Abstract: This is a practitioner case example presented as a poster at ISSW 2008. It describes the background, rationale and methods used to create a community based knowledge sharing system for a Canadian backcountry lodge group offering ski touring holidays. The benefits of the public information website, web-based data entry and reporting system are described, and future considerations are offered. It describes the use and application of a commercial on-line data management system.

KEYWORDS:

1. BACKGROUND

“Wisegoat” was chosen as an appropriate name for a smart, practical way of sharing information that allows backcountry users (private and commercial) to gain knowledge and understanding of the mountain weather and environment that we live and play in. It is a public information website utilizing a novel online weather and snowpack information database that allows participants to efficiently store and share their data with each other and with the public. Wisegoat was designed to fit into the operating schedules of the participating businesses and to offer a variety of management tools that aid them in daily decision making.

The website was established by a number of backcountry lodges in and around Golden B.C. who were looking for an information exchange that was affordable, flexible and open to the public. A need was also seen for a management system that would allow them to maintain ownership of their data and have access to their historic records. It also offers long-term storage and manipulation of data that will be extremely useful in tracking weather and snowpack trends. Data can be charted and graphed to allow ease of interpretation by both public and business owners.

2. APPROACH

Commercial backcountry lodges provide a unique ski touring experience to their guests. They are often free of modern technologies that may detract from the backcountry experience. While some might chose to offer Internet and email capabilities, many do not wish to do so. The lodges do not operate with large budgets and they cannot, in general, provide the depth of technological support in recording and reporting weather, snowpack and ski information that many heli-ski, cat ski operators or mountain parks do. Information is often communicated to the lodges via VHF radio systems. The frequencies are commonly shared with other lodges, professional guides, ski touring groups, clubs, and are sometimes listed in guidebooks.

The ability to transmit this information to so many different people at the same time via VHF radio makes it extremely efficient and cost effective. When Sorcerer Lodge transmits the morning weather and snowpack information, there can be up to seven lodges listening in as well as any ski touring groups passing through the area. People gather around the radio and everyone shares the knowledge.

The backcountry lodges wanted to get a system up and running in a timely manner and they went to work to have a site operating throughout the winter of 2007 on a trial basis.

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snow science systems developer to adapt existing software and its platform (Curry, 2004) to their unique needs. The resulting website is www.wisegoat.ca.

This was not an easy task! Winter 2007/08 was a trial period with many updates, improvements and adjustments. Eighteen backcountry lodges signed up for the trial year. Six were from the Golden area and most contributed observations when able. It was a collaborative work that involved interminable phone calls, emails and meetings. The group took care to ensure that a proper legal waiver was included for public users and that the group insurance provider for the Backcountry Lodge Operators of British Columbia was in support of the site. The insurers did in fact, encourage the effort and were very accepting of the public use component. After an enormous effort from a few and contributions of help from many, the site was up and running for the winter.

3. WEBSITE LAYOUT

There are two components to the wisegoat.ca website. When the home page of Wisegoat opens, people are presented with a description of the project as well as several choices.

Public users can choose to go directly to each lodges website or choose the conditions page. Here, they have to accept a waiver of liability in order to move on through the site. The conditions page allows them to select a report of the past two weeks of snow, weather, and avalanche observations from a participating lodge. Figure 2 is an example of such a report. All reports can be printed.

When business participants select “Client Login”, they launch the secure login to the Avert Online platform for data entry and inter-lodge information sharing. The initial page presents a navigation side bar and a list of the most recent Daily Observation Sets. All the data for a day is contained in an observation set that is broken down into different categories. A new set is created by clicking on the “Add” button, or additional observations are added to the day’s set by selecting and editing (Figure 3). The List can be filtered to an individual operation as well.

If participants choose to add the Daily Observation Set, they first have to identify location, data recorder, observer and guides. (Figure 4) Following that, they are presented with a tabbed choice of data entry categories including AM Study Plot, Field Weather Summary etc. Figure 4 also shows an example of these choices. From here each choice takes you to an observation category entry page.
Figure 4: An example of the “Detail” page for a Daily Observation Set where observer, recorder and guides are entered and assigned to that Observation Set.

