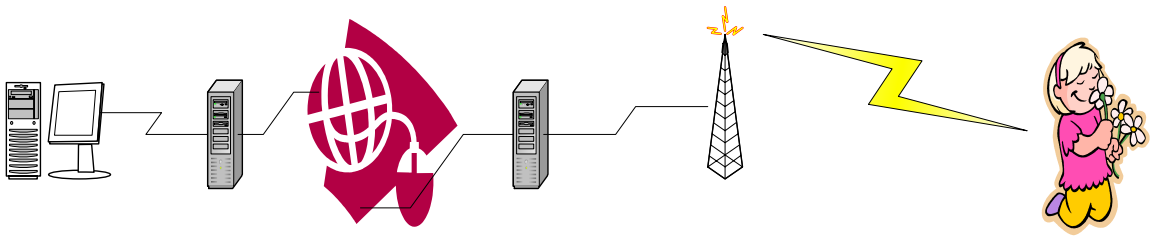
John Healy
8.19.2003
BSA 375
Dr. Harriet R. Kaufman

Children's Locator Service

The System Development Life Cycle (SDLC) was used on only one project I have been involved with developing. The project is a far reaching project and it touches everything from parents to children to the Federal Communication Commission (FCC). Even though this is an ongoing project I am allowed to talk about the SDLC part with the permissions of my partners as long as I do not give away any key points to the technology or the method the technology will be used.

The system analysis part of the SDLC was one of simplicity. What we wanted to do was have a method of tracking children that was simple and concealed. What we planed to do is get the permission of the FCC for a specific frequency to be used in tracking children. Once the FCC had given us this one frequency we would then install radio antenna all over the United States we would put the antennas along side cellar antennas. We would user the antenna to pick up the single from a Global Positioning System (GPS) transmitter the children would have hidden in their clothing. We would post the information onto a website with a map of the United States. When a child is missing or kidnapped we would have the parent, police or government agency log into the website and from the GPS transmitter Identification Number we would be able to have the parent, police or government agency find the child within a 100 foot radius of the given location from the hidden GPS transmitter on the child. The way the system would work is when the parent, police or government agency loges into the webpage and enters in a GPS transmitter Identification Number the system puts out a call looking for that specific unit with a radio signal then the GPS Transmitter the child is warning in the clothing wakes-up and starts to transmit its coordinates. Then the radios

on the towers pick up the signal and relay the location information to the web server over the internet and the location of the child is displayed on the webpage.



The information gathering technique used was a simple spot questionnaire we asked parents. The questionnaire had two questions. The first question was if you had a chance to buy a piece of clothing that had the capability of locating your child anywhere in the United States would you be willing to buy that piece of clothing for 10 dollars more then it would normally cost. 90% of the parents answered yes (survey parents). We then asked the question would you be willing to buy a piece of clothing that was able to locate your child anywhere in the US for 50 dollars more then the cost of the piece of clothing. 68% of the parents answered yes to this question (survey parents). From the survey we were able to deduce that most parents would be willing to spend 50 dollars more on a piece of clothing that was capable of being used in locating their child within a 100 foot radius anywhere in the United States. The next step we took was in finding out if the technology was available to accomplish the project. Through the FCC website I found the person I should write to in order to request a special frequency for the purpose of this project. I then called a radio manufacture to fide out how much would it cost to produce a crystal radio receiver for a specific frequency allocated to us by the FCC. I was quoted a cost of 100 dollars per receiver (personal interview). The other piece of the project puzzle was the GPS transmitter located in a piece of clothing. The best we found was a GPS transmitter the size of a silver dollar and the size does include a battery. The life duration of the battery in the GPS transmitter is currently 5 years. We

believe a parent will buy their children new clothing more then once every five years therefore the battery life of five years on the GPS transmitter is just the correct size. The other problem or issue is where one installs something the size of a silver dollar on children's clothing. One idea we have is to sell the unit as is and supply an enclosed cloth holder the parents can uses to sow into a child's clothing this way it will be located in different places and therefore making it harder for kidnapers to look for a cretin brand name and remove that piece of clothing during the kidnapping. With the ability of the parent to determine where to place the GPS transmitter they will put a cretin amount of randomness into where the device is located on each child making it harder for the kidnapers to locate and remove during the kidnapping. The second idea is to approach different clothing makes of children's clothing and have the clothing manufactures include the device in the clothing at the factory. In the motivation of time and ownership of the idea we choose the first method of just selling the GPS transmitter unit with an enclosed cloth holder and letting the parents sow it into the clothing of each child.

The design method of the system is a simple one. First we get FCC to allocate a frequency to the Children's Locator Service. Then we make a basic crystal a radio for that frequency. We then design the web application using a street atlas of the United Stated we buy from the National Geological Association. The next part is making the GPS transmitter unit and the holder remembering each GPS transmitter unit must have it own Identification Number. Then once we have all of the individual pieces we create the software to connect everything together. This software must run over the internet and it also must be in more then one language at least the front end of the software must be in probably five to six different languages. With the languages being English, French, Germen, Spanish, Slovak, Korean and maybe even Chinese but the final languages selected for the front end will be done when the project is up and running in English. The main part of the project is the software. It must be simple and strait forward for simplicity of use by

everyone. The first page of the website will be an information page with a place to log into the website and a place to register. The registration part will ask the parents GPS transmitter units Identification Number so the parent can make a login name and assonate the GPS transmitter units Identification Number with the parent. The registration page will also have a place where the parent can assonate the GPS transmitter units Identification Number with a child first name or a artificial name the parent gives the child for the purpose of the website a example of the possible artificial names are: youngest child, middle child, oldest child. The registration page will also ask for credit card information because we will charge one dollar per month for each child. The other option we are considering is charging a usage fee say 50 dollars to use the service. What this means is that when a child is kidnapped or lost the parent makes a payment at that time and instead of having a user name and password for each parent the only thing the parent must do is supply the GPS transmitter units Identification Number and the money. At this time it is more likely we will have both options on the website.

Once we have a basic working model we will then go out and find investors for the project. The investors' maybe future customers who are making a purchase up front or they will just be normal investors. We are also thinking of possible requesting funding from the United States Government and funding from each state as well. We believe once we have a working model, the price of each unit is below 50 dollars each, and the webpage service is a nominal fee.

The very last part of the project and the most important part of the project is the advertising of the product and the uses of our product when it comes to children. We also have to be very careful in pointing out the fact that we are not watching or storing information about where children are going. We must be very specific in saying that only with the GPS transmitter Identification Number can a GPS transmitter be turned on. We must also say all the information when it comes to where the child is at is live data and it is not stored anywhere. The point about us not wanting to

monitor and store the location of children at any time is the one fact that will kill or make this project. The project team does not want parents to think or believe we are going to keep track of where every child is located all the time in the United States. We do not want to be the tool of the United States Government in keeping track of the movements of it own citizens but we do want to be a tool for parents who have a lost or kidnapped child. If the project team can convince parents of this one point we will have created the most powerful tool in locating lost or kidnapped children.

Work sited

100 random parents. Survey. 5/22/03

Joe Smith. Personal interview. 6/24/03