2014

TOWN OF JAMESTOWN

COUNCIL MEETING RECORDING & PUBLISHING

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Video & Audio Recording of Council Chambers Meetings

Project Scope

This project shall provide a Council Chambers video and audio recording system and services that will meet these primary objectives:

- Provide public transparency of the activities of the Town Council, it's Boards, Commissions and Committees and any other activities that are held in the Council Chambers through the use of video and audio recordings
- Select system components that minimize the initial capital investment while providing an easy to use recording system that has simple user controls, video content editing, publishing and storage management
- Implement a recording system that allows meeting recordings to be easily accessed and played from the Town's or other selected websites
- Through the use of appropriate security and access controls, enable this recording system to be utilized by non-governmental civic organizations when there is a demonstrated need
- Within funding constraints, provide an initial system and set of services that can be expanded in the future to permit the Town to deploy and/or use recording resources in other Town facilities and support live video streaming of events

Project Overview

This section provides system design goals and objectives, functional descriptions of possible project components and other requirements and information that must be considered for this project.

This section is not intended to limit any design and implementation approach.

Design Goals

The proposed system shall implement and provide:

- A system that can be operated by one person and requires a minimum number of steps to setup, record and manage camera positioning during a meeting or event.
- Capabilities to remotely view, operate and manage all video/audio recording system components from a laptop, tablet or workstation using IP-based camera and recording technology
- Functions that provide setup and capture of video and audio streams, editing and storage of recordings, future expansion that supports live video streaming, including insertion of electronic documents and images of documents using industry-accepted content formats
- Camera control that provides one click remote positioning of the camera
- Video/audio storage and management on the Town system using commercial, off the shelf technology
- System components and methods that minimize recording storage and archiving requirements
- Published recordings that can be appended into the published Meeting Agenda document on the Town website and enable visitors to play or download video clips
- Future expansion capability to support simultaneous use of the video and audio recording stream for multiple purposes, including live streaming to the public
- Modular components that permit new features and functions with the purchase of software upgrades and/or additional components that are compatible with and can be integrated into the system
- Minimum of two distinct levels of system security controls for key system components and any software applications

Site Description & Existing Infrastructure

Council Chambers

The Town Council Chambers is the site for deployment of the system components and interconnect cabling that are required by this project.

The Town Administrator's and Town Clerk's primary and alternate desk locations are currently served by multiple floor boxes that each contain three Cat6 Ethernet jacks, one RG6 cable with an F-type connector and four 120 V power outlets.

The Council dais has 6, 4-position wall boxes that provide eight Cat6 Ethernet jacks and two RG6 cables with F-type jacks. There are no additional Ethernet or coax jacks installed elsewhere within the Council Chambers.

All Ethernet and RG6 coax cables are "home run" wired and terminated in the Town's Server room located on the second floor of the south side of the Town Hall building.

Existing Audio System

There is an existing audio system consisting of six wired and two wireless microphones, a mixer, a dual cassette recorder, two wireless microphone receivers/power supplies and all of the cabling associated with this equipment.

It is not a requirement under this project to upgrade or replace the existing audio system as it is considered to be state of the art. The mixed audio feed from all microphones that is required for this project will originate from the existing mixer/amplifier and be cabled to the proposed camera location.

Cameras

A single PTZ IP camera will be provided for imaging. The minimum set of capabilities and functions that the camera will provide includes:

1. Pan: +/-170 deg min
2. Tilt: -30 to -90 deg min.
3. Zoom: 16x optical min.
4. Nominal range of horizontal angle of view: 4 deg – 50 deg.
5. Minimum illumination (color): 0.3 lux at 30 IRE, F1.4
6. Video compression: MJPEG, MPEG-4
7. Resolution: 160x120 to 704x576
8. Frame rate: MPEG-4 up to 30 fps at 2CIF/CIF/QCIF
9. Video streaming: Simultaneous MPEG-4 and Motion JPEG, controllable frame rate and bandwidth
10. Audio streaming: one-way

11. Audio compression: (min) AAC-LC 8/16 kHz, (opt) G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, configurable bit rate
12. Security: minimum 2 level password access control, IP address filtering, IEEE 802.1X network access control, https encryption
13. Supported protocols (min): IPv4/v6, HTTP, HTTPS, FTP, SMTP,UPnP, SNMPv1/v2c/v3 (MIB-II), DNS,NTP, RTSP, RTP, TCP, UDP, IGMP, RTCP, ICMP, DHCP, ARP
14. Image recording/retrieval: support both file based storage on a laptop or network-based storage array
15. Preset positions, minimum 10
16. Power: POE, mid-span

The Town can provide all hardware, software, mechanical accessories and cabling as required to support the proposed camera, interconnection with the Town's existing network, connection to the existing audio system in the Council Chambers and other interconnections as specified in this plan.

