



2015 Award Nomination

Title: Idaho Aeronautics App

Category: Government to Citizen

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2015 NASCIO Recognition Award Nomination



— Idaho Aeronautics App —

Executive Summary

Idaho has the largest network of backcountry airstrips in the continental United States. Many of the airstrips are located in rugged wilderness areas, tucked into narrow canyons bounded by towering granite peaks, and are accessible only by foot or by air. Landing at mountainous backcountry airstrips is challenging and requires a high level of skill, the right aircraft, and detailed airstrip information.

People fly in to Idaho's backcountry to hunt, fish, hike, camp, and float wild and scenic rivers. Pilots and passengers from every state in the nation and many foreign countries visit Idaho's backcountry airstrips each year, whether it is simply for a breakfast fly-in or for a week-long adventure.

That is why the Idaho Transportation Department developed the nation's first iPad application (app) that—with a simple touch of the screen—provides pilots with the information they need to land and take off safely. The app provides pilots with critical information about every airport and airstrip in Idaho. To see the Idaho Aeronautics app in action, visit this link:

<https://www.youtube.com/watch?v=1jU4tmWCeJg&feature=youtu.be>

The app was developed entirely in house between December 2011 and November 2014. It uses a simple, easy-to-use "touch screen" format to provide vital information such as:

- Airstrip illustrations
- Aerial photographs
- Airstrip-specific safety information
- Emergency locator transmitter instructions
- Search and rescue procedures
- Crosswind Component Chart
- Density Altitude Calculator

The app has been downloaded by pilots and aviation enthusiasts worldwide. It is improving air safety over Idaho's rugged terrain and providing a model for other states and countries to develop similar tools for their pilots.

Idaho Aeronautics App

BUSINESS PROBLEM AND SOLUTION

Problem

Idaho has the largest network of backcountry airstrips in the continental United States. Many of the airstrips are located in rugged wilderness areas, tucked into narrow canyons bounded by towering granite peaks, and are accessible only by foot or by air.

People fly in to Idaho's backcountry to hunt, fish, hike, camp, and float wild and scenic rivers. Pilots and passengers from every state in the nation and many foreign countries visit Idaho's backcountry airstrips each year, whether it is simply for a breakfast fly-in or for a week-long adventure.

Solution

The Idaho Transportation Department (ITD) developed a first-in-the-nation touch-screen application (app) for iPads that significantly improves air safety in Idaho. The app places critical flight information and runway diagrams for Idaho's airports and airstrips at pilots' fingertips. It also provides a wealth of equally important safety tools that pilots can use to make safer takeoffs and landings in Idaho's mountainous terrain.

Team members Tony Garcia, Rik Hinton, Mark Lessor, Wendy Bates, and Tom Marks combined their talents to produce the app in-house at no cost to the department. Their unique combination of skills in programming, web design, aeronautics, Geographic Information Systems, publication design, and graphical user interfaces produced a valuable tool for pilots.

Pilots can download the app for free on the Internet. It provides detailed flight information, airstrip illustrations, aerial photographs, and airstrip-specific safety information in a simple, easy-to-use "touch screen" format on iPads.

SIGNIFICANCE

Access to Photographs and Diagrams at the Touch of a Finger

The Idaho Airport Facilities Directory app allows pilots to quickly access up-to-date safety information, detailed diagrams, and aerial photographs for each of Idaho's airports, backcountry airstrips, and four seaplane bases.

Pilots can select an airport or airstrip from a search bar—or by simply touching the location on the map on the screen.



Safer Takeoffs and Landings for Backcountry Fliers

The touch-screen app greatly improves safety for pilots and passengers flying small planes to and from Idaho's airports and remote backcountry airstrips.

BENEFITS OF THE PROJECT

Although Idaho's backcountry airstrips attract many recreation enthusiasts, they have other uses. The airstrips are used for emergencies such as wildfire suppression, game management, and medical transport. Some airstrips are used to deliver food, mail, and other essential goods to the people who live or work in remote wilderness areas.

Landing at a mountainous backcountry airstrip can be challenging and requires a high level of skill, the right aircraft, and detailed airstrip information. That is why the team developed an app that—with a simple touch of the screen—provides pilots with the information they need to land or take off safely.

The app provides pilots with a full-screen aerial photograph of each airstrip as well as a detailed drawing showing elevation, hazards (creeks, trees, terrain features, etc.), runway length, preferred approach direction, and additional remarks unique to the landing strip or airport.

