THE SEXTANT GROUP, INC.

AUDIOVISUAL SYSTEM DESCRIPTIONS

FOR

UNIVERSITY OF MARY WASHINGTON

INFORMATION AND TECHNOLOGY CONVERGENCE CENTER
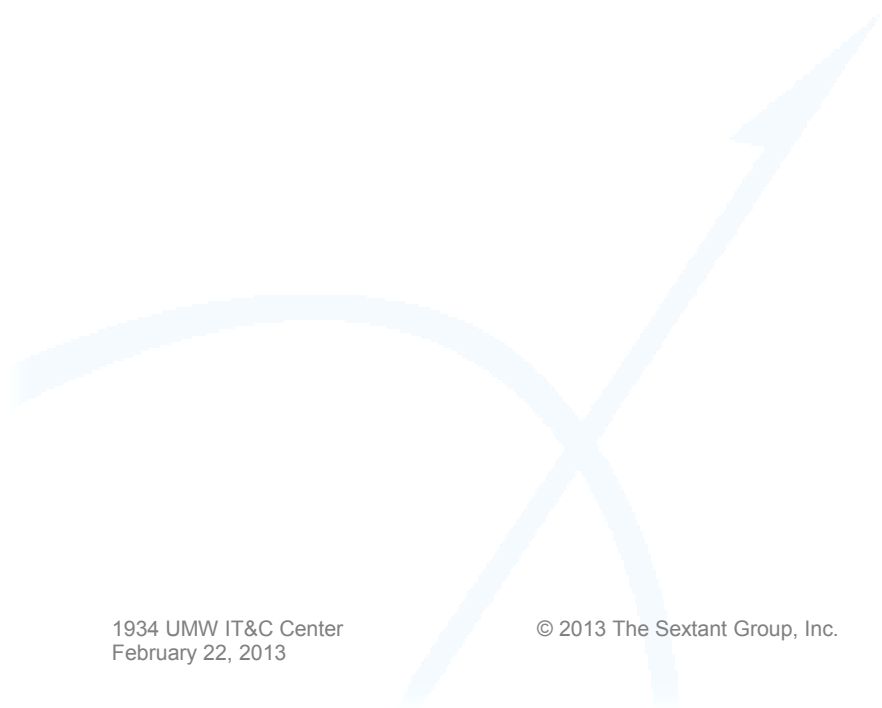
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AUDIOVISUAL SPACES

GENERAL ACCESS AREAS

LOBBY / ATRIUM / COMMONS

Visitors to the ITCC will enter the facility into an inspiring atrium. Within the envelope of the space will be housed the energetic Learning Commons spaces. The Commons spaces serve as a chief identifier of the mission of the facility; the convergence of social and learning activities.

The heart of the Learning Commons is a thriving, open, computing center built to encourage interaction and collaboration. The Commons is where boundaries to traditional place-fixed learning erode. Several relaxed learning areas will be provided, and the space will be adaptable to change to the needs of students over time. A central Information Desk will support the Commons to encourage the use of technology by students.

Components

♦ Large format high definition videowall display to present a variety of multimedia content for the purposes of information display, special presentations, and general "wow factor" welcome to the facility

  ♦ Video wall will include a sound reinforcement system controlled by the information desk

  ♦ In-wall loudspeakers flanking the video wall

  ♦ Auxiliary video inputs in the floor box near the front of the video wall and at the Information Desk for group collaboration or presentations

  ♦ Windowing processor to allow multiple feeds and configurations

♦ Apple Macintosh multimedia workstations with 23" or larger widescreen monitor and stereo loudspeakers with headphone/headset input. These workstations are expected to implement software such as Adobe Creative Suite purchased under separate contract by UMW. The computers will be mounted in a custom desk that generally supports a single person but could accommodate two people for group projects. *NOTE: Not covered in AV design.*

♦ PC workstations with 24" or larger widescreen monitor. These workstations are expected to implement typical productivity and classroom software packages purchased under separate contract by UMW. The computers will be mounted in desks that support small group collaboration. *NOTE: Not covered in AV design.*

INFORMATION DESK

The Information Desk plays a critical role in the success of the Commons facilities. To ensure positive outcomes and to mitigate the common frustrations that students encounter when learning new computer technologies and software, the Information Desk will be prominently located in the space. Signage will additionally reinforce the availability of support staff that are dedicated to supporting the Commons workstations and technology.

