feeds

Staff Directory

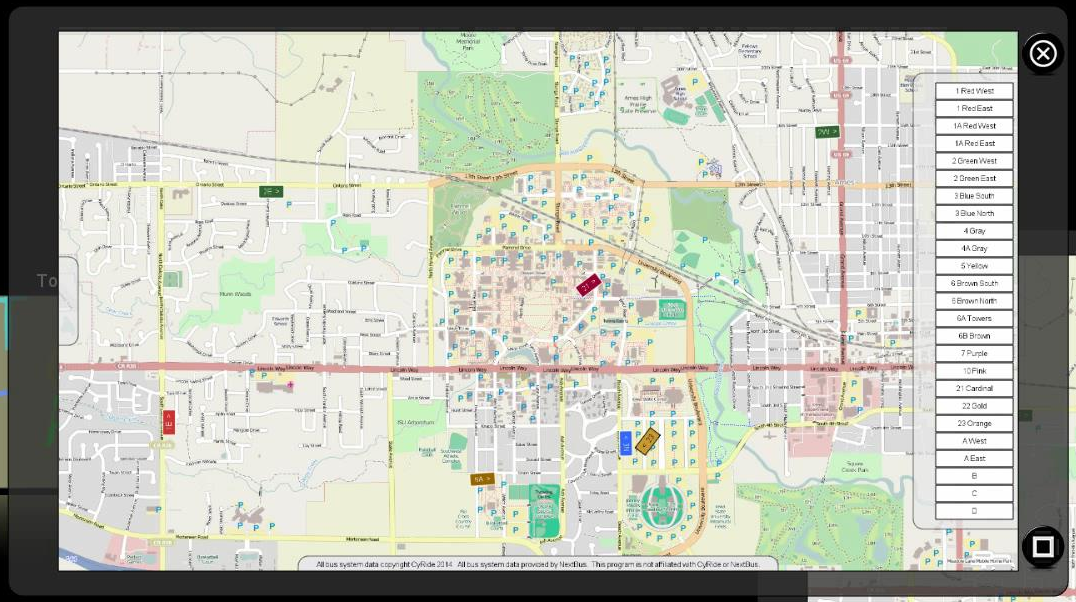
Grab your button and stop by Campus Cookout from 11-2 for @jimmyjohns and Campu

