Introduction to the IQ Conference Room

Design Document

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BACKGROUND

CDH Technologies owns eight meeting facilities in North America known as IQ Rooms. All eight facilities underwent renovations in 2008 to offer state-of-the-art technologies intended to enhance the efficacy and efficiency of events. IQ Rooms are often made available to external groups requiring advanced technologies, including: wireless networking, lighting, an advanced audio system, audio and video-teleconferencing, and a video system consisting of five large plasma displays.

IQ rooms are staffed by an event support team, which typically consists of a receptionist, administrative assistant, events coordinator, and two partly-allocated networking engineers. The primary task of the event support team is to configure the IQ Room based on client requirements and to provide first-line technical support. The network engineers (IT Support Team) provide second- line support.

PROBLEM DEFINITION

Following the renovations, post-event surveys indicated that 60% of events started late or were interrupted by equipment issues. While the event support teams provide logistical and first-line technical support, they have not received formal training on the new equipment. In one-on-one interviews with the event support teams, members stated that they do not feel adequately proficient in IQ room equipment operation and maintenance to provide basic technical assistance to clients.

Additional organizational and management-related issues were also identified; however, this problem definition focuses on the basic technical training and troubleshooting skills necessary to support the IQ room.

LEARNER ANALYSIS

The target audience for the analysis included a 25% sampling of the entire IT/Events Staff workforce:

EVENT SUPPORT TEAM

- Office/Event Coordinator (2)
- Administrative Personnel: Receptionist (2), Administrative Assistant (2)

IT SUPPORT TEAM

- Network Support Engineers (4)

STAKEHOLDERS

- Internal/External Clients (8)
- Management (4)

UP-FRONT ANALYSIS DETERMINED THE FOLLOWING:
- Approximately 22 employees were interviewed (25% of the 88 employees)
- Team members are located at eight different facilities
- All employees speak fluent English
- All employees have basic computer skills using a Windows-based operating system
- All employees have a basic working knowledge of how to use Internet Explorer 4.0 or higher

The Instructional Design (ID) team consulted with the identified employees at two CDH Technologies locations to assess current skills and training needs. The interviews were conducted using a questionnaire and follow-up questions and observations.

STRATEGY

The ID team conducted a site visit to two CDH IQ facilities to meet the event and technical support teams and their management. The ID team observed the staff performing routine tasks to get a feel for the nature of their work and environment. While on site, the ID team interviewed management to identify issues, key measurements of success, and current strategies to achieve these metrics.

Sample Management Questions:
1. How do you believe the team is performing as a whole?
2. How do you see that?
3. In your own words, how would you describe the overall technical expertise of the team?
4. What feedback have you received about how the IQ room is running?

Following discussions with management, the ID team interviewed team members from a sample group using a questionnaire with follow-up questions to identify individual and group development needs.

Sample Event & Technical Support Team Questions:
1. What is your level of technical experience?
2. Do you know how to perform basic functions of the IQ Room such as: pushing slides, initiating a VTC, and running the sound system?
3. What are the top 3 most common technical problems?
4. What are the causes of these issues?

5. What types of issues are you able to resolve on your own? How often is the root cause a simple fix vs. a complex set of issues?
6. What types of issues have you encountered for which you could not resolve the problem on your own? What was the cause of the issue?
7. If you are presented with a technical issue that you don't know how resolve, what is the next course of action? Do you have reach-back capability? If so, to whom?
8. What do you need (knowledge, equipment, support, etc.) to ensure that the IQ Room is up and running prior to the start of an event?

Based on the findings, the ID team determined the staff skill gaps (see Gap Analysis).