The Navigation Bar (seen in the left side of Figures 3 and 5) allows one to choose from various reports, graphs and charts of data sets such as HS, HN24, Temperatures, Precipitation, Sky condition etc. Figure 5 is an example of April’s Temperature Range presented as a graph.

Figure 5. This is an example of a temperature range graph for April 2008.

At the end of the season, an annual chart of all data sets may be printed out. See Figure 6 for an example of Sorcerer Lodges annual chart printout for 2007-2008.

4. STATE OF PRACTICE ADVANCEMENTS

4.1 Observer Qualifications

Key information is recorded for individuals who will fill various roles in the organization when setting up their identity in the database. A descriptor field was included for observer qualifications in the user administration interface that allows the business to identify the qualifications of the observer. This was done to allow other users the ability to judge the quality of the information. With this, a filter can be used by other information exchange sites that allow them to accept the information that fit with their requirements of observer quality. An example of the observations quality entry can be seen in Figure 2.

4.2 Sightings

This section allows businesses to record wildlife sightings. It provides a direct link to the Environment Canada reporting site and allows them to keep track of notable wildlife in the area. It can also be used to record sightings of conflicting users or trespassers such as motorized use of legislated non-motorized areas.

4.3 News

The News section provides an informal opportunity to share information strictly between businesses. It is not open to the public and can be used to ask for help or advice or to simply exchange some news. If you need staff or have trip availability, a joke to share or just a story, this is the place. It is completely informal and is meant to be used as a place for members to simply talk to each other.

5. DISCUSSION

Wisegoat worked quite well with few glitches or problems. There was excellent public use with 17,000 hits over the season, and a great deal of interest from many others in the industry. The Canadian Avalanche Center public avalanche forecasters were provided with the same access as participating lodges so they could utilize the summary reports and any inter-lodge news or information that might be applicable to their bulletin creation.

5.1 Cost

The site was extremely cost effective for several reasons. First, Avert was able to adapt an existing platform to the Backcountry Lodges unique needs. We were not starting from scratch – thank goodness. The fact that there were no restrictions on the use of VHF radios was
key as well. With the information available to the public anyway, there was no need for expensive satellite Internet connections. The lodges were able to communicate efficiently and cheaply with their existing radio systems. Of course, with Internet access, the lodge can operate its weather and snowpack information through Wisegoat, without a base.

5.2 Efficiency

The Sorcerer office did weather and snow condition reports in the morning (based on information collected via Wisegoat the previous afternoon) that were listened to by up to seven lodges. One quick transmission reached a large number of people and businesses and saved a great deal of time and effort on the part of many. In the afternoons, neighboring lodges could transmit and share their information freely. It made a difference to the community of lodges around Golden and would work equally well in any area with a concentration of business taking part.

5.3 Market Choice

Without system confidentiality requirements, the lodges can choose any method of communication. There is no need for privacy protection or expensive satellite connections and VHF radios are completely adequate and efficient. It is important to have this choice as it allows each business to choose its style. If a lodge wants to remain “internet free”, it may do so and still be an active participant in an information exchange. There is a demand in the market for places that do this.

5.4 Exposure

Google Analytics showed a surprisingly high rate of “flow through” website hits. Many of the public users moved directly through Wisegoat to individual lodge websites. One lodge reported that the “majority” of their new bookings came through the Wisegoat home site. With 17,000 hits our first year, this would be a pretty effective advertising site even though that was not one of our main goals.

5.5 Public Response

Wisegoat got a great deal of support from the public along with some advice and recommendations that were very useful. There were few complaints and we attempted to address the ones we did receive. The most common criticism was that too many abbreviations were used. We were not considering that some of our visitors would not understand them all and when you think about it there are rather a lot! A dictionary of abbreviations along with a few other changes is in line for next year.

