Programmer Manual for Interactive Video Boards

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**1. Vision statement**

The proposed system will be video walls to replace the old 70s looking publications displays in Life Science and Physical Science. The system will be a large touch screen or a combination of multiple screens that work together to allow students the ability to interact with the information that is displayed on the screens at the moment. For instance, there could be a rotating display of faculty and staff. If a student touches one of the faculty or staff members, their bio and a blurb regarding their recent research would appear on screen. Then the board could rotate to the disciplines and a student could touch one of those. Once a student touches a disciple, the screen(s) would show more information about that discipline, career opportunities, types of degrees offered, etc. If the system ends up being a video wall with multiple screens instead of just one huge screen, the project would be how to get these screens functioning properly together and how to display the information amongst multiple boards.

The ultimate goal of the proposed system is to modernize the NATS halls and bring them up to date with the 21st century. Our capstone team would need to creatively problem solve through cost estimating an entire package from hardware and possibly software. In addition, we would need to train the administration of this project and other faculty on how to use the system and update the software.

**2. Introduction**

The proposed system would prove acceptable to the people who would be affected by its introduction because it would be new and exciting. Updating the walls in both Life Science and Physical Science with interactive video walls would introduce a modern feel to the buildings and inform students and faculty of events and information that would be beneficial for them to know. In addition, the effect on users would be that people would have to be trained on how to use the system and the administration over the system would have to learn how to update and manage it. This means that there may need to be an additional employee hired to manage these boards after our capstone group is finished installing and training users on how to use it.

As far as relocation goes, I don’t see there being any need to relocate the physical system or software once it is created. I also don’t see there being any jobs becoming deskilled because this is a new system and in fact, NATS may need to hire an additional employee to manage these boards once our capstone group is finished. To ensure co-operation before changes are introduced, we would work directly with the dean of NATS to see what she and her team want from this project and keep them updated with the major changes we are making. This would keep them in the loop as to what we are doing and how we are going about these changes. We could also have release dates where we write a report as to what changes we have made and then go through these changes with the dean of NATS and her team. Then, once the project is complete, our capstone group would perform a training session on both managing the software and how to properly use the new interactive video walls.

**3. Component Overview (one for each)**

**a) Software**

Software To use all the interactive whiteboard‘s features, ensure that you have the latest version of SMART software and SMART Product Drivers installed on your computer. You can download the latest software from smarttech.com/downloads.

**b) Dual Sketch Capabilities**

Two people can each pick up a pen and draw on the interactive surface at the same time, providing a higher degree of interactivity.

**c) SMART Ink**

The SMART Ink™ feature smoothes out the appearance of the digital ink, which improves the legibility of your handwriting as you write over applications, websites and videos. The ink becomes an object that you can move and manipulate.

**d) Touch and Gestures**

You can perform mouse functions with your finger, and write and erase digital ink with a pen tray pen or the eraser. The object awareness feature enables you to pick up a pen, and then write, select or erase without replacing the pen.

**e) Pen Tray**

The SMART Board 800 series interactive whiteboard features a modular pen tray with an intuitive new design. As well as two pens and an eraser, pen tray buttons activate the pen’s color, the onscreen keyboard, right-click, Orientation and Help functions. Optional Extended Control Panel (ECP), Appliance Control Panel (ACP), CAT 5 USB extender, and wireless connection modules are also available.

**f) Durable surface and dry erase**

The hard-coated surface is scratch resistant, optimized for projection, compatible with dry-erase markers and easily cleaned.

**g) Wall-mount bracket**

Wall mount brackets enable you to install the SMART Board interactive whiteboard simply and securely

**h) Cables**

Connect the SMART Board interactive whiteboard to your computer with the included, standard USB cable, and to a wall outlet with the included power supply and cords

**i) Security cable lock**

Lock the interactive whiteboard with a security cable (not included) to help safeguard it from theft.

**4. Tool overview (one for each)**

**a. Subsection for tool/language (one)**

Within our system, we will have a performance checking system that tracks the defects logging and status changing of our system. This will help us easily tell when our system isn’t preforming up to standards.

**5. Project Repository**

**a. Software**

The hardware map illustrated below indicates the cables we will need to purchase and shows us that we will need to move the existing hardware (cables for the a/c). We will also need to purchase a server to host our data and software packages to create the interface of our system.

**b. Test Cases**

Many nonfunctional and functional test cases will be ran as specified in RF6 (the software test plan).

**c. Documentation**

When it comes to a deliverable for the security of our system, we will need to have cameras on our system so that if someone were to tamper with our system, we would know who and what exactly they did. In addition, we will also need to have software security put into place so that students can’t access the client side of our software and mess with the display information. This security can be created through a username and password database that only allows authorized administration to get into the system to update and add/remove information

**d. Test platform description**

Currently, Amanda has been working on each of the reports but as soon as we get our hardware ordered and in, Brandon and Will will begin working on the software for our system.

**e. Test scripts**

Access control is a security technique that regulates who or what can view or use resources in a selected environment. In our case, any student, faculty, staff or visitor on the IU Southeast campus will be able to have access to our system. The physical access control limit is that it is located within the campus so unless you are on campus, you will not have access to the information displayed on the video board. This also relates to the logical access control limit of the computer networks, system files and data. The network will be secured and directed into the ceiling where the server will be located that holds our system flies. The system files will be located on a password protected server that will be stationed in a secure place so that unauthorized users cannot get ahold of it.

**6. Installation for new install**

**A screenshot of a cell phone

Description automatically generated**

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Description automatically generated**

**7. Installation for new platform**

The interactive screen has a USB 2.0 peripheral interface that runs at the speed of up to 12 Mbps. The unit works with full speed USB 2.0 and USB 1.1 compliant interfaces. Connect the whiteboard using the included USB cable. If a basic power module is attached to the left side of the pen tray, connect the USB cable from the computer to the USB Type-B receptacle on the bottom of the pen tray. l If an Extended Control Panel (ECP) or Appliance Control Panel (ACP) is attached to the left side of the pen tray, connect the USB cable from the computer to one of the USB Type-B receptacles on the ECP or ACP. The ECP or ACP then connects to the USB Type-B receptacle on the bottom of the pen tray. l If a CAT 5 USB extender or wireless connection module is attached to the right side of the pen tray, use that module to connect the computer to the interactive whiteboard.

**8. Further development statement (if I had another year to do this I would …)**

If we had another year, we would be able to fully implement our system. This project has been challenging due to the fact that a budget still has not been approved. In addition, communication hasn’t been as strong as we would like as often times it felt as if we were not fully aware of the budget status and what we can do to help the dean. We would send various emails and not receive responses in which then we would go to the NATS office for answers. Each time expecting a different result, we were always receiving the answer that no budget has been approved yet. This really hindered our success on this project because we were not able to progress as we desired, and our timeline quickly fell apart as we went months without money.

However, if we had another year and an approved budget, we without a doubt could have this project fully implemented.