LEARNER ANALYSIS FINDINGS

Information Category	Data Sources	Learner Characteristics
Entry behaviors	Interviews with the event and IT support teams and management	• Ability to power up a laptop, turn on the lights and open a PowerPoint slide show file.
Prior knowledge of topic area	Interviews with event and IT support teams; observations	• Employees have basic computer skills using a Windows-based operating system and a basic working knowledge of how to use Internet Explorer 4.0 or higher. • Employees are able to turn on LCD screens and push a Microsoft document from the laptop to the video system. • Employees know how to activate the VTC system and initiate both a video teleconference and/or audio conference session, if the system has already been pre-configured.
Attitudes toward content	Interviews with staff	• Employees recognize the importance of knowing how to configure and troubleshoot technical issues in the IQ Room; however, the level of effort required to support the space, combined with the lack of training, has resulted in frustration.
Motivation for instruction	Interviews with staff; observations	• Employees are motivated to be able to pre-configure the facility and rapidly address common issues.

Information Category	Data Sources	Learner Characteristics
Attitudes toward potential delivery of training	Interviews with staff and management	• Active learning is preferred, especially hands-on experiences, discussion, and scenarios.
Education and ability levels	Interviews with staff and management	• IT support staff have a technical undergraduate degree and/or equivalent experience and certifications. • Event support staff has a minimum undergraduate degree in non-related areas of study.
General learning preferences	Interviews with staff and management	• Instructor-led web-based synchronous training or classroom-based training.
Attitudes toward training organization	Interviews with event and IT support teams	• Expecting engaging and interactive hands-on training.
General group characteristics	Interviews with staff	• 9% Female • 91% Male • Age range: 23-35 • Staff is fluent in both writing and speaking English

TASK ANALYSIS

1. Connect a laptop to the wireless internet.
    1.1. Turn on a laptop.
    1.2. From the "Start" menu, open the Control Panel.
    1.3. Open the "Networking" icon.
    1.4. Select the "IQ Room" network from the list.
    1.5. Launch a browser.
        Visual Cue: The user's home page appears on the screen.

2. Turn the lighting system on, off and adjust individual lamps.
    2.1. From a booted laptop, start a browser with Java (Netscape 4.5+ or IE5.5+).
    2.2. From the "Links" menu, select "IQ Room Control Interface" OR enter the following IP address: 123.45.67.8
    2.3. From the home control page, Click on the Lighting icon.
    2.4. Select the lights to control, create a box around the selected lights with the mouse.
    2.5. Use the slider on the right side of the web page to adjust the brightness level.
    2.6. In the menu bar, click the "SELECT ALL UNITS" function and select "OFF".
    2.7. In the menu bar, click the "SELECT ALL UNITS" function and select "ON".

2.8. Select three non-contiguous lighting units.

2.9. Using the dimmer slider on the right-hand side of the screen, dim the lights 50%.

2.10. Using the dimmer slider on the right-hand side of the screen, increase the lights to 75%.

3. Conduct a multi-point audio teleconference.

3.1. Turn on all of the lighting units in the IQ Room.

3.2. Turn on the center LCD screen.

3.3. Prepare the audio system using the IQ Room Control interface:

3.3.1. Assign the Video Teleconferencing system (VTC) source to Channel 1.

3.3.2. Assign the ceiling microphones to Channel 2.

3.3.3. Assign the ceiling speakers to Channel 3.

3.3.4. Connect the VTC to the ceiling speakers.

3.3.5. Connect the microphones to the VTC.

3.4. Operate the Polycom system.

3.4.1. Prepare to dial out to a remote site.

3.4.1.1. Using the Polycom remote, open the telephone menu.

3.4.1.2. Dial the 7-digit telephone number.

3.4.1.3. Enter the access code.

3.4.1.4. Confirm successful connection.

Audio cue: The user will be able to speak to the participants already on the bridge and hear their responses.