Most of the participating Lodges were able to report that guests were frequently showing up with their printouts of the recent snowpack conditions and using them as a base for discussion at meetings. This was extremely useful!

The following quotes are from Sorcerer Lodge customers and are provided as examples of the response of public wisegoat.ca users.

“I thought it was very, very useful. Myself and several people on our trip checked it quite regularly. Probably once a week at a minimum. I think public access was/is key as information helps for making decisions and having a sense of what was happening up there. Although a poor substitute for being there, WiseGoat gave me a small sense of continuity for BC. The geographic extent also is a very helpful aspect as it gave me spatial continuity as well. I found WiseGoat much better than the CAC or other Canada Natural Resources sites as WiseGoat had the key info I wanted. Rose plots, snow totals, slides and their characteristics, etc., all on the tabbed form you use, really nice. As well, I found the overall layout quite intuitive making the site easy to use. I was able to gain a lot of key information in a reasonably short time.”

(J.Caine, personal e-mail, 29 May 2008).

“As for the wisegoat site, there were a number of us checking it daily in preparation for our trip. I can understand why agencies might contest this knowledge being offered to the public but have to put in few words about how valuable it was to our group. We all appreciated the opportunity to have shared observations from the field. Regardless of training &
experience, weather and avalanches/stability observations, can and should be shared among those who are actually out there in the field. The site also lets the user know the qualifications of the recorders observations. I find it hard to challenge the idea of sharing knowledge and experience from the field. As a backcountry skier, there needs to be a high level of personal accountability for making decisions and for filtering others information through your own experience. Best of luck keeping this information available to us for future trips and for other backcountry users.” (A. Hannigan, personal e-mail, 29 May 2008).

“I also wanted to mention that I thoroughly enjoyed the use of the Wisegoat website. I’m not sure if you have the ways to pass this along to the powers-that-be, but it would be much appreciated if you could. We were a group of 15 people from Whitefish, Montana. The use of this site greatly improved and increased our knowledge of the area we were planning on going to. The information provided also was helpful because we could compare and contrast conditions in the different areas. I would say 8-10 of the group of 15 regularly checked that site throughout the winter and prior to our trip.

I also liked how the description of conditions was preceded with info on who was giving it and what there skill level was. That lets the reader get a bit of insight on where the info is coming from. I was definitely more informed this trip compared to the one a few years ago, at that was due to that wisegoat site.” (B. Friel, personal e-mail, 27 May 2008).

“I found your website helpful in planning for the week. Having the run names where the obs took place, allowed me to put your area in stability perspective especially since I knew nothing about your area prior to the week. The only improvement that comes to mind now is under Snowpack Tests, it would be good to see a column for the failure plane. Looks like you’ve got enough room after Fracture character, to fit that in. The Snowpack synopsis, tests etc sections are well laid out otherwise and the Obs Quality is a great qualifier for the integrity of the observation.” (R. Fisher, personal e-mail, 22 May 2008).

“I like the site and giving potential skiers a place to check things out and appreciate the science of the back-country is a good thing. Most of it is a bit over my head which is good as it reinforces the need for good guides etc.” (P. Gitterman, personal e-mail, 21 May 2008).

6. CONCLUSIONS AND FUTURE

Wisegoat was successful in moving the collection and sharing of snowpack and weather information in an open and community minded direction. It’s an affordable, useful tool for smaller backcountry businesses that allows us to give customers and the public the best local information we have available. It was flexible and adaptable and improved as the winter went on. Visitors were better informed with the historical data recommended for backcountry avalanche conditions assessment. On the management side, we are able to chart trends and changes in snowpack and weather information and keep annual records for future use.

The backcountry lodges intend to continue work on the Wisegoat site. This was a very successful first winter and we will improve. We believe strongly in public access to this information and will continue to promote the site to as many other businesses as we can as well as to the public.

7. REFERENCES

Figure 6: This is the annual chart for Sorcerer Lodge 2008 generated by the Avert Online Snow Science System.