

Freestyle Skiing: Research Report

Tanner O'Rourke
taor0213@colorado.edu
Primary Liaison

Chris Thompson
chth2116@colorado.edu

Peter Lindee
peli1701@colorado.edu

Summary

For both our research observations and interviews, us 3 researchers visited the Arapahoe Basin ski area for opening weekend on October 20th. We chose to divide and conquer by individually going around the mountain conducting observations and interviews simultaneously. We made sure to observe skiers and snowboarders of variety of skill levels in various locations, however our main focus was those in the freestyle park. It was a warm early season day, therefore not many runs were open and the park was very minimal, however because it was opening day there were many in attendance. For all quantitative results cited, reference the tables in the appendix.

Part 1: Mountain Observations

The freestyle park contains mostly young male skiers, different from other locations/groups

By observing freestyle park-goers from its entrance, all 3 of us researchers observed quickly that it contained mainly young male skiers. Tanner noted that many were around the age of 15-25 with close to zero older people or families in the park. Most of these people were male and skiers, however there were a decent amount of women and snowboarders as well. Chris also noted that these park-goers were very social and lively, which is synonymous with the observed age group. In contrast, at the beginning of the day, Chris observed from the lodge at the base of the mountain that overall there was an equal distribution along age, skiers or snowboarders, and individuals to families. Peter noted that the older skiers were generally with families or solo. There were not that many older snowboarders and we assume this to be because of the young age of the sport.

We can therefore conclude that our application should target park-goers. This is one of the most definable groups of mountain goers and we believe this group aligns most with the goal of our application. We will be able to have a focus on young males and skiers, but will also take note in our interface design that people of many other demographics may also use the app.

Freestyle skiing is free-form and progressive

Freestyle tricks, especially those off of jumps instead of rails, are all based on each other. They all involve an amount of flips, a degree of spin, and possibly while grabbing the ski or snowboard. For example, a cork 720 nose grab is one backflip with 720 degrees of spin while grabbing the nose of the ski/snowboard, and a double misty 900 is two front flips with 900 degrees of spin. The graph below was created by Peter to document any correlation between the types and difficulty of tricks people attempted.

	1	2	3	4	5	6	7	8	9	10	11	12
Observed trick difficulty (L, M, H)	H	M	L	H	H	H	M	L	M	L	L	L
Similar to other observed tricks? (Y, N)	N	Y	Y	N	N	N	Y	Y	N	N	Y	Y

We concluded from this that as the skier/snowboarder's skill level increased, the variety of tricks attempted increased. While a large group of novice park-goers were attempting the same basic tricks such as a 360s or 180s, other more advanced skiers were attempting tricks that were similar yet more complex. From the top of the park where many stand to wait their turn down the park, Tanner overheard many conversations where people jokingly discussed new tricks to try or how to do certain tricks.

Combining this with Peter's observations as well as prior knowledge of the sport, this confirms to us while skiing in general is very social, freestyle skiing is more free-form and based heavily on individual progression. The park is a place where skiers and snowboarders continually test their limits and hone their skills. This shows us that this particular environment would benefit from a mobile app that allows park-goers to track their progress on new tricks and showcase their skills.

All demographics, especially park-goers, make use of technology on the slopes

Whether we were on the lift, skiing, or getting food, everywhere on the mountain people were making use of technology. It was clear the technology plays a key role in the sociability and enjoyment of most skier's day. Tanner and Peter both noted in the discussion that throughout the day, people would use their phones in basically any location on the mountain to communicate with friends, take pictures and videos, use social media, or listen to music.

All 3 of us observed that people in the park use their phones the most out of any demographic/location on the mountain. They would consistently use them to take photos, record funny videos, and document their friends attempting tricks. We believe this disparity in use is a

result of a clash between the increasing sociability of technology (Snapchat, Instagram, etc.) and the sociability of freestyle skiing. Although technology (specifically phones) didn't appear vital to those in the park, phones complemented this environment to help skiers enjoy themselves, be more sociable, and allow users to share and document their feats with friends. We hope to reflect these facts in the usability of our application by making it simple to document and share your individual progression with fellow skiers.

Part 2: Questionnaire Reflection

Mobile devices are great mediator for the sociability of park skiers

First, when taking a look at the responses to the ranked questions in the picture of the spreadsheet in the appendix, it is clear that there is a preference among skiers to use applications and technology when skiing. This response was fairly consistent between all three researchers.