3.4.2. End the call and close down the system.

3.4.2.1. Press the dial/hang-up button on the Polycom remote to end the call.

3.4.2.2. In the IQ Room Control interface, reduce volume for all three components to 0.

3.4.2.3. Unassign channels 1, 2 and 3.

3.4.2.4. Close the audio interface.

3.4.2.5. Unassign the VTC from the center LCD screen.

3.4.2.6. Turn the LCD screen off.

3.4.2.7. Turn off the room lights.

3.4.2.8. Shut down the laptop.

4. Conduct a point-to-point video teleconference (VTC).

4.1. Turn on all room lighting units.

4.2. Turn on the LCD screens using the NEC remote control.

4.3. Configure the video system for a VTC.

4.3.1. Open the IQ Room Control interface.

4.3.2. Open the video menu.

4.3.3. Assign the VTC source to all five of the LCD screens.

4.3.4. Set the LCD screen to video input 1.

4.4. Prepare the audio system using the IQ Room Control interface:

4.4.1. Assign the VTC to Channel 1, ceiling microphones to Channel 2, and the ceiling speakers to Channel 3.

4.4.2. Connect the VTC to the ceiling speakers.

4.4.3. Connect the microphones to the VTC.

4.4.4. Raise the volume bar on all 3 channels to 100%.

4.5. Prepare to dial out to a remote site.
    4.5.1. Turn on the VTC system using the Polycom remote.
    4.5.2. Open up the dialing prompt.
    4.5.3. Enter the 7-digit telephone number and press "dial".
    4.5.4. Confirm the connection.
        Visual Cue: The user will be able to see video from the remote site.
        Auditory Cue: The user will be able to speak to the remote site and hear their response.

5. Push slides from a laptop to all five LCD monitors and to remote participants on a VTC.
    5.1. Plug a laptop into any of the floor boxes.
    5.2. Turn the laptop on.
    5.3. Log onto the laptop.
    5.4. Activate the wireless card in the laptop and connect to the wireless internet.
    5.5. Open the selected PowerPoint presentation.
    5.6. Locate the IQ Room Control interface bookmark in the links menu.
    5.7. Open the video tool.
    5.8. Locate the number of the floor box the laptop is plugged into and select it in the video tool.
    5.9. Turn on each LCD monitor.
    5.10. On the laptop, press Function + F7 until the image appears on all five screens.
        Visual Cue: All screens will display the PowerPoint slide.

GAP ANALYSIS

OPTIMUM STATE

Based on the current state as outlined in the Problem Definition, as well as data from the Learner and Task Analyses, and client feedback, the desired results of training will enable staff to pre-configure equipment to accommodate event requirements and troubleshoot short-fused technical issues.

PERFORMANCE GAPS

The gap between actual performance and optimum performance can be addressed through instruction for the following skills:

- Pre-configuration of the IQ Room (configuring wireless networking, lighting systems, audio and video systems, and pushing slides to VTC)
- Basic troubleshooting of common technical issues

INSTRUCTIONAL GOALS

By the end of this training course, the Events and IT support staff will be able to pre-configure the IQ room's audio/video equipment and lighting according to client requirements. They will also be able to troubleshoot technical issues to ensure that the room is fully functional prior to all events. Post-event surveys will reflect at least 90% client satisfaction.

LIMITATIONS & CONSTRAINTS

1. Employees at each site will be trained in two groups in order to maintain continuous facility operations.
2. Training will be successfully completed within one business day per session (8 hours).
3. Training must occur on-site in the IQ Room.

INSTRUCTIONAL APPROACH

CDH Technologies will offer two half-day classes to train two groups of Events and IT support staff how to pre-configure, shut down, and troubleshoot the IQ room's equipment. Both sessions will contain the same materials.

Timeframe: 4 hours
Sessions Available: 2 during Pilot training (4 participants at each session)

MODULE 1 – COURSE OVERVIEW

Time: 45 minutes
Objectives:

- Presenters and participants will introduce themselves to the group.
- Participants will understand the objectives of the course.
- Participants will be able to identify the key components of the IQ room and explain how they relate.

Strategies:

- Discussion: The instructor and participants will briefly introduce themselves.
- Presentation: The instructor will discuss the goals and objectives of the course to set expectations for the participants.

- Presentation: The instructor will describe the IQ Room technology, functionalities, and the relationships between the systems.
- Application: Participants will be provided a blank paper, and will be asked to create a diagram that describes the equipment and relationships between each piece. Participants will then compare their diagrams.