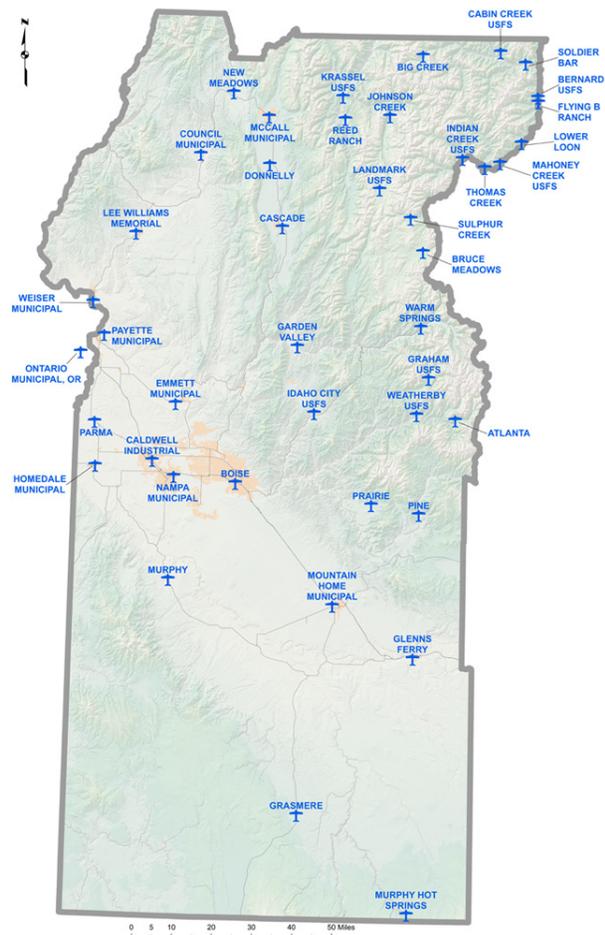
Pilots can manipulate the touch screen to zoom in or out on photographs, diagrams, and written information as needed.

App Includes a Wealth of Features and Functions

The app provides pilots with many useful features and functions, including:

- Emergency locator transmitter instructions
- Important Federal Aviation Administration telephone numbers
- Search and rescue procedures
- Mountain flying tips
- Crosswind Component Chart

The touch-screen map below shows the airports and airstrips in southwest Idaho.



- Density Altitude Calculator
- A KOCH chart for calculating altitude and temperature effects on takeoff runway distances
- Important high-altitude frequencies for pilots using instrument flight rules (IFR)
- An FAA flight plan form
- Noise-abatement procedures for specific airports
- In-flight intercept procedures
- Tips for preventing runway incursions

The department upgraded the app in late 2014 to provide updated airport diagrams and additional standard operating procedures for individual airports and backcountry airstrips including:

- Preflight Planning
- Route Planning
- Straight-in Landings
- Landing Abort Procedures
- Departures
- Safety Alerts
- Airport Notes
- Important Phone Numbers
- Additional Maps regarding traffic patterns, arrival paths, and departure paths

Online Updates Quickly Provide Pilots with Critical Safety Information

A major safety advantage to the app is that—unlike paper versions—it can quickly provide critical safety updates to pilots. Pilots are notified online of critical updates that may include changes in conditions at airports or airstrips that arise unexpectedly throughout the year.

The app has been well received by the flying public. Here are two recent examples of the many thank-you letters sent to the ITD Division of Aeronautics:

“Hello. I am a private pilot from Tennessee and am reading about Lewis and Clark’s expedition. That led to dreaming about, one day, flying in the backcountry of Idaho. I found the App that the department created. Well done! It provides an incredible amount of Information with an intuitive interface. Just wanted to say thanks.”

— Howard Benz, Memphis, TN

“Last year I flew into Priest Lake and had such an incredible experience that I plan on returning again this year! Hope to take the long way around and make a stop at Johnson Creek. Anyway I stumbled upon the ID airport Ipad app. AWESOME and I VERY MUCH APPRECIATE everyone’s effort that went into putting the app together. Very useful and THANK YOU! Very well done. I was have a very difficult time finding

info on the web about camping, tiedowns, and the like and this app fills those gaps.”

— J.W. Feiler, N30661, KCPR

Free Download Lowers Costs and Reduces Cockpit Clutter

Traditional paper versions of the Idaho Airport Directory are still available for \$10 each. However, the app can be downloaded for free from the Apple App Store. The free download save printing costs, reduces clutter in the cockpit, and provides pilots with critical flight information via iPads conveniently mounted on pilots' kneeboards or on aircraft dashboards.

ITD will upgrade the app on a quarterly or semi-annual basis, and versions will soon be available for Android-based tablets and phones.



The cost and space-saving app has become popular with pilots across the country and around the globe. More than 2,500 copies have been downloaded to date. Most of the downloads have been to pilots in the U.S., but pilots from Italy, Japan, China, Canada, South Africa, Denmark, Great Britain, Taiwan, Bolivia, and Russia have also downloaded the app.

In keeping with the Idaho Transportation Department's Mission "*Your Safety. Your Mobility. Your Economic Opportunity.*" the Idaho Airport Facilities Directory app is improving the safety of people flying over Idaho's rugged terrain. It is also providing a model for other states and countries to develop similar tools for their pilots.