Middle East Technical University

Computer Engineering Department

CENG 491 - PROJECT PROPOSAL

DIGITAL POSTER with INTERACTIVE BLUETOOTH

By

redCat

1. Company

1.1 Company Name

We chose our compay name to be redCat because the name symbolizes our team spirit. Redcat (Maneki Neko)is believed to bring good fortune ,happiness to the teams.

1.2 Company Structure

Our team has very qualified members in programming and software design. Moreover, all the members have enough and nearly the same experince in hardware design.As a result, we decided to have a decentralized team structure. However, to prevent possible conflicts and future coordination problems, we decided to choose a team leader.Our team leader,will also be responsible for communicating the customer.

1.3 Company Members

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2. Project

2.1 Project Name

Digital Poster with Interactive Bluetooth (DIGIPOST).

2.2 Project Description

"Posters and screens are great at conveying a message but they're fixed. Bluetooth allows them to make that message mobile and allows it to be carried around by consumers." says Filter's creative partner, Alasdair Scott.

As it is known commonly, traditional posters are inexpensive and widely used because of their ease of installation.However, traditional posters provide only visual information for the users and are lack of displaying other poster contents such as date or place information.In this project, we will implement a digital poster displaying a color poster image to an LCD monitor and send the necessary poster information to cell phones or Personal Digital Assistants (PDAs) supporting bluetooth functionality. In this Project, we will be designing and programming necessary hardware required to make the color poster image visible on the LCDs.Besides, users will be able to receive necessary poster event data via cell phones with this product.

2.3 Application Areas

DigiPost may be widely used in both advertising and marketing industries:

1. Travel industry is all about distributing data. Travel promotions should be announced very quickly, because the update times are very frequent.Controlled from a central location, the company can relieve in total cost of designing, printing, shipping, and hanging of a poster plus the man hours. Thus the usage of DigiPost would provide scalability and cost effectiveness.

2. During presentations, you may come up with a competition in your area, and the audience may recieve the due date and the topics to their palms via bluetooth.

3. Weather conditions may be displayed on them wherever needed, and received by people via their cell phones.

4. Passengers may receive auto advertisements from the Digital Posters during their journey on the road, or while waiting for a flight.

5. Competitions;instant win or to provide unique entry code for web site access

6. Promote pop bands through ringtones and wallpapers

2.4 Initial Ideas

The poster we are going to implement can be used in subway stations, hotels, lifts, boardrooms, classrooms, shops, supermarkets and public areas or aboard various forms of transportation, like taxi, train. It will be used for advertisements; campaign, seminar, concert, competition, etc posters.

We are not much familiar with designing hardware. Depending on our initial knowledge gained by our research, it is going to have a controller and when connected, the employee will be able to upload the digital image and the event data in a few steps. With its short-range wireless device on Bluetooth technology, it will enable the mobile users to record the event data. The mobile users will only need to hold their phone or PDA up to the tagged poster to receive its information. We estimate that this project can be broken down into two main parts as hardware and software.

The hardware phase is to be broken into:
(1) obtain the necessary hardware;
 (2) layout and build microcontroller.

The software phase is to be broken into:

(1) implement the software necessary for the LCD display;

(2) implement the software necessary for Bluetooth;

Initially, we will develop the DIGIPOST for still images, so it will support .JPG format. But, there are many possible features to be added such as:

- ✓ Displaying video, audio, web pages and Macromedia Flash animations(supporting PEG1, MPEG2, MP3, MPEG4 (DIVX, XVID) format)
- ✓ Downloading free music clips, ring tones, etc
- ✓ Directing passers-by to the advertiser's website, and allowing them to download content straight to their mobile phone and submit their personal information.
- ✓ a widened approach to Digipost's application areas; a vending machine company to install Bluetooth transmitters on its drinks, food and cigarette machines. This would not only allow the company to check stock levels remotely but, with the participation of one or more sponsors, provide Bluetooth networks for sponsored promotions. If a drinks company were sponsoring it, it could change offers during the day or see what's not selling well ahead of a delivery and put out a two-for-one offer on it Then, with good customer relationship management, a brand could know, for example, that you used to buy a particular product and so send you a reminder offer as you come out of the tube station.

[1] web page on bluetooth billboards http://feed.proteinos.com/item/2820