Components

♦ Videowall and signage content server control interface via software on a dedicated PC.

♦ Touch panel controls for video wall inputs, presets and audio levels

♦ Laptop connections for the Media Wall

CAFÉ

The Café 224 is located across campus walk from the Team Collaboration areas and plays an important role in supporting the social learning environment for the ITCC.

Components

♦ The AV systems have been removed. There is infrastructure in place to support the following future systems:

  ♦ Two large format flat panel displays with laptop interfaces and CATV tuners

  ♦ Basic user controls integrated into a wall near the displays

TEAM COLLABORATION

The Team Collaboration spaces will allow small groups of students to meet for project work and encourage impromptu collaboration using a display with an interactive overlay, collaboration software, loudspeakers or headphone jacks, digital signage, and a small control interface. Depending on demand, the spaces may be reserved using scheduling software.

Of the named Team Collaboration spaces on the second floor, rooms 211, 212, and 213 are enclosed with glass walls and doors; spaces 214, 216, 217 and 234 are open areas. Space 214 includes two collaboration areas and displays.

Components

- Two wall-mounted Steelcase Media Scape single display systems will located in 214. This system includes a "puck" controller and laptop connectivity.
- One appropriate sized flat panel display with an interactive overlay will be the focal point of the system.
  - Standard loudspeakers are provided in 211, 212, and 213.
  - Headphone jacks are provided at both collaboration displays in 234.
  - Directional loudspeakers are planned for open areas 216 and 217
- A mini-PC mounted behind the flat panel will include a software package that will implement typical productivity and student collaboration.
  - Rooms 211, 212, 213 and both locations within 214 will include collaboration software, i.e., TeamSpot.
- Digital signage capability will be available for the display of news, information, schedules, wayfinding, video, advertising, and other content.
- Other sources for the display system will include multi format & HDCP compliant inputs for portable devices.
- Control of the display system will be by a wall mounted key pad near the display for all systems other than 214

MULTIMEDIA LABS

The Multimedia Labs 116 and 410A (DTLT) allow students to create presentations incorporating audio, video, graphics, and digital photography. Room 116 will house approximately five workstations with access to a vocal recording booth and Room 410A will function as a video editing and post-production room. Both rooms require a flat-bed scanner (provided by UMW).

Components - 116

- High quality Mac and PC production workstations with the appropriate software packaging to create a variety of high quality multimedia presentations. Each workstation will have one large 27" desktop flat panel display, a professional audio card and headphones, and software control interfaces where appropriate. *Note: UMW will provide edit stations including all computers, software and computer peripherals to support each station. Budget for editing stations is held in the AV budget.*
- Vocal recording booth with audio connections, window and light fixture provided in the AV contract
- Audio recording equipment and microphones for vocal recording booth

Components – 410A

- Mac Pro workstation with the appropriate software packaging (provided by UMW) to create a variety of high quality multimedia presentations. The workstation will have two large 27" desktop flat panel displays, a reference HDTV monitor, a professional audio card and headphones, and software control interfaces where appropriate. *NOTE: Not covered in AV design. UMW will provide edit stations including all computers, software and computer peripherals. Budget for editing stations is held in the AV budget.*
- Near-field audio monitors
- A collection of media sources and recorders including professional Blu-ray burner, Blu-ray player, DV/HDV tape decks, external hard drives and S-VHS

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- A dubbing station including multiple format video and audio playback/recording devices to enable the transfer of video and audio media to digital formats
- Editing console furniture with integrated and under-desk rolling equipment racks(provided by UMW)

RECORDING STUDIO

The Recording Studio 115 will give the means to record small video and audio productions. It consists of a control rooms and a studio. A window that minimizes audio transference will allow the engineer in the control room and the talent in the studio to visually interact.