One of the main uses of technology was found when asking questions with worded responses. For example, Chris found that when asking the skiers exactly what they were using their devices for, the majority responded that they were using them to "film" their friends or take photos to be sent to the friend and possibly shared later via group chats or social media. This was also clear upon observation from all three group members. We noticed that skiers would position themselves around the feature in the terrain park and film the friend skiing the feature. The group would then gather and watch the video taken in an unobtrusive area away from other skiers or on the lift rides up. This told us that skiers were using their phones to show off and possibly share their tricks with others creating a social environment for park skiers where they could see what they did, show it off with others if they felt fit or continue pushing themselves to do better.

Finally, another vital piece of information came from interview question 10. Peter asked a few skiers, "What resources did you use to gain confidence?" to which a couple of skiers responded that they use videos via instagram, youtube, facebook, etc. of other skiers, famous or not, and that watching them doing the trick they were working on helped demonstrate, not only that they could do the trick, but how to do it, which helped them feel more comfortable when attempting a specific trick.

Our design should be primarily mobile app based

Phones were the dominant source of technology used. Skiers would listen to music with headphones and record their friends performing tricks. Freestyle skiers appeared to be using their phones more than the other skiers observed. Families also used phones a lot, concluding that the phone is the primary tool used socially in skiing.

In the park, recording people perform tricks was very popular. People would often recomplete a trick so that they could have a better video of their action. From our interview

questions, we each found some interesting results. Peter interviewed more older individuals than Chris and Tanner and noted that the use and importance of technology when skiing diminishes with age. The younger skiers noted that a day without their phones would be less fun. This was because listening to music and taking videos was so important to them. Older individuals and families would listen to music, but based on their interviews, it did not make or break their day. These individuals seemed to be less inclined on taking videos and just wanted to enjoy the park and the ski runs for what they were. This let us to understand that our mobile application should be made specifically for younger college-aged students who would take full advantage of our service.

Park skiers/snowboarders goals are more variable than non-park skiers goals

Tanner and especially Peter interviewed some families on the mountain outside the park and were able to conclude that the goals set by the park skiers were more variable and less predictable than those of non-park skiers/snowboarders. Families were a prime example of this because, from our data, we know they have a lower skill level than the general park-goer. The goals that this group set, through observation, were of a distinct group such as learning to pizza, getting better at moguls, etc. Comparably to many of the park-goers that are more free-form and creative with their individual goals.

From the interview questions, “Do you think there are differences in goals set between different demographics of skiers/snowboarders?” One of the main responses generated from families outside of the park was that they felt that other families were generally teaching their kids/themselves similar skills or fundamentals in order to get better at skiing with better form and control. On the other hand, the responses all three researchers received from the same question as above from park-goers was that each park-goer was each person was generally attempting a different type of trick/maneuver depending on their skill level than the person next to them.

From the breakdown of these interview results, we can say with confidence that the goals of park-goers are less rudimentary, more variable, and more advanced, than non-park-goers due to a generally higher skill level. Because of this variety of goals, we must make sure that our design reflects this nonconformity and allows for a wide variety of goals to be set for each park-goer.

Group Reflection

To complete our group reflection, we met in Norlin library at 3:30 pm on Sunday, October 28th. We found that our findings largely agreed, but this was not surprising since we completed the activities together. It was clear that technology was being used to listen to music and to record specific tricks being used via phones. From our observation, we noted that there was room to improve skiers experiences. While each skier was recording videos, they would always ask their friend to send the video via text. It was clear that a mobile application for skiers and snowboarders to post and share their findings would be largely helpful. Our findings largely agreed. There was not a lot of discrepancies from users in the interview questions. For the most part, the people observed were uniform in their activities compared to our expectations.

Based on our data, we confirmed that a mobile progression app would be the best fit for the users we observed and interviewed at the park. These users already use technology to make their ski day better. However, based on the interview questions, there is room for another platform. Users want an application where they can upload and improve their performance. Users expect this platform to be social and offer the ability to compete with friends. This essentially could be a Facebook/Instagram variant where users can make posts and share pictures/videos, but also have a score or rank which would differentiate them from other users. Skiing is already such a social sport, but we feel based on our observation findings that this platform could become extremely popular and extend to all mountain activities beyond just skiing and snowboarding.

