MICHIGAN STATE UNIVERSITY

Project Plan
Camera Control Appliance (CCA)

Team Team Raytheon

CSE 498, Collaborative Design

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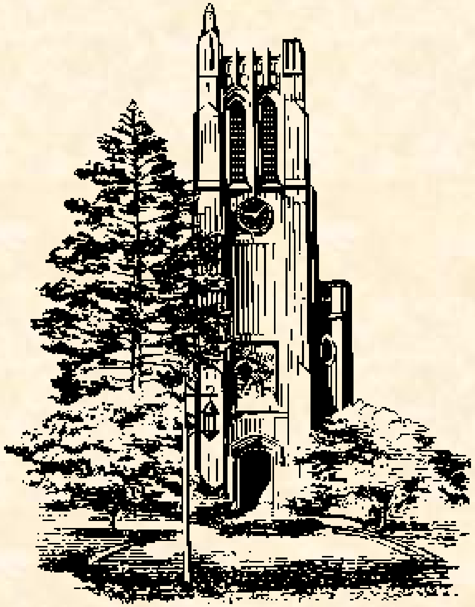
Spring 2010



Project Overview

- Command Assurance – Civil (CA-C)
  - User interface
- Sensor Resource Manager (SRM)
  - ‘Brains’ of the operation
- Command, Control, and Display Equipment (CCDE)
  - Software that transforms messages from/to SRM
- Camera Control Appliance (CCA)
  - Translates data signals
  - What we make!

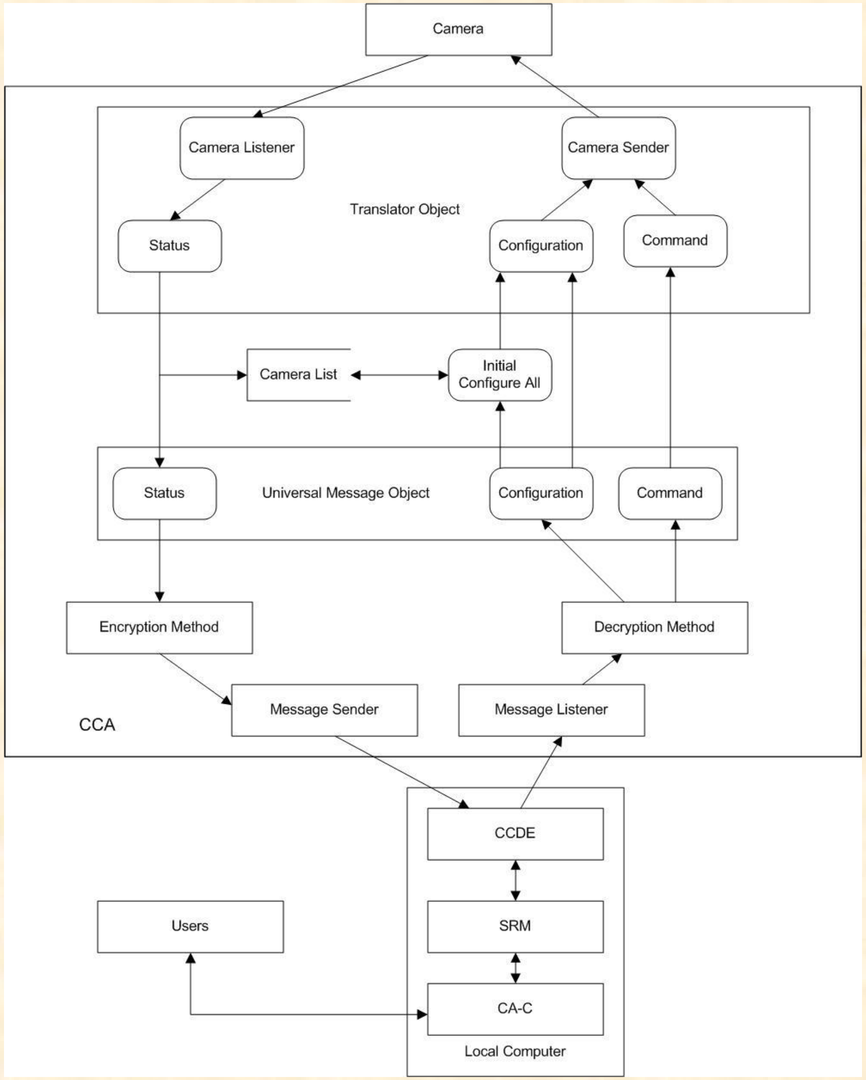
Functional Specifications

- Signal Translation
  - Translates status, control and registration signals into formats that various cameras can interpret
- Encryption Placeholders
  - Empty method for encrypting status signals from camera
  - Empty method for decrypting control signals from SRM
- Network Integration
  - Listens for incoming signals
  - Sends translated signals to proper destination