Components

- Two appropriately sized flat panel displays in the control room
- Two high quality 3CCDHD Video cameras on tripods with local microphone and local flash card recording capabilities
- One high quality 3CCDHD wall mounted PTZ Video camera with camera controller in the Control Room
- Two fixed cycloramas: 180 degree green along south and lower halves of east/west walls, white along upper east wall
- Apple iPad based teleprompter system
- Lecture capture device accessible from studio with a local video reference monitor
- Studio SSD recording deck
- DVD record deck
- Streaming PC for broadcasting
- Studio lighting package
- Studio pipe grid assembly
- TriCaster video production system
- Studio audio mixing console
- Wireless microphones
- Headphones and headphone amplifier
- Two program stereo monitoring systems
- Audiovisual control system with 10" wireless touchpanel
- Equipment racks in the control room

USER SERVICES / DTLT

COLLABORATION ROOM 408

The Collaboration Room 408 will be a space where User Services staff can work on internal projects, brain-storm, and hold problem solving sessions. It will include one appropriate sized wall-mounted flat panel display.

Components

- One appropriately sized flat panel.
- PC workstation, laptop interfaces, a Blu-ray player, high definition cable TV tuner and auxiliary AV inputs
- A wired table top touch panel user interface
- A sound reinforcement system for program audio reproduction

TC DIRECTOR 412

The TC Director office will allow staff to collaborate with faculty, brain-storm, and hold problem solving sessions. It will include a appropriate sized wall-mounted flat panel display with connection to a dedicated computer and inputs for potable devices.

Components

- One appropriately sized flat panel display
- Dedicated PC workstation, inputs for laptops and other portable devices
- Built-in CATV tuner
- A stereo program audio reinforcement system will be provided for program audio playback
- Controlled by handheld remote controls

OPEN OFFICE 410

Announcements and news updates will be made through a wall mounted digital signage display

Components

- One appropriately sized wall mounted flat panel display with attached speakers
- HDTV tuner
- Apple TV Airplay device connected to the flat panel display

TRAINING ROOM

The User Services Training Room 130 will be a computer lab and classroom. The replication of any proposed or existing technology or software applications on campus will be made possible. Faculty and students will be trained on learning development software and audio-visual presentation technology in this facility.

Components

- Two ceiling-mounted manual front projection screens
- Two ceiling-mounted video projectors
- One student cart housing 16 laptop
- Software collaboration tools for student document and image sharing, i.e. Syncroneyes
- Source equipment for the display system includes a professional Blu-ray player, a digital document camera, a high definition cable TV tuner, a dedicated PC with monitor on a articulating arm and VGA connectivity for laptops.. Custom connectivity at the lectern/presenter's station will provide easy access to power, data, and AV connections.
- A stereo program audio reinforcement system will be provided for program audio playback
- A desktop touch panel user interface
- A custom lectern
- Annotation monitor on lectern top

LEARNING AND TEACHING SPACES

DIGITAL AUDITORIUM

The Auditorium will accommodate large-group presentations enhanced by multimedia systems as well as synchronous distance learning for a limited number of participants. In addition, the Auditorium can transform into a small scale performance space suitable for rehearsal or live performance of music, dance, and other performing arts. Key to the success of this space will be the use of highly flexible infrastructure including easily-configurable performance and studio lighting on a pipe grid system.

Components

- Motorized front projection screens: (1) large central, (2) side-by-side
- One high-resolution HD "2K" or similar resolution video projector
- Two additional HD video projectors for dual projection
- Multiple input windowing processor
- Two confidence monitors on moveable cart. Connectivity at the center floor boxes
- A dedicated PC, a laptop interface, a professional Blu-Ray player, a digital document camera, and auxiliary AV inputs

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- Left, center, right performance-grade loudspeakers including surround sound with appropriate amplification for speech, stereo program audio, live and recorded music, and vocal performance
- Outfit three floor box locations with lectern connections: stage left, stage center and house center
- Analog and digital laptop connectivity at the three lectern location floor boxes and at the back left floor box
- Wired (8) and wireless (8) microphones
- An interactive/annotation LCD panel
- Five high definition PTZ cameras
- Portable IP based interfaces for audio and system control
- A wireless hearing assist system
- A wireless audience response system with student ID capability
- Theatrical lighting package by others
- An audiovisual touch panel user interface
- A custom lectern

CONTROL ROOM

The control room will support the activities of the Black Box Classroom. The room will be sized to house non-user AV equipment, space for at least two production technicians, and control, monitoring, and quality control equipment.