We found the interview questions were more useful compared to our observation period. This was because our questions allowed for a more intimate one-on-one experience with skiers who were able to elaborate on their experiences to a higher degree. Furthermore, our interview questions allowed us to immediately get the information we wanted from the people at the park instead of waiting to observe a notable finding.

Of course, when doing this study we had to consider whether larger data collection would have been useful. We concluded that more data via more observation and more questions may be useful, seeing as we would thus have more information to base our findings. That being said, we felt comfortable with the amount of research we did, and we feel our findings demonstrate this. We didn't want to take up too much of the skiers time when asking questions, and we wanted to propose the questionnaire to a large number of skiers which we feel we accomplished. We feel that we got a firm understanding of the tendencies of a large number of skiers, predominantly freestyle skiers. We were able to answer a lot of questions regarding our project and don't feel that we have looming, unanswered questions that we wished we figured out.

Appendix

Questionnaire

1. How long have you been skiing/snowboarding for?

of years skiing: _____

8. What demographic of skier would you place yourself in? Do you think there are key qualities/traits that separate your style of skiing from other groups?

2. How much do you use mobile apps on the mountain?

1 2 3 4 5

3. How comfortable are you on the mountain?

1 2 3 4 5

4. How much do you use technology while on the mountain?

1 2 3 4 5

5. How much do you rely on others to get to your goals while skiing/snowboarding?

1 2 3 4 5

6. What helps you stay motivated to work towards your goals on the mountain?

7. Do you think there are differences in goals set between different demographics of skiers/snowboarders?

9. How interested would you be in an app that helps you track your goals with skiing/snowboarding?

1 2 3 4 5

10. What was the hardest trick or skill you've learned? What resources did you use to gain confidence?

Scaled Question Responses

The spreadsheet below is a collection of the results from our interview questions that. We averaged the results to see how the expectations of skiers varied depending on different attributes.

Chris' Findings	skier 1	skier 2	skier 3	skier 4	skier 5	skier 6	skier 7	skier 8	average
# of years skiing	10	13	8	20	5	12	4	14	10.28571429
skiing group (family, park, solo, friends, etc)	park	solo	park	solo	park	park	park	solo	#DIV/0!
questionnaire location	park	park	park	park	lift	lift	park	park	
How much do you use mobile apps?	4	4	5	3	5	5	5	4	4.428571429
How comfortable are you on the mountain?	5	3	4	4	5	5	4	5	4.285714286
How integral is tech for your skiing day?	4	2	4	3	5	5	4	4	3.857142857
Reliance on others to complete to your goals?	5	3	5	3	5	4	4	4	4.142857143
Interest in an app that helps you track goals?	5	5	5	4	5	5	4	5	4.714285714
Tanner's Findings	skier 1	skier 2	skier 3	skier 4	skier 5	skier 6	skier 7	average	
# of years skiing	2	5	10	4	15	8	8	7.428571429	
skiing group (family, park, solo, friends, etc)	solo	park	park	family	park	park	park		
questionnaire location	ski lift	park	park	ski lift	top of lift	park	park		
How much do you use mobile apps?	5	3	5	5	2	5	4	4.142857143	
How comfortable are you on mountain?	3	4	5	2	5	5	5	4.142857143	
How integral is tech for your skiing day?	4	3	3	3	1	5	5	3.428571429	
Reliance on others to complete to your goals?	4	1	3	5	2	4	4	3.285714286	
Interest in an app that helps you track goals?	5	2	2	4	3	3	4	3.285714286	
Peter's Findings	skier 1	skier 2	skier 3	skier 4	skier 5	skier 6	skier 7	average	
# of years skiing	2	10	3	7	3	5	20	7.14	
skiing group (family, park, solo, friends, etc)	friends	solo	family	family	friends	friends	family		
questionnaire location	park	lift	lift	lift	park	park	lift		
How much do you use mobile apps?	2	3	4	3	5	2	1	2.86	
How comfortable are you on the mountain?	3	5	4	5	2	3	5	3.86	
How integral is tech for your skiing day?	1	2	3	2	4	3	1	2.29	
Reliance on others to complete your goals?	2	1	3	2	4	3	1	2.29	
Interest in an app that helps you track goals?	4	3	5	3	5	4	3	3.86	