Controls, Primary & Backup Recording

The primary video system control software will be capable for installation on any specified computer, subject to licensing requirements. This software will provide all controls required for the operation of the system.

At a minimum, the following functions will be required for the primary recording system:

- One click Select of camera to start or stop recording
- One click, dedicated button Select of preprogrammed camera views (preshots) from a minimum of 4 preshots
- Manual control of camera positioning using a joystick or software-based cursor control overlaid on the camera's image
- Zoom and focus controls
- Advanced camera controls (image appearance, exposure settings, white balance, auto focus and dynamic range)
- Means to record and store audio/video to the Town's existing network storage array, specified storage device or laptop

If implemented, the following functions will be required for the backup recording system:

- One click control of camera to begin and continuously record with unattended operation
- Advanced camera controls (image appearance, exposure settings, white balance, auto focus and dynamic range)
- Means to record and store locally on this backup recorder for a minimum of 5 hours at a reasonable video resolution and frame rate.
- Support offline transfer of the recording to the Town's existing network storage array or alternate, specified storage device

Equipment Installation, Cabling

One permanent mount camera shall be installed in the Council Chambers. It will be ceiling mounted in the southwest corner of the Chambers to permit the best possible camera recoding angle for most known meeting types.

If implemented, the backup camera shall be mounted on a tripod with sufficient height to record above a seated audience, also in the south wall of the Council Chambers. An audio jack will be provided in the existing floor box at this location.

Primary camera power shall be provided using a POE mid-spin power adapter located in the Town's server room. The backup camera shall be self-powered and have a minimum 5 hour runtime.

Documentation

Documentation and a training video must be available for system technical personnel, system administrators and Town Users. Users may or may not be skilled computer users.

Comprehensive, high quality documentation and a step by step training video is essential for the success of this project. Documentation must provide a complete description of all system hardware, system and application software. All documentation provided must be delivered in both written and electronic form.

In addition to the functional documentation described above, As-built signal flow drawings showing all wires, cables, connections, and wire tag numbers will be generated. A facility plan showing location of all devices installed, including approximate cable paths used will also be provided. These items will be documented in both hardcopy and electronic forms.

System and End User Licensing

The Town requires hardware, software and system component licensing to be enterprise class in order to enable upgrades, provide continuous availability of end user support and permit future growth.

Hardware and Software Support & Maintenance Requirements

The Town requires that any selected products must have manufacturer's help desk personnel to provide troubleshooting and problem solving after the Town has determined that a problem lies within any hardware, system software or application software component.

Project Implementation

It is proposed that the initial phase of this project will implement basic video recording, video clip editing and video clip links into each Council Meeting Agenda document posted on the website. Additional features and functions will be considered after this initial phase of this project is evaluated for its effectiveness.

This section also provides an estimated project timeline for this project phase. It is assumed that all project and video editing/publishing work will be done using existing Town resources and staff.

Proposed Project Schedule

The following schedule is anticipated for this project:

Milestones	Date
Initial Phase, internal plan scope approval	December 1, 2014
Council plan approval; allocation of Phase I funding	December 2, 2014
Project components, installation plan and procurement	December 18, 2015
Installation & testing	December 29, 2015
Begin User Training	January 14, 2014
Available for Use	January 25, 2014

Training

The Town requires that the following types of users will be trained:

- System administrators who will provide technical support to the user community and will perform such duties as configuration maintenance, component upgrades and problem troubleshooting/isolation
- Super Users (ex: Meeting Clerks) who will use the system on a regular basis to record, edit and publish the recordings on the Town website

- Selected staff who must substitute for the Meeting Clerks from time to time and who will also record, edit and publish the recordings on the Town website

Risks & Issues

There are certain components of this plan that are risks:

- If we need a dedicated camera operator
- What video clip editing method to use to minimize the amount of staff time to do the work
- How many website visitors will plan to use the published recordings (capacity planning)
- What is a reasonable elapsed time to publish each meeting video without substantially adding to the post meeting staff workload
- Project schedule is dependent on resources to be available throughout the holiday season; probability of schedule slip is very high

Other issues include:

- Interacting with the staff to choose the least labor intensive video editing method; critical if we are to control operating cost
- Need to establish a reasonable project evaluation timeframe to determine if we should continue, expand or stop recording and publishing
- Possibility of "Feature Creep" for this first phase of the project