



Next Sizzling Fashion Trend of the Technological Wave

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ABSTRACT

In this paper, I describe how Computer Fashion Wave, "Digital Jewellery" looks to be the next sizzling fashion trend of the technological wave. The combination of shrinking computer devices into small microchips and increasing computer power has allowed several companies to begin producing fashion jewellery with embedded intelligence. The whole concept behind this is to be able to communicate to others by means of wireless appliances. The other key factor of this concept market is to stay fashionable at the same time. In contrast, by adopting a craft approach, we demonstrate that the space of digital jewellery can include objects where the digital functionality is integrated as one facet of an object that can be personally meaningful as a mobile device and fashionable jewellery.

KEYWORDS : Digital jewellery, microchips, mobile devices, embedded intelligence.

INTRODUCTION

"Digital jewellery can define as wireless, wearable computers that allow you to communicate by ways of e-mail, voicemail, and voice communication."

Mobile computing is beginning to break the chains that tie us to our desks, but many of today's mobile devices can still be a bit awkward to carry around. So the interpretation of jewellery may lead to conceptions of 'digital jewellery' that focus on embedding the behavior, services and functions of existing digital devices in objects to be worn in these pre-defined ways.

The phenomenon of the wearable computer has arisen from the desire to create a mobile, personal computer system. The makers of wearable's aim to house the personal computer on the body maintaining the convention of screen, keyboard and mouse. Wearable's have been worn (by their originators) despite their bulky size and weight, and it is readily apparent that considerations of the aesthetic possibilities or the intimate nature of the relationship between the body and the object remain under-explored.

COMPONENT

Soon, cell phones will take a totally new form, appearing to have no form at all. Instead of one single device, cell phones will be broken up into their basic components and packaged as various pieces of digital jewellery like ring bracelet, earring and necklace. Each piece of jewellery will contain a fraction of the components found in a conventional mobile phone.



Figure 1
Digital - Ring, Bracelet, Necklace, Earring

The various components that are inside a cell phone: Micro-phone, Receiver, Touch pad, Display, Circuit board, Antenna, and Battery. IBM has developed a prototype of a cell phone that consists of several pieces of digital jewellery that will work together wirelessly, possibly with Bluetooth wireless technology, to perform the function of the above components.

RING : Perhaps the most interesting piece of the phone, this "magic decoder ring" is equipped with LEDs that flash to indicate an incoming call and also inform you that e-mail is piling up in your inbox. It can also be programmed to flash different colors to identify a particular caller or indicate the importance of a call.

BRACELET: Equipped with a video graphics array display, this wrist display could also be used as a caller identifier that flashes the name and phone number of the caller. With a jewellery phone, the keypad and dialing function could be integrated into the bracelet, or else dumped altogether - it's likely that voice-recognition software will be used to make calls, a capability that is already commonplace in many of today's cell phones. Simply say the name of the person you want to call and the phone will dial that person.

EARRINGS: Speakers are embedded into these earrings will be the phone's receiver. These days many manufacturers are developing things like Bluetooth devices in the form of pendants or earrings that people can wear that help enhance mobile phones.

NECKLACE: Users will talk into the necklace's embedded micro-phone. They transfer the information in the forms of signals. It consist of sensors by these it will work, it is mainly connected by Bluetooth technology.

RED RUBY NECKLACE: The necklace would have a microphone built in. All you would need to do to use it press a small button in the back. Then you can proceed to record your message.



Figure 2 Red Ruby Necklace

JAVA Ring:

It seems that everything we access today is under lock and key. Even the devices we use are protected by passwords. It can be frustrating trying to keep with all of the passwords and keys needed to access any door or computer program.

Dallas semiconductor is developing a new Java-based, computerized ring that will automatically unlock doors and log on to computers. RAM, ROM, a real-time clock and a Java virtual machine, which is a piece of software that recognizes the Java language and translates it for the user's computer system.

The Java Ring is snapped into a reader, called a Blue Dot receptor, to allow communication between a host system and the Java Ring.

TECHNICAL SPECIFICATION

Digital jewellery devices consist of a screen or display for information, most likely consisting of 7-16-segment, or dot matrix LEDs, LCDs, or other technologies such as electroluminescent material (EL) or others, which could become an optional display. So too, an audiovisual or other 'display' could consist of a speaker, a single flashing light, a sensor of some kind (such as a temperature driven EL display), or other informational aesthetic. The display layer sits on a face of the device, which is enclosed in some material such as plastic, metal, crystal, or other material. It has external switches and buttons on its side and a data-port for accessing the programmable electronic circuit inside. A micro controller that is a surface mounted device (SMD) on a printed circuit board (PCB) with resistors (R) and capacitors (C) are the internal 'guts' of the jewellery.