Components

- LCD monitors for camera and source preview
- Camera controller for HDTV PTZ cameras
- Space for a lighting control console (not included in Opinion of Probable Cost)
- Source equipment that mirrors available user sources at the lectern
- Routing, monitoring, and quality control equipment
- Studio SSD recording deck
- DVD record deck
- Streaming PC for broadcasting
- Rich Media Recorder/Encoder
- High definition videoconferencing system
- Production style video switching console
- Audio mixing console
- A large audiovisual touch panel user interface

CONFERENCE ROOMS

The Medium Conference Rooms 310, 427, and 413 will accommodate multimedia presentation; Large Conference Rooms 111, 210, and 307 will additionally support two-way synchronous webconferencing (Skype, etc.); and room 111 will support full HD video conferencing. A front projection system will be the main presentation device in the large. A flat panel display will be the visual display for the medium rooms.

Components

- A ceiling-mounted manual front projection screen (large rooms)
- A single ceiling-mounted video projector (large rooms)
- One appropriate sized flat panel display (medium rooms)
- A dedicated PC, laptop interface, a Blu-ray player, a digital document camera, high definition cable/over-the-air TV tuner, HDMI with audio output, and auxiliary AV inputs in an equipment rack located in an appropriate corner of the room
- Basic microphone system
- Analog and Digital laptop connections at the table

- ♦ A wall-mounted touch panel and wireless touch panel user interface
- ♦ A custom lectern with audiovisual connections in the floor box

Additional Components – Room 111
- ♦ One HD pan-tilt-zoom camera and HD videoconferencing system
- ♦ One wall mounted flat panel display to the right of the projection screen for viewing far end content during a video conference
- ♦ Ceiling microphones
- ♦ A microphone input at source rack for a mobile wireless microphone system
- ♦ A 9" or larger tabletop touch panel with video preview in lieu of a wall mounted panel
- ♦ A portable lectern with no dedicated equipment in lieu of the custom lectern

Additional Components – Room 413
- ♦ Add a second flat panel display for war room uses. Connect both displays to CATV
- ♦ Add a second analog and digital laptop connections at the table

INCUBATOR CLASSROOM

The Incubator Classroom 406 is planned to support new teaching and learning pedagogy including group collaboration, study, research, and experimentation in addition to computer-based and digital media presentation and lecture. Access to power, data, and AV connections will be made easily available through a distribution of floorboxes to allow for flexible mock-ups of systems and new technologies.

An installed audio system will provide program and speech sound reinforcement corresponding with all source devices. A wireless hearing assist system will be integrated into the system to meet the needs of the hearing impaired and comply with ADA regulations.

The classroom will contain permanently installed high definition pan/tilt/zoom (PTZ) cameras for capturing the images of the instructor and the students. This system will be used for web streaming and rich media lecture capture. A confidence monitor will be installed at a location easily visible from a primary teaching position, also holding a camera. A microphone system will allow the use of handheld, lavaliere, ceiling, and lectern mounted microphones for speech reinforcement.

Components:
- ♦ Two appropriately sized ceiling-mounted manual front projection screens for instructor presentation
- ♦ Two ceiling mounted, high resolution video projectors
- ♦ Four flat panel displays with student laptop input for small group collaboration (groups of four or five) on mobile carts
- ♦ One Infocus Mondo Pad on a mobile cart
- ♦ Confidence flat panel monitor at the rear of the room
- ♦ Two Student carts housing 30 tablets and 30 laptops, respectively
- ♦ Software collaboration tools for student document and image sharing, i.e. Teamspot
- ♦ Any source device will have the ability to switch to any display
- ♦ An interactive digital annotation LCD tablet allowing annotation over multiple sources
- ♦ Source equipment for the projection system includes a professional Blu-ray player, a digital document camera, CATV tuner, a dedicated computer with wireless keyboard/mouse, and VGA & USB connectivity for laptops at the lectern. Custom connectivity boxes at the lectern and floorboxes will provide easy access to power, data, and AV connections.
- ♦ A sound reinforcement system for program audio reproduction
- ♦ An ADA compliant hearing assist system for the hearing impaired
- ♦ A centralized control system including a large icon-based touchpanel interface w/ video preview and annotation capabilities. Web based room control though tablet devices.
- ♦ Two 1-CCD high definition pan-tilt-zoom cameras
- ♦ IP camera for whiteboard capture
- ♦ Lecture capture device