MODULE 2 – OPERATING THE LIGHTING SYSTEM

Time: 10 minutes
Objectives:

- Using a laptop, participants will successfully access the IQ Room's user interface by configuring the wireless network.
- Using a laptop in the IQ Room, participants will turn the lighting system on, off and adjust individual lamps.
- Participants will create a checklist that validates the settings for configuring the lighting conferencing system and procedures for proper shutdown.

Strategies:

- Presentation: The instructor will provide a brief overview and demonstrate how to operate the lighting system.
- Demonstration: The instructor will walk each participant through the steps involved in operating the lighting system.
- Application: Participants will individually demonstrate turning the lights on and off, and adjusting an individual lamp.
- Integration: The instructor will prompt participants to create a checklist for the purposes of troubleshooting the system that will be used in the final exercise.

MODULE 3 – PUSHING A POWERPOINT SLIDE SHOW FROM A LAPTOP TO THE LCD SCREENS

Time: 30 minutes
Objectives:

- Using a laptop with Microsoft PowerPoint, a PowerPoint presentation file, and the IQ Room GUI, participants will successfully push the slides from the laptop to all five LCD monitors.

- Participants will create a checklist that validates the settings for configuring the video system and procedures for proper shutdown.

Strategies:

- Presentation: The instructor will provide a brief overview and demonstrate how to push slides from a laptop to the LCD monitors.
- Demonstration: The instructor will walk each participant through the steps needed to push a slide show to the LCD monitors and shut the system down.
- Application: Participants will each push a slide out to a designated LCD monitor.
- Integration: The instructor will prompt participants to create a checklist for the purposes of troubleshooting the system that will be used in the final exercise.

MODULE 4 – CONDUCTING A VIDEO TELE-CONFERENCE (VTC)

Time: 30 minutes
Objectives: Using the Polycom system, participants will be able to:

- Configure the Polycom system to initiate a point-to-point video teleconference.
- Conduct a multi-point video teleconference by dialing out to one additional site.
- Push slides from a PowerPoint slide show to the LCD monitors and the VTC remote participants.
- Create a checklist that validates the settings for configuring the VTC and procedures for properly shutting down the system.
- Shut down the VTC correctly.

Strategies:

- Presentation: The instructor will identify and define the various components of the IQ Room and Polycom video systems including: sources and outputs.
- Presentation: The instructor will provide a brief overview of how to initiate a single- and multi-point video teleconference, and how to shut the system down.
- Demonstration: The instructor will prompt participants to provide the steps necessary to successfully connect a point-to-point conference.
- Integration: The instructor will prompt participants to create a checklist for the purposes of troubleshooting the system that will be used in the final exercise.

MODULE 5 – CONDUCTING AN AUDIO CONFERENCE

Time: 45 minutes
Objectives: Using the Polycom system in combination with the IQ Room GUI, participants will be able to:

- Configure the audio teleconferencing system to initiate a point-to-point audio teleconference.
- Conduct a multi-point audio teleconference by dialing out to one additional site.
- Shut down the Polycom system.
- Create a checklist that validates the settings for configuring the audio conferencing system and procedures for proper shutdown.

Strategies:

- Presentation: The instructor will identify and define the various components of the IQ Room and Polycom audio systems, including: channels, sources, outputs, etc.
- Presentation: The instructor will provide a brief overview of how to initiate a single- and multi-point audio teleconference, and how to shut the system down.
- Student Demonstration: The instructor will prompt participants to provide the steps necessary to successfully connect a point-to-point conference.
- Integration: The instructor will prompt participants to create a checklist of the procedures for proper setup and shutdown for the purposes of troubleshooting the system that will be used in the final exercise.

TEN MINUTE BREAK

MODULE 6 – CONFIGURATION EXERCISE

Time: 60 minutes
Objectives:

- Given a set of client requirements, participants will describe the proper room configuration.
- Given a set of client requirements, participants will configure the IQ Room to accommodate the requirements.
- After successfully configuring the IQ Room, participants will shut down the equipment correctly.