Bluetooth scanner: The iDisplays need to know if any of the participants wearing the digital jewellery are in range. Face recognition is no alternative because of privacy aspects and the problem, that participants should be recognized "walking by" without the need for standing directly in front of a camera. A Bluetooth scanner has been developed during the "Location Based Services" seminar by the project "Interaction with public displays". The scanner source was already used by different projects and has proved its advantages, so it will be re-used also for this project here.

The Bluetooth scanner works in a passive way without the need of any software saved or running on the client Bluetooth devices. There is just no alternative to this because the digital jewellery only contains a Bluetooth device without an operating system around it like a mobile phone has.

Display equipment LED or LCD:

Digital Jewellery devices consist of a screen or display for information, most likely consisting of 7-16-segment, or dot matrix LEDs, LCDs. The digital jewellery display, for instance, every alphabet and number system has found representation within the electronics realm and 'dot-matrix'.

alphanumeric or graphic Display Types

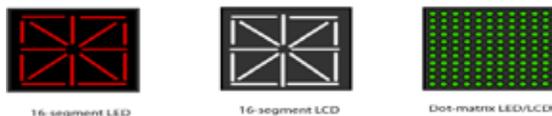


Figure 3: Alphanumeric or Graphic Display Type

Other Material: Digital Jewellery can be made in many different sizes and shapes with a variety of materials ranging from plastic and metal to rubber and glass. They utilize electromagnetic properties and electronics to display information through a screen or display of some kind.

Electromagnetic beads: The closest comparison to this model is that of 'beads' which are strung together to make a custom necklace or bracelet, with interchangeable electromagnetic component systems or devices. One bead may be a capacitor on the inside, and a solar panel on the outside. Another bead may have an internal resistor which feed power into a programmed microcontroller bead which drives an external screen, with other options available in a variety of bead configurations which compose a circuit, including beads with a piezo element, voltage regulator, crystal, or rechargeable battery as part of the modular jewel circuit. The number of data pins on the microcontroller needs to be enough to easily program the display layer plus the switches without overly complex and advanced coding methods

Database:

A PostgreSQL database is used to store information about the participants, the participant's video clips and log entries for evaluation purposes. The following data is saved in three different tables.

1. Participants: Name, email address, Bluetooth address of the the wearied digital jewellery.
 2. Participants video clips: Number, URL, owner, length
 3. Logs: Number, participant, video, time stamp, iDisplay name
- The fields of tables one and two are clearly. If a video clip is shown, the owner of this video clip, the time stamp and the name of the iDisplay, where the video clip has just been shown, are saved to the log table. This information is required for the evaluation of the project.

CURRENT AND ONGOING ACHIEVEMENTS

Intelligent spectacles: Intelligent Spectacles this could be the shape of designer glasses to come. These intelligent spectacles let you surf the web or check your e-mail, whenever and wherever you want. Your eye would serve as a mouse, with menu items selected by focusing your attention on an item on screen.

Smart wrist watch: Having the power of a computer on your wrist may sound like science fiction. But this is the idea behind the wrist-watch PDA. It would have a widescreen display to watch video, and voice recognition technology so that you can use it by simply talking to your wrist. And of course, it also tells you the time.

Charmed communicator eyepiece: Charmed Technology is already marketing its digital jewellery, including a futuristic-

looking eyepiece display. The eyepiece is the display component of the company's Charmed Communicator; a wearable, wireless, broadband-Internet device that can be controlled by voice, pen or hand-held keypad. The Communicator can be used as an MP3 player, video player and cell phone. The Communicator runs on the company's Linux-based Unix operating system. The eyepiece above displays images and data received wirelessly from the Communicator's belt module.

Mouse Ring: The Optical Finger Mouse is created by Logisys. The innovative way of browsing your computer via this optical mouse is just so tremendous. It seems so easy to use. Just strap the mouse on to your middle finger or index finger and find a flat surface and you can maneuver the cursor on the screen with your hand free to do what you want with only slight finger or hand movement. Don't worry about the typing as, this mouse allows you to type while using it and much more. It is connected to the CPU via USB cord and can

be used with mobile laptops as well. I am sure if this mouse is in our market the users will try it out as it is a coolly designed futuristic piece of equipment.

GPS toe rings: GPS Toes, toe rings which act as directional indicators and are wirelessly connected to a GPS receiver kept in a bag or worn on a belt.



Figure 4: Intelligent Spectacles, Smart Wrist watch, charmed communicator eyepiece, Mouse Ring, GPS toe Ring

FUTURE ENHANCEMENT

Digital jewellery and handshakes posited as the future of payments: The report, Pay Your Way 2025: Future Payments, looks beyond the probable to take a broader look at what could become available in 2025 for the most enthusiastic consumers of technological advances. The Payments Council commissioned its own research into consumer perceptions of payments trends and asked futurologist Dr Ian Pearson to offer his view of the potential developments in payments.

CONCLUSION:

The basic idea behind the digital jewellery concept is to have the convenience of wireless, wearable computers while remaining fashionably sound. It provides security and easy to carry. However, several bugs remain. Charging capabilities and cost are just a sample of the problems that lurk.

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