Design Specifications

- Should be able to recognize various cameras
- Cross-platform compatibility
- Provide universal interface between SRM and cameras
- GUI provided by CA-C

Design Specifications



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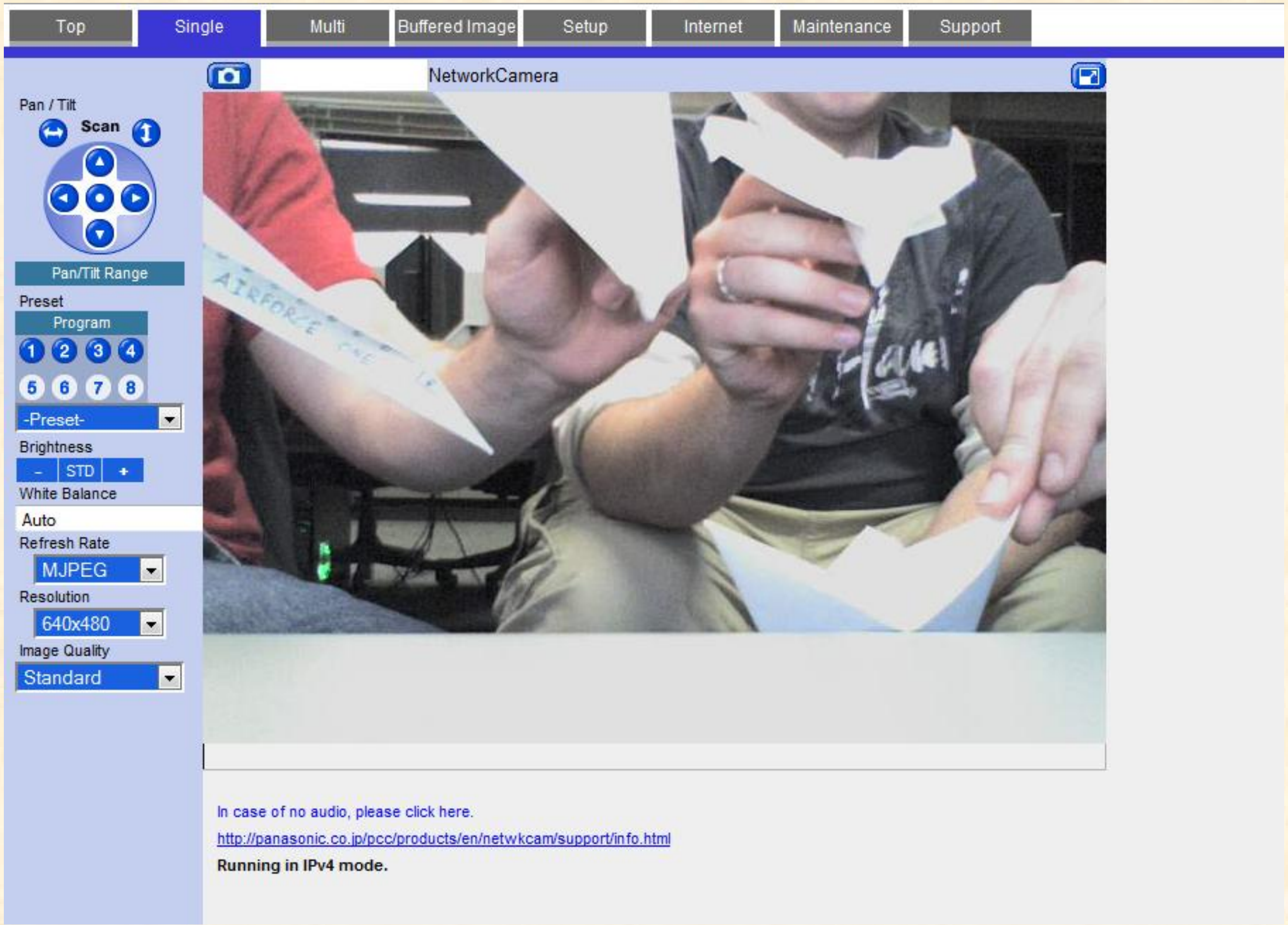
Screen Mockups

May look similar to this…



White Balance: Auto

Refresh Rate: MJPEG

Resolution: 640x480

Image Quality: Standard

In case of no audio, please click here.

http://panasonic.co.jp/pcc/products/en/netwkcam/support/info.html

Running in IPv4 mode.

