SIXTH SENSE TECHNOLOGY

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INTRODUCTION

- Sixth Sense allows people to use the internet without a screen or a keyboard
- It can turn any surface into a touch screen
- It is made with store-bought components
- “SixthSense is a platform for RFID-based enterprise intelligence that combines RFID events with information from other enterprise systems and sensors to automatically make inferences about people, objects, workspaces, and their interactions”
- The software program processes the video stream data captured by the camera and tracks the locations of the colored markers [that you wear on your fingers] using simple computer-vision techniques
UTILITY

• The device recognizes items in stores, **and then gathers and projects information about products** to the user. It also is able to provide quick signals to let users know what the best products are based on their needs.

• Another amazing feature is the device’s ability to **look at an airplane ticket and let the user know whether the flight is delayed** or on time. It is also able to recognize books (based on an image or RFID) in a book store and then project reader reviews or author information from the Internet onto blank pages.

• The device can also **recognize articles in newspapers, retrieve the latest related stories or video from the Internet** and then display them on pages for the user. Say goodbye to your dictionary and encyclopedia.
COMPONENTS

The hardware components are coupled in a pendant like mobile wearable device.

- Camera
- Projector
- Mirror
- Mobile Component
- Color Markers
HOW IT WORKS?

Send for processing

Capture

- Images
- Pictures
- Gestures

Send Info

Project image

Reflect on desired surface

Info on surface
Cost of Sixth Sense

• $350 dollars
• The interesting thing here is that Sixth Sense can never really be more expensive than its individual components
Cost-effectiveness

- As mentioned earlier, this product currently costs only $350. From an educator’s standpoint, this is minimum given the amount of money spent on textbooks, computer labs and LCD projectors.

- For educator’s, Sixth Sense would be a way to put technology (literally) into each student’s hands, because of its size and its cost.
Advantages of Sixth Sense

- Portable
- Inexpensive
- Multi-sensory
- Connectedness between the world and information
- Critical thinking skills would be somewhat vital here…allowing teachers a fantastic opportunity for interdisciplinary study with critical thinking components
Educational Use

- Engagement
- Research
- Collaboration
Engagement

- Teachers may find that Sixth Sense, because of its unique ability to work with many of Gardner’s multiple intelligences, will be a catalyst for students who might otherwise remain unengaged in learning.
- Sixth Sense uses the visual, kinesthetic, intrapersonal and interpersonal among others.
- If this technology does nothing else, the idea that students can simply use their hands to draw images on walls and take pictures with their hands will be (at least initially) quite motivating.
Research

• Sixth Sense will give new meaning to “looking something up.”
• Since we are essentially talking about the internet, students will be given the opportunity to portably research the world.
• They can all go on a virtual field trip and project the images on their own desks, for example.
Collaboration

- Students will be given an opportunity through this technology to feel more connected to others.
- Although there does seem to be the sense that individuals could walk through life wired and lonely, I like to think the classroom would serve as the environment in which students and teachers using Sixth Sense would want to share.
- Not only could the sharing take place in the classroom, I suppose since the users are connected online, sharing could take place around the world.
Future Implications

- Students could become too wired...and the element of collaboration I envision might be completely erased by how the individual interacts.
- Availability of inappropriate information (how does this differ from current computer labs?....this information is literally at students’ fingertips.)
- The technology will cost more because it is packaged and marketed...and they can charge more.
- What type of signal is needed..and might there be issues with getting signals in schools?
APPLICATIONS
Make a call

You can use the Sixth Sense to project a keypad onto your hand, then use that virtual keypad to make a call.

Call up a map

With the map application we can call up the map of our choice and then use thumbs and index fingers to navigate the map.
Check the time

Draw a circle on your wrist to get a virtual watch that gives you the correct time

Create multimedia reading experiences

Sixth Sense can be programmed to project related videos onto newspaper articles you are reading
Drawing application

The drawing application lets the user draw on any surface by tracking the fingertip movements of the user’s index finger.

Zooming features

The user can zoom in or zoom out using intuitive hand movements.
Get product information

Sixth Sense uses image recognition or marker technology to recognize products we pick up, then feeds us information on those products.

Play games & Watch Movies

Just using a piece of paper, and attaching the microphone to it.
Get flight updates

The system will recognize your boarding pass and let you know whether your flight is on time and if the gate has changed.

Feed information on people

The system will project relevant information about a person such as what they do, where they work, and so on.
Take pictures

If you fashion your index fingers and thumbs into a square ("framing" gesture), the system will snap a photo.

After taking the desired number of photos, we can project them onto a surface, and use gestures to sort through the photos, and organize and resize them.
ADVANTAGES

- Portable
- Supports multi-touch and multi-user interaction
- Connectedness between world and information
- Cost effective
- Data access directly from machine in real time
- Mind map the idea anywhere
- It is an open source
CONCLUSION

➢ Sixth Sense recognizes the objects around us, displaying information automatically and letting us to access it in any way we need

➢ The Sixth Sense prototype implements several applications that demonstrate the usefulness, viability and flexibility of the system

➢ Allowing us to interact with this information via natural hand gestures

➢ The potential of becoming the ultimate "transparent" user interface for accessing information about everything around us
THANK YOU