Project Plan

February 2012

FPInnovations
Wildfire Operations Research
1176 Switzer Drive
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Needs Analysis for the Next Generation Fire Finder

Jim Thomasson

Introduction

The Osborne fire finder has been used in fire lookouts since the early 1900's. It has proven to be an excellent device for spotting fires due to its simple design and accurate readings. Osborne stopped production in 1989. In 2002, the US Forest Service reverse engineered the 1934 model Osborne with Palmquist Tooling to build an inventory of units and parts.

This project looks to the future needs of wildfire detection and the new capabilities technology can provide in enhancing the fire lookout.

With advances in technology and data transfer, the role of lookouts is changing. More information can flow down to the lookouts to enable them to decide if a detected smoke is legitimate, and confirm public fire reports. Available information like permits, permanent smokes, flares, and lightning strikes could be fed to the lookouts in near real time and be always up to date. Current maps and current fires could be available at the lookout. This would lead to more informed decisions if a sighted smoke is a real fire, and the subsequent response could be adjusted.

Objectives

The objectives of this project are to:

1. Interview the user and fire management community to determine the needs from a fire finding device and information technology.
2. Develop general requirements for a fire finder based on the needs analysis.
3. Analyze the historical record for efficiencies where technology would benefit fire operations.

Methods

The general methodology is to define what is required by employing a system engineering concept called User Centered Design (UCD). The process is outlined in Figure 1. UCD results in a product that more closely represents what is needed by the user community.

The agencies that use fire lookouts will be involved in the user groups. Canadian wildfire agencies from Alberta and Saskatchewan will be volunteer participants. Alberta SRD will be the primary participant in the study.

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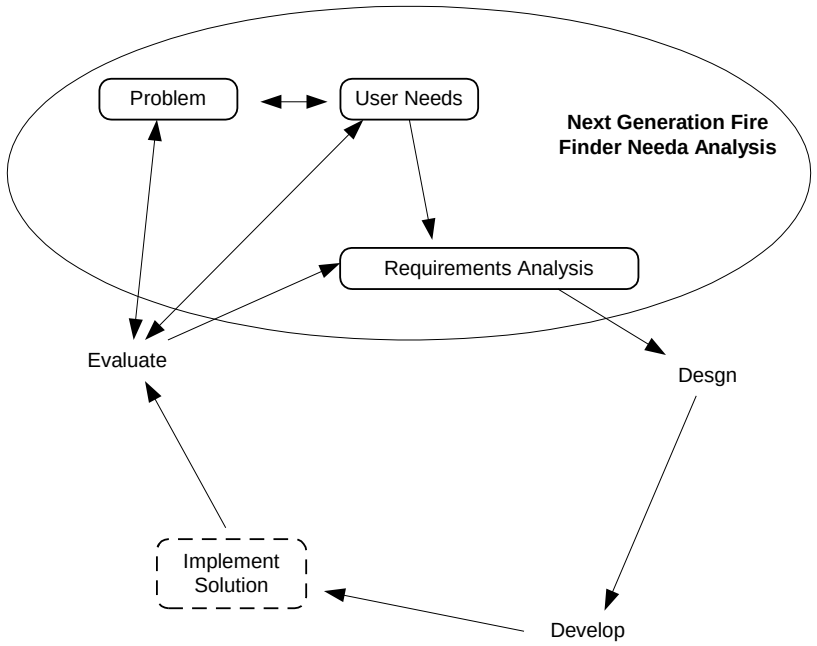
Project: Next Generation Fire Finder
Needs Analysis Worksheet for Detection User Group
Project Lead: Jim Thomasson, Researcher, FPInnovations
Date: 21 Feb 2012 , Revision 1

User Centered Design



The analysis will focus on four distinct user groups. The groups are defined as provincial agency detection managers, local fire managers and area detection reps, and fire lookout personnel. The provincial detection managers will decide on the lower level participation and participants.

The needs analysis will involve the development of a questionnaire specific to the user group. The users will be interviewed and there will be free form discussion in addition to the questionnaire to collect ideas. Interview questions will be general in nature to guide the discussion and not influence the answers.

An analysis of the Alberta fire historical data will be used to determine where advances in technology could be used to reduce costs. This could include dispatches on lookout detected fires that turn out to be permits, flares or permanent smokes.

From the collected responses from the user needs analysis, product design requirements will be collected to define what a next generation fire finder will have to meet. This will include a survey of applicable and available technologies to define next generation fire finder concepts.

Safety

FPInnovations staff will follow the safety procedures as outlined in the Safety Management System (SMS) Operations Manual.

FPInnovations staff will utilize the HomeSafe check-in system during travel.

Timeline

March 30, 2012	Interview scope defined.
April 30, 2012	Project procedures and interview questions defined.
May/June, 2012	Conduct interviews
July, 2012	Consolidate requirements
August, 2012	Survey of applicable technology for concepts.
October, 2012	Report to Advisory.

Deliverables

Reports documenting:

- Needs Analysis Survey Results
- Fire Finder Requirements

Participating Members/Collaborators

Primary: Alberta SRD

Secondary: Government Saskatchewan