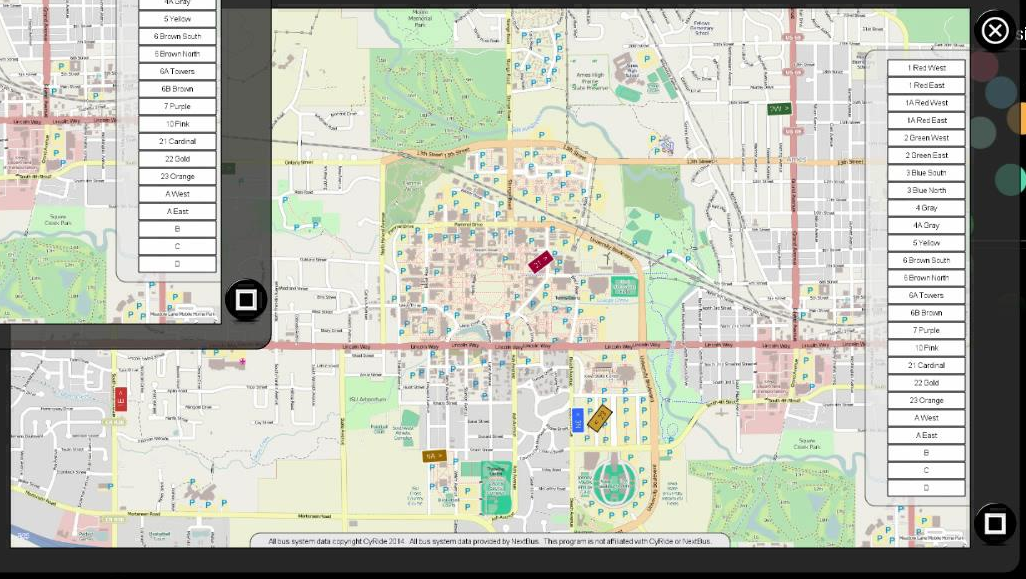
Staff Directory



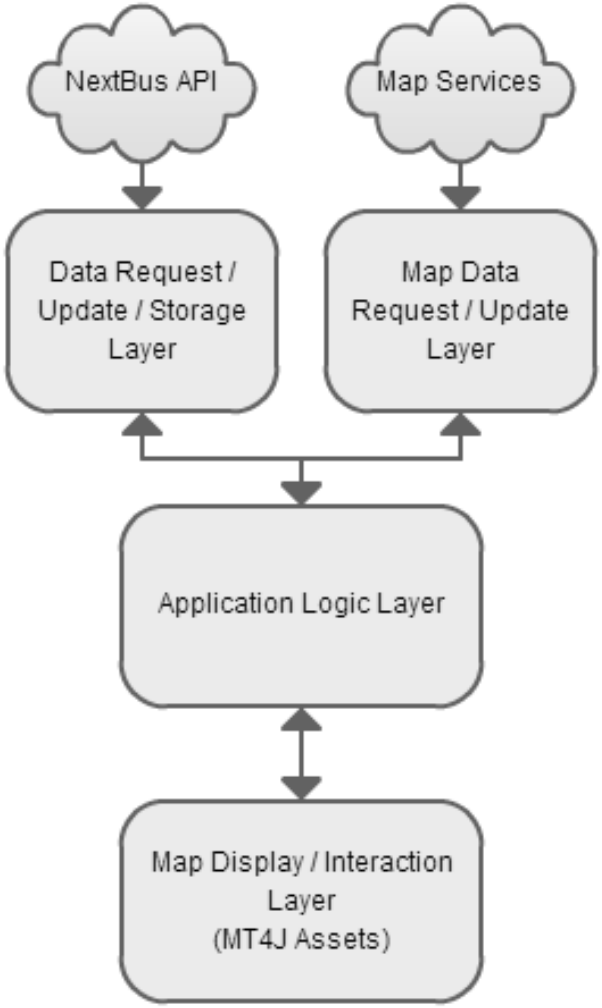
- HTML Scraping
- Data Organization
- UI creation

Campus Map





Campus Map



- Map integration
- NextBus API data limits
  - Singletons for API requests
  - Multi-threaded processes allow background updates

Test Plan

- Test environment
- Alpha testing
  - Performance testing
  - Security testing
- UI testing

The Video Wall, May

- Questions?

Design Objectives

1. Integrate our content with the existing Intuiface presentation software
2. Implement several new interactive applications
   a) Twitter, Facebook, and RSS feeds from the Electrical and Computer Engineering Department
   b) Campus map with real-time CyRide bus system information
   c) Staff directory
   d) Campus webcam viewer
3. Create or utilize a platform that can easily be used in future senior design projects
4. Make the video wall more interesting to passers-by to encourage them to interact with it

Application Requirements

Content Manager

Functional Requirements	Non-Functional Requirements
1.The content manager must be able to generate multiple sub application windows and return control to the Intuiface presentation 2.The content manager must allow for multiple sub applications simultaneously accessing input and output	1.The content manager shall match the look and feel of the current Intuiface presentation

Application Requirements

Feeds Application

Functional Requirements	Non-Functional Requirements
1.The feeds application must display information from social media approved by the ECpE department 2.The feeds application must scroll text across the screen while users are interacting with other parts of the system 3.The feeds application must display photos embedded in social media updates without allowing users to continue browsing the internet	1.The feeds application shall scroll text across the screen at a readable speed 2.The feeds application shall allow for the addition or removal of specific social media accounts

Webcam Application

Functional Requirements	Non-Functional Requirements
1.The webcam application must stream video from webcam feeds on campus	1.The webcam application shall be resistant to service disruptions

Application Requirements

Staff Directory Application

Functional Requirements	Non-Functional Requirements
1.The staff directory application must be populated with information taken from the ECpE department's online staff directory 2.The staff directory application must display expandable entries that, once expanded, contain detailed information about each staff member 3.The staff directory application must be searchable by text input	1.The staff directory application shall display staff names, titles, addresses, phone numbers, email addresses, and photos for each staff member

Maps Application

1.The maps application must display a pannable and zoomable map 2.The maps application must show all currently-operating CyRide routes and all buses on each route 3.The maps application must not exceed data transfer limits imposed by the NextBus API	1.The maps application shall be aesthetically pleasing and bus icons displayed on the map shall be the same color as the route they represent 2.The maps application shall be resistant to service disruptions

Test Results

Test Case	Tester's Name	Results	Description
Maps application performance test 1	Nathan Clague	Pass, no fatal errors	The maps application was left running for one hour. The console log was monitored for errors resulting from service interruptions or incorrect program states.
Maps application performance test 2	Nathan Clague	Pass, no fatal errors	The maps application was left running for one hour. The console log was monitored for errors resulting from service interruptions or incorrect program states.
Staff directory performance test 1	Michael Krantz	Pass, no fatal errors	The staff directory application was tested with multiple input sequences over various selectable components. The console log was monitored for errors, and the UI was checked for proper output.
Webcam performance test 1	David Vriezen	Pass, no fatal errors	The webcam application was run for two hours while observed for non-network-induced lag and crashes in the video.