Introduction

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The County Alert System (CAS) is an innovative way of integrating new technology and the local county's information into a single mobile application. The system will make it easier for county municipalities to communicate any necessary information to their constituents quickly and notify the user of an alert in their area. The alerts will be maintained though web interfaces where users will be able to log into an account where they can add new alerts for the mobile app.

Problem Statement

The problem involves the communication of important information or alerts from counties to their citizens. The problem is solved by the creation of a light mobile application without an overwhelming amount of features, allowing people to access alerts easily and quickly by opening the app on a mobile device.

Background

The County Alert System shares similar functions with currently existing media outlets that broadcast alerts and information. The system displays information through a live feed with most current information first, similar to the likes of Twitter. It also displays information relevant to specific location, as does Yelp.

Drawback of existing System

The way the County Alert System is set up, it is not profitable. For example, it is free and does not currently have ad revenue. Also, if an app user's county is not submitting alerts for the app, they don't have a need for the app. In addition, the system cannot work as a standalone product. It needs people to submit alerts for it to function.

Need of a new System

Physical media sources such as newspapers are becoming less popular in contrast to the booming mobile industry. Instead of getting a newspaper or tuning into a local radio station, a person using the app could instantly get the information they need just by launching the app conveniently from any Android mobile device. This app eliminates the hassle of searching through various alternate media outlets, and prevents the need to create accounts or enter personal information to find information about a specific location. Given a specific location, the app performs a search for the user.

Proposed system

The County Alert System project involves the creation of a mobile app developed for Android, which will allow the users of the app to access certain types of alerts for their county. County Alert System includes a web interface designated for the uploading of alert information. Both mobile and web ends are interconnected through the database that stores the alerts and account information for those who maintain the alerts.

Goals & Objectives of the Study

Goals

1. Provide Android users with a convenient way to access alerts for their county without having to create an account
2. Provide municipalities with a way to communicate alerts to their constituents

Objectives

1. Create a system that does not require the end user to sign up for an account
2. Create a system that requires minimal training for counties to use

Feasibility Report

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- INTRODUCTION
    - This project is the development of a mobile app for Android that will get alerts from a database, which will be populated by a website back end. The feasibility of this project will depend on whether or not the project deadlines can be completed on time; whether or not the completed product will be fully functional and able to maintain itself without programmer intervention; whether or not each part of the project is possible to complete and all parts are finished within the given time frame; whether or not there has been adequate planning to foresee any obstacles during development; and whether or not communication between all stakeholders is unambiguous and frequent.
- TECHNICAL FEASIBILITY – HARDWARE
    - Viewing this project from a hardware standpoint, access to the proper development equipment is necessary for completion. Things we will need include:
        - An android device. This will be provided by ACM, who can give us access to android tablets.
        - A server with a database on it. This can be provided by BW.
        - A server with a website on it. This can also be provided by BW. In this case we will use our student www folders.
        - Computers for programming. We will need to write code for the database, web interfaces, and Android.
    - Hardware requirements for the proposed project
        - Each piece of equipment we use must meet the hardware requirements needed for the completion of tasks that will lead us to our goal of developing successful software.
            - Android tablet: We must be able to deploy the app onto this device from a computer running the Android SDK (software development kit) environment. Other Android devices will not be needed for testing; the tablet will confirm the project is functional on all other Android devices. The tablet will need to be able to connect to a wireless network, and also will need to be able to communicate with the database from outside of the school's network.
            - Database server: We have the option to buy a database from a service provider like godaddy.com. The second option we have is to set up a database through the BW network. The database must be able to connect to the android tablet over any network, including one outside of the school. This means we must be able to log in from either the website or the android tablet, and see the database from anywhere.
            - Website server: We have the option to buy a domain from a service provider. Another option is to host the website on the school

