CHAPTER 12

TRAVELER INFORMATION KIOSKS
12. Traveler Information Kiosks

12.1. Introduction

Information Kiosks are freestanding structures used to inform individuals and groups of existing or future traffic related events. Kiosks are typically used to display information on local transit, freeway, and special events. Information is also frequently presented in an interactive or passive form. Interactive kiosks allow the viewer to choose the information they wish to see, while the passive kiosks present pre-determined information, which the viewer must "watch and wait". An example of an interactive kiosk would be an automated teller machine (ATM) while an airport or train station arrival/departure screen is a passive device. Kiosks can be found in most high pedestrian traffic areas but not in the direct path of the individuals. Kiosks have shown to be a useful tool for providing people with the information they need to make informed travel decisions.

12.2. Current Deployments

The Wisconsin Department of Transportation has worked with the private sector to deploy information kiosks at Mayfair Mall in Wauwatosa, Wisconsin. The kiosks deployed are passive devices allowing individuals and groups to watch video images generated by the network of WisDOT closed circuit televisions along USH45. Also available is a live system map (generated by WisDOT) depicting freeway traffic conditions throughout the greater Milwaukee area. The images and map update continuously allowing individuals to "watch and wait" throughout the day and get up to the minute information about current traffic. The deployment is used to assist motorist in making better travel decisions. The kiosks are low maintenance and secured by Mayfair staff.

12.3. Design Factors

Design factors presented here focus on kiosk content, its structure, and location. These factors help shape the different elements that go into designing a kiosk. When making decisions on how to deploy a kiosk each factor should be considered. The factors are not in any order of importance.

Content Factors
Content factors deal with how information is presented, controlled, and various audience issues. A list of content factors to consider when designing a kiosks include the following:

- Who is the audience you are trying to reach?
- What information does the audience want or need?
- How will that information be presented or displayed?
- How is it anticipated the information will be utilized?
- Will the information be passive or interactive?
- How often will information be updated?
- How will the timeliness of the information be displayed to the audience?
- Who controls the information and what are their concerns about sharing it with the audience?
Structure Factors
Structural factors involved with the kiosk are concerned primarily with stability and accessibility; however, there are other lesser factors, which should be evaluated as well. A list of factors to consider when determining how to design the kiosk structure include the following:

- Will the structure be custom or pre-fabricated?
- What equipment must the structure hold? (PC, speakers, printer, monitor, etc…)
- Is information to be viewed by a single or multiple individuals at once and how will the structure accommodate them?
- How will the structure components comply with ADA?
- How will the structure be prevented from tipping?
- How will changing technology be handled?
- Is the structure easily recognizable from its surroundings?

Location Factors
Factors involved with locating the kiosk are meant to evaluate proper placement of the device. Factors for selecting a site to place a kiosk include:

- Is the site located near pedestrian traffic areas?
- Will the site cause a distraction or interfere with pedestrian traffic?
- How will a site be secured against vandalism?
- Does the site allow for easy viewing?
- Does the site allow for easy audio listening?

There are other factors that a designer could consider when designing a kiosk include public/private partnerships and how will the kiosks be marketed to the public.

12.4. Kiosk Technology
Despite the fact that kiosks can be designed in various shapes and sizes and are capable of delivering a range of information, the technology that goes into them is relatively simple. Most of it is similar if not less complex than a typical desktop computer. And in some cases an actual desktop computer is used. The technology that goes into a kiosk can be broken down into viewing, input, output, interface, and processing components. A breakdown of possible kiosk technology that could be utilized for a kiosk design follows:

Viewing Components
Viewing components are the hardware used to project information in a visual form. The hardware typically used for this includes:

- Television monitor
- Touch screen panel
- LCD or CRT (computer) monitor

Input Components
Input components consist of devices used by individuals to interact with the kiosk. The hardware typically utilized for this action includes:

- Keyboard
- Mouse
• Touch screen panel

Output Components
Components used for output generally are responding to input from the individuals, however, there are other factors such as time of day that could generate an output response. The outputs can consist of printed materials or a verbal announcement. Hardware typically used by a kiosk for output include:
• Printer
• Speaker systems

Interface Components
The interface is responsible for taking the inputs from the individual so the kiosk can display, output, or prompt the user for additional information. Typically the interface is a computer program written specifically for the application, which could be proprietary and require a licensing fee. However, in some instances a kiosk could also utilize Hyper-Text Markup Language (HTML) and an Internet Browser. The cost of a browser is inexpensive compared to creating new software.

Processing Components
There are two ways of processing information they are central or local controlled. In a central controlled processing design information requested at one kiosk would require retrieving information from a remote "centralized" location. The central location fields requests from one or more devices and responds with the appropriate information. It is easiest to think of the central controlled process designed kiosk as a portal to the information sending requests and waiting for replays. In a locally controlled process most if not all of the information that could be request by an individual is stored at the kiosk. Unlike a central controlled process in a locally controlled configuration if communication is lost the kiosk can continue to function.

12.5. Kiosk Design Process

The following details the steps taken to plan, design, and deploy a single or multiple kiosks. The steps are meant as a guide. The designer must make decisions as to which steps are required and which may not be necessary for a project.

STEP 1 - Establish Project Scope
During this phase the scope of the project is established, which typically includes:
• Project goals
• Size of deployment determination
• Discussion on potential partners
• Discussion on potential audience
• Outlining project development and timeframe

STEP 2 - Identify Partners
Partners for the project include public and private industry. There is a need to include:
• Representatives from locations where the kiosks are to be deployed
• Representatives from content sources outside of the Department
• Representatives from Department overseeing both Department provided content and
project management

STEP 3 - Identify Audience/Content
At this phase, decisions are made on the following:
- Who will benefit from the information provided at the kiosk?
- Where the content is going to be generated?
- What information is to be provided?
- Is the information going to be “interactive” or “passive”?
- Will the information be centralized, or localized at the kiosk?

STEP 4 - Identify Technology
Once a decision on information content, storage, and how it is accessed are addressed, identifying the needed technology is the next step. Also included in this step is:
- Evaluation of existing technology already in use locally and nationally for the same application
- Evaluate software needs for deployment
- Determination on how communications to the kiosk will be handled
- How maintenance of the technology will be handled
- How technology updates to the kiosk will be handled (new software etc.)
- How often information will be updated
- Determination of how expandable and flexible for future demands the kiosk will accommodate

STEP 5 - Determine Kiosk Design
During this phase kiosk design is done showing how equipment and individuals will come together from the discussion during steps 3 and 4. Issues such as stability and ADA should be evaluated to assure maximum usage and safety.

STEP 6 - Determine Kiosk Placement
During the placement phase site will be evaluate to judge how effective they might be. Optimal sites are those with the following characteristics:
- Less than 50 feet from major pedestrian traffic path
- Site will not cause crowding to impede the flow of other pedestrian traffic
- Site should allow for easy access to the kiosk screens and allow audio messages to be heard if needed
- Site should allow for easy security observation and be well lighted

12.6. Future Recommendations
As of December 2000, the Department had deployed only three kiosks. However, in the future additional may be used by the Department for advising travelers on traffic conditions while they shop, dine, attend school, or work. As the use of kiosks expands new technology and designs will impact both their benefit and ease of deployment. It is anticipated that further evaluation and experience will assist the Department in expanding on the design process outline in this chapter. In addition, standardized construction details and special provisions will be developed to better assist in the deployment of traveler information kiosks.