Strategies:

- Activity: The instructor will provide the participants with several sets of event requirements and then prompt participants to describe how they would configure the IQ Room to accommodate each request.
- Activity: The instructor will distribute a mock email describing a client's requirements. Working as a group, participants will configure the IQ Room accordingly.
- Activity: After successfully configuring the IQ Room, participants will shut down all equipment correctly.
- Prior to a 10 minute break, the instructor will explain to participants that they will be presented with several technical issues to resolve using their troubleshooting checklists.

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TEN MINUTE BREAK

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Group Exercise
- Setup: The instructor will intentionally assign the audio channel intended for the VTC to the incorrect output, mute the microphones on the Polycom system and set the resolution on the laptop to 800x600.
- Application: Participants will be given a simulated client email request, and will be asked to configure the room properly.

MODULE 7 – WRAP-UP

Time: 20 minutes

The instructor will provide a course summary, answer any final questions, and collect participant evaluations.

FORMATIVE EVALUATION

PURPOSE

This evaluation will be conducted for the purposes of validating that the methods used throughout this course meet the instructional goals and objectives.

AUDIENCE

A small-group trial will be conducted to gather evaluation data, which will be reviewed and analyzed by the Instructor(s), Instructional Designers, CDH Technologies Event/IT Manager, and the ISD Manager.

ISSUES

The formative evaluation will focus on answering the following questions:

- Does the instruction effectively address the problem definition, goals, and objectives?
- Do the instructional strategies sufficiently engage the learners?
- Do the instructional strategies effectively prepare learners to perform the activities?
- Are the activities properly sequenced and set up to ensure learner success?
- Was the equipment properly prepared for the course?
- On average, was the allotted time for each module adequate?

RESOURCES

To conduct this evaluation, a small-group trial will be conducted which will include the CDH Technologies Event/IT Manager, a technical SME, and two general staff members. The materials and equipment necessary for conducting the trial include the IQ Room facility and equipment for one day and instructional materials.

DATA-GATHERING TECHNIQUES

Instructional designers will meet with the evaluation team to conduct a small-group trial of the course. Participants will be asked to walk through each activity, and to note issues during instruction. IDs will observe and note participant success with the activities and exercises; one ID will track the instructional time of each module. Following each module, participants will be asked to give their reactions to the instruction, and to discuss what went well and what needs to be changed. At the end of the session, reviewers will be asked to comment on the overall method of presentation, structure, sequencing and timing.

DESIGN GUIDE CHECKLIST AND SIGN-OFF SHEET

Please ensure that you review the following components in the Design Document for the _Introduction to the IQ Conference Room._

Check the "Yes" column if the component is acceptable (requires no changes). Check the "No" column if the component is not acceptable (requires change). If you check a "No", please include the Design Guide page number to which this "No" applies. Make sure to include a comment on that page that clearly indicates the revision to be made.

Component of Design Guide to Review for Acceptability	Acceptable		
	Yes	No	Page of noted issue
❑ Background Information			
❑ Problem Definition			
❑ Learner Analysis			
❑ Task Analysis			
❑ Gap Analysis			
❑ Presentation/Interface			
❑ **Instructional Approach/Evaluations.** For this section, consider all of the following:			
• Does the **title** of the course/workshop accurately reflect the materials being presented? (_Consider the level and nature of the materials._)			
• Is the course **goal** stated accurately? (_Think about what you want the audience to get out of this course and whether the statement of the course goal reflects that._)			
• Do you agree with the way in which subject matter has been **_organized_** to form modules? (_Consider whether the **major** subject areas required to meet the course goal have been covered. If major areas are missing, you must indicate them._)			
• Do you agree with the order in which modules have been presented?			
• Is each **_module title_** accurate?			
• Does each module **_objective_** accurately reflect what your participants will achieve by completing the module? (_Consider the knowledge, skills, and abilities your_			

Component of Design Guide to Review for Acceptability	Acceptable		
	Yes	No	Page of noted issue
participants should have at the end of the module. Have they had the opportunity to demonstrate mastery of the knowledge/ skill/ability?)			
• Within each module described in the course outline, is the **list of topics (and sub-topics) complete**? (*Consider whether other information is essential or just a nice-to-know. If the latter, consider whether it really belongs elsewhere.*)			
• Are you comfortable with the **instructional strategy** associated with each topic/subtopic?			
• Do you agree with the **timeframes** that have been associated with each module?			
• Are you comfortable with the way in which concepts have been **practiced** in a module?			
• Are you comfortable with the way in which participant mastery of concepts has been **evaluated** in a module?			