network, which can be done locally through a student's h:\ drive. If the website is run locally, it still must be able to connect to the database from outside the BW network.
        - Reliable computers: To host programming tasks, we will need computers capable of running Windows and the various software tools we will need for development.
    - Is the project feasible from a hardware perspective?
        - As long as the database can successfully connect to the website and the Android tablet, then the project is feasible from a hardware standpoint. This is a risk, but an easy problem to solve. As for other required hardware, we currently have reliable windows computers, we will be running the website locally for this project, and we will be using the Android tablets provided by ACM.
- TECHNICAL FEASIBILITY – SOFTWARE
    - Viewing this project from a software standpoint, development will require proper setup and software development tools.
        - Initial setup: We must set up a database that we are able to connect to.
        - Database setup: We must construct tables for storing data in the database.
        - Initial Android environment setup: This includes creating a "hello world" app that is successfully deployed to the android tablet.
        - Website setup: We will be running the website in an asp framework that will allow us to connect to the database through a C# backend for each web page.
        - After setup is complete, the last task left is to write the code for or "create" the project. We will need to complete tasks of the design process.
        - The design process will not require an intense amount of code writing. The most important things will be to read and write data to the database, and making a solid, good-looking, intuitive interface.
    - Software requirements for the proposed project
        - For the development of a successful project, a basic knowledge of the software tools we will be using is critical. These tools include:
            - Android development kit – we can download this from the internet for free.
            - Microsoft Visual Studio – we will be using this for creating the website in asp.net.

- A way to access the database – this will depend on the environment in which the database is hosted (in this case, the school).
- Operating systems: Windows, Android.

- Is the project feasible from a software perspective?
  - For this project to be completed, we will need to learn and adapt to certain programming skills.
    - Connecting to the database from the website and the Android tablet must be learned.
    - Grabbing data from the database and storing it in variables will need to be learned.
    - Android programming will need to be learned, which is one of the most challenging tasks.
    - Sending and receiving data from the server side in an asp.net environment will need to be learned.
- Should the database be stored locally on the Android app?
  - Since the data is constantly updating, users using a local version of the data could be out of date. This could cause them to get incorrect alerts, or no alerts at all.
  - Anybody offline would run into the risk of also seeing alerts without added changes.
  - Storing the data locally would waste a lot of space and bandwidth whereas grabbing the alerts every time the app comes up would be far less costly on the database.

- SCHEDULING FEASIBILITY
  - Is the project feasible from a scheduling perspective?
    - In order for the feasibility of scheduling, we will need to organize tasks into phases and deadlines. With proper communication, this aspect of the project will be easy to achieve.
- FINANCIAL FEASIBILITY
  - Is the project feasible from a financial perspective?
    - In the worst case scenario, BW will not be able to provide a database and we will have to buy one from a service such as godaddy.com. In the event of this, it might be possible to get one for fairly cheap, especially if some services provide student discounts.
    - In the event of any desire to put the finished product on the Android Market, a developer license would come with a cost. Otherwise, development is free.
    - No license is needed for visual studio since it is provided by BW.

        - Android SDK is free to download.
        - Assigning someone to maintain the finished app might possibly have a cost, but not likely.
    - Our project is feasible from a financial perspective since we currently own some of the required hardware and software, and anything we do not own is being provided for us through the school.
- OPERATIONAL FEASIBILITY
    - Is the project feasible from an operational perspective?
        - Once the project is complete we need to consider how the project will be used by the general public, as well as the administrators.
            - The general public will not be manipulating the data once the app is complete, however the administrators using the web portion will be. Further coding will not be needed, unless we were to add features at a later time. Some exceptions are updates for compatibility when new versions of Android are released, and bug fixes.
            - The project will be able to function on its own once it is complete. Administrators will be able to create personal accounts and update the alerts for the app on their own.
        - This app will require a user base for the product to be operationally feasible. The content which will be provided through this app is solely dependent on the administrators who will submit alert updates. There is a competition factor when it comes to selling anything on the market. If there are alternate sources of software or websites that provide the same service, it might be complicated to get enough people to use the product.
- SOCIAL AND ETHICAL CONSIDERATIONS
        - Ethical factors
            - The only potential risk here is that administrators have the power to update alerts that are inappropriate or irrelevant to the product. This can be avoided with the use of filters for the alert updating process.
        - Social factors
            - We must consider the audience we are designing the app for. How many people who would want to use this app have an Android device or a smartphone in general?
            - This project in intended to be designed as a professional alert app for people of all ages. There is nothing we would really need to implement to please and kind of specific demographic.

- Continued operation would include the adding of extra features to extend the finished product to be used as more than just an app for county alerts.
- Account maintenance and errors, as well as blocking unethical alerts/accounts are other possible social factors that will need continued attention.