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- Wired microphone for lectern and wireless lavaliere microphone (1) and handheld (1) for audio capture to digital recording system
- A custom fabricated instructor's lectern and lightweight mobile podium

ACTIVE LEARNING CLASSROOM

The Active Learning Classroom 327 is planned to support small group collaboration, study, and experimentation in addition to computer-based and digital media presentation and lecture. In addition, the instructor will be capable of sending video from the lectern computer out to student collaboration displays.

Components

- One appropriately sized ceiling-mounted manual front projection screen for instructor presentation
- One ceiling mounted, high resolution video projector
- Six flat panel displays with student laptop input for small group collaboration located at student tables
- Software collaboration tools for student document and image sharing, i.e. Teamspot
- Any source device will have the ability to switch to any display
- Source equipment for the projection system includes a professional Blu-ray player, a digital document camera, CATV tuner, a dedicated computer with wireless keyboard/mouse, and VGA & USB connectivity for laptops at the lectern. Custom connectivity boxes at the lectern and floorboxes will provide easy access to power, data, and AV connections.
- A sound reinforcement system for program audio reproduction
- An ADA compliant hearing assist system for the hearing impaired
- A centralized control system including a large icon-based touchpanel interface w/ video preview and annotation capabilities
- A custom fabricated instructor's lectern at a centralized location and lightweight mobile podium

MEDIUM CLASSROOM 329

Medium Classroom 329 is planned to support computer-based and digital media presentation and lecture including distance learning and rich media capture.

Components

- One appropriately sized ceiling-mounted manual front projection screen for instructor presentation
- Two ceiling mounted, high resolution video projectors
- A flat panel display to the front wall for video conferencing
- Wall mounted confidence monitor at the rear of the room
- An 18" interactive digital annotation display
- Source equipment for the projection system includes a professional Blu-ray player, a digital document camera, CATV tuner, a dedicated computer with wireless keyboard/mouse, and VGA & USB connectivity for laptops at the lectern. Custom connectivity boxes at the lectern and floorboxes will provide easy access to power, data, and AV connections.
- A sound reinforcement system for program audio reproduction
- An ADA compliant hearing assist system for the hearing impaired
- A centralized control system including a large icon-based touchpanel interface w/ video preview and annotation capabilities
- Custom fabricated instructor's lecterns and lightweight mobile podiums
- HD Video conference system and lecture capture device
- Two 1-CCD high definition pan-tilt-zoom cameras per side
- Wired microphone for lectern, wireless microphones and ceiling mounted microphones for audio capture for video conference and digital recording system

SMALL CLASSROOM 328

Classroom 328 will accommodate and multimedia presentation in a flexible seminar style environment. A front projection system will be the main presentation device. A video projector will be ceiling-mounted and static-hung.

Components

- A ceiling-mounted manual front projection screen
- A single ceiling-mounted video projector
- A dedicated PC, laptop interface, a combination Blu-ray player, a digital document camera, high definition cable TV tuner and auxiliary AV inputs
- A wall-mounted touch panel and wireless touch panel user interface
- A sound reinforcement system for program audio reproduction
- An ADA compliant hearing assist system for the hearing impaired
- A custom lectern

LIBRARY

READY REFERENCE

The Ready Reference Area will display artwork and photography and allow students to interact with digital collections of UMW and other institutions through four interactive kiosks.

Components

- Three interactive kiosks with a 24" interactive display, ceiling mounted isolated sound speaker, local computer, and furniture for kiosk

DIGITAL ARCHIVING

Digital Archiving 322 will allow UMW to prepare and process printed materials for archiving in a digital format using state of the art scanning and visual capture technologies. All technology within Digital archiving will be provided by UMW

Components

- Book scanner with cradle and dedicated PC
- Large format scanner with dedicated PC
- Negative film and slide scanner with dedicated PC
- Digital camera and copy stand with tripod, light tent, and lighting equipment
- Microfilm/fiche scanner with dedicated PC
- Two Mac workstations with graphics editing software, a high quality color printer, and a black and white copier/printer
- Servers to support production, staging, and backup for redundancy housed in Data Center

WRITING AND SPEAKING CENTER

SPEAKING/WRITING CENTER RESOURCE LIBRARY

The Speaking and Writing Center Resource Library 437 and 430 will allow small groups of students to meet for project work and encourage impromptu collaboration using a display with collaboration software, loudspeakers or headphone jacks, digital signage, and a small control interface.