Sign-Off		
Review	**Status of Guide (Revisions)**	**Signatures**
___ Initial Review	___ Revisions Indicated in Guide. ___ No Further Revisions. Design Accepted.	SME Signature: _____ PM Signature: _____ VP Signature: _____
___ Final Review	___ Revisions Indicated in Guide.	SME Signature: _____

(For verification that revisions from initial review are complete.)	___ No Further Revisions. Design Accepted.	PM Signature: _____ VP Signature: _____

ANALYSIS

The ID team will consolidate the results of the small-group trial into a single document for review and revision. The consolidated feedback will be used to modify the instructional materials, course timing, and instructional strategies as needed.

REPORTING

Following the small-group trial, the ID team will consolidate the feedback and create an executive summary.   The report will summarize the overall effectiveness of the course materials and approach, as well as the participants' success in configuring the IQ room equipment properly. The report will be emailed to ISD Management within five business days with specific proposed modifications to the training materials. Once implemented, the initial Pilot deliveries will be scheduled. Full rollout will follow Pilot training and summative evaluations.

SUMMATIVE EVALUATION

Following Pilot training, instructors will evaluate course effectiveness by focusing on the learner feedback to the course instruction, skills evaluation during training, and client feedback.

LEARNER FEEDBACK

The Pilot tests will conclude with a short post-delivery questionnaire. The feedback forms will be collected from each student. Instructors will calculate the average rating scores, and will consolidate all comments into one document. This document will be submitted to ISD Management following each training delivery.

Sample Feedback Form

Course Name: _____   Date: __/__/____

⭕   Instructor Led
          Location: _____
          Instructor Name: _____
⭕   Online

Your Position Title: _____

Instructions: Please rate the level of instruction for each category.

OVERALL INSTRUCTION			
Stated training objectives	⭕Unclear	⭕Clear	
Were the directions clearly stated?	⭕No	⭕Yes	
Length of course	⭕Too Short	⭕Enough	⭕Too Long
Pace of course	⭕Too Slow	⭕Good	⭕Too Fast
Level of detailed explanation	⭕Not Adequate	⭕Adequate	⭕Too Much
Relevance of content to your job	⭕Not Adequate	⭕Adequate	⭕Excellent
Quality of materials/examples	⭕Not Adequate	⭕Adequate	⭕Excellent
Realistic exercises	⭕No	⭕Yes	
The information increased my knowledge of the IQ Room	⭕No	⭕Yes	
Overall rating for meeting your expectations	⭕Fell Below	⭕Met	⭕Exceeded
Overall value of this course	⭕Not Adequate	⭕Adequate	⭕Excellent

INSTRUCTOR-LED FEEDBACK			
Instructor expertise in subject	⭕Not Adequate	⭕Adequate	⭕Excellent
Instructor presentation skills	⭕Not Adequate	⭕Adequate	⭕Excellent
Instruction quality	⭕Not Adequate	⭕Adequate	⭕Excellent
Instructor feedback to questions	⭕Not Adequate	⭕Adequate	⭕Excellent

COMMENTS
How could this course be improved?
Additional Comments:

SKILLS EVALUATION

For each class, instructors will observe learner participation and the group's success in completing each activity. Instructors will also note learner time to complete the final activity. Instructors will debrief each class at the conclusion of the final class activity, and incorporate the responses into the post-training report.

CLIENT FEEDBACK

Feedback questionnaires will be collected at the conclusion of each event. The questionnaires will be delivered to the ID Team, who will analyze and consolidate feedback from each event, and document findings in an end-of-project report.