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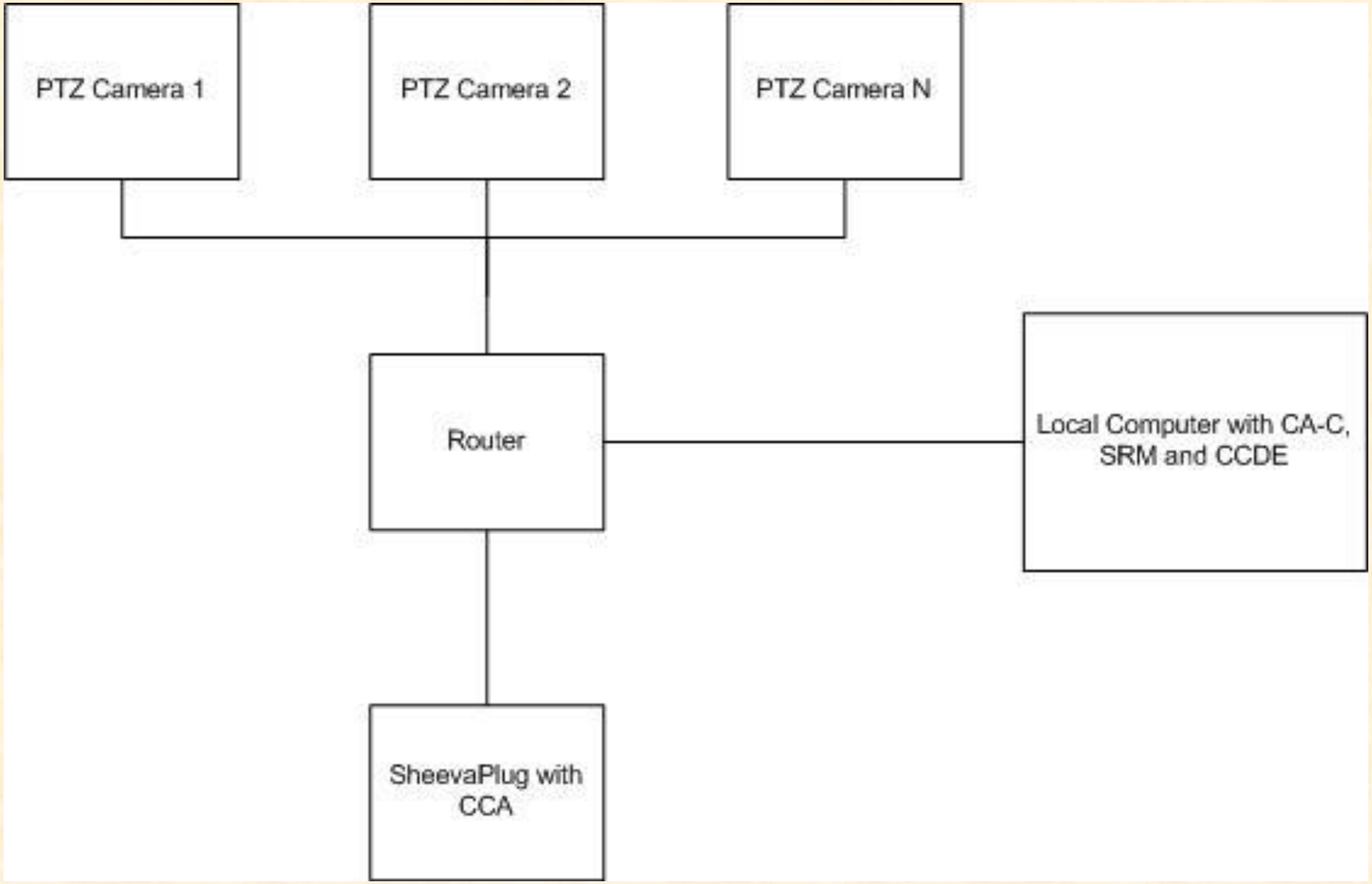
Technical Specifications

- Platform Independence
  - Java driven environment
- Development Software
  - Eclipse Classic IDE
  - CA-C / SRM SDKs
- ICD-101A
  - CCDE Standards / Protocols

Architecture Illustrated



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System Components

- Hardware Platforms
  - SheevaPlug Mini Computer
  - PTZ Camera
  - Network Router
  - Linux/Windows OS
- Software Platforms / Technologies
  - Command Assurance – Civil
  - Sensor Resource Manager
  - Command, Control and Display Equipment
  - Camera Control Appliance (Our goal)

Testing

- Unit testing
  - CCA translators properly translate from UCO/USO to various camera protocols
  - CCA can communicate with camera and SRM
- Integration Testing
  - SRM can communicate with CA-C
- System Testing
  - All aspects of the system work well together
  - Commands entered into CA-C are reflected in the movement of the camera

Risks

- Communication between CCA and cameras
  - Many different camera interfaces
  - Pulling information out of cameras
- Integration of proprietary software
  - CA-C with SRM
  - Communication between CCA and CCDE
  - Unfamiliar with CA-C, SRM, CCDE
- Memory constraints of SheevaPlug
  - 512 Mb storage / RAM