Components

- Two appropriate sized flat panel displays with the following
  - Standard loudspeakers

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- A small equipment rack in the corner will house a dedicated PC that will include a software package that will implement typical productivity and student collaboration.
- Digital signage capability will be available for the display of news, information, schedules, video, advertising, and other content.
- Other sources for the display system will include cable television and multi format & HDCP compliant inputs for portable devices.
- Control of the display system will be by a wall mounted key pad near the display.

REHERSAL ROOMS

Rehearsal spaces will be used for speaking consultation, rehearsal and recording. Some offices will occasionally be used as rehearsal spaces

- Rooms 438, 441 & 442
  - Recording PC with wireless mic and wall mounted PTZ camera(handheld remote control)
  - Ceiling microphones for recording groups in room 441
  - Second presentation computer
  - Wall mounted flat panel display with side mounted speakers connected to both computers
  - Presentation lectern
  - Control system including color touch panel with video preview
- Rooms 439 & 443
  - No lectern
  - Wall mounted flat panel display with side mounted speakers
  - Dedicated office computer with output to flat panel display
  - Secondary computer with wireless microphone and camera for recording connected to flat panel display(Room 429 only)

BUILDING-WIDE SYSTEMS

INFORMATIONAL DISPLAY & DIGITAL SIGNAGE SYSTEM

The building will contain flat panel displays located at key public locations for the display of news, information, schedules, wayfinding, video, advertising, and other content.
- The digital signage system will be capable of displaying computer graphics, digital video, and any associated program audio.
  - Each display will be connected to the system head-end via the building LAN.
  - Content will be delivered to, and stored on, an individual media player through the use of a content server. One media content channel player is provided. Each display will be individually assignable, so programming can be displayed on any or all of the displays independently.
  - The head-end equipment will include play-list and scheduling software to establish the playback schedule for each display in the system.
  - The content server and other head-end equipment will be rack-mounted within either the MDF room or a dedicated equipment room.
- Each display will include integral stereo loudspeakers for program audio, though audio may not be used at specific locations during normal operation.
- Three displays per floor are currently planned plus additional displays in the Team Collaboration will second as digital signage displays when not in use.
- One independent video channel is currently planned as source material for the distributed flat panels

POOLED EQUIPMENT

- Portable PA system with 6 microphones, stands, cable, two monitors, audio snake and cases

- Portable lighting including two lighting trees with 4 par cans each and lighting controller
- Two Wireless microphone systems
- One assistive listening system

METACONTROL SYSTEM (HELP DESK AND TECHNOLOGY MANAGEMENT)

Each room-specific audiovisual system described below will contain a control system with a standard user interface to facilitate ease of use. While this equipment is assigned to each room-specific system, all control system processors will be connected to the building LAN. The information carried by the LAN is low-bandwidth control command only, and does not include high-bandwidth audio or video signals.

Software will be provided for the management of all audiovisual systems and components by authorized support staff. A support staff interface will provide room scheduling functionality, remote diagnostics, projector lamp usage information, and task automation. Help desk functionality will allow presenters or staff to send help requests directly from the controller in a particular room, enabling technical support staff to query and troubleshoot the system, control the system directly, and communicate with the instructor. Support staff will have the ability to lock out particular systems or functions to prevent unauthorized use. This can be based on a particular time of day (i.e. overnight) and/or particular user authorization levels.

The Metacontrol system can also be configured to provide e-mail security alerts to the campus police department. If a particular device, such as a video projector, can provide positive feedback to the local control system processor, then that processor can send an e-mail alert if the device has been disconnected from the system.

Additional discussion will be needed regarding authorization, IP addresses, devices to be controlled, Help responses, and so on. This capability should be coordinated with other audiovisual systems within the building and possibly across the campus.