



Proposed Motion: Emergency Field Communication Devices

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The WWU AS Outdoor Center provides students with opportunities to engage with the natural world and each other by facilitating recreation through the Excursions and WOOT (Western Outdoor Orientation Trips) programs. Both programs aim to increase student well-being through experiences that are exciting and exploratory, with student safety during these trips as the number one priority. The number of students served by these programs is substantial and growing every year—in 2015, an estimated 300 students participated in OC Excursions, and WOOT doubled in size, sending 124 incoming freshmen into the woods for a week. In 2016, the total number of student participants in OC trips is projected to exceed 500.

STATEMENT OF NEED

A means of reaching the Outdoor Center in case of an emergency is a necessity for student excursions. Currently, the OC relies on 5 “SPOT” satellite communication devices, which allow trip leaders to “check-in” with the OC by sending their GPS coordinates, or send an “SOS” signal if they require help. Unfortunately, these functions are not reliable, and too limited to provide student leaders with the resources they need to assess the safety of a situation and communicate effectively with the OC while in the field.



On all multi-day trips, leaders are required to send a nightly “check-in” signal, which sends their coordinates to the Outdoor Center and indicates that no medical emergencies have occurred. A small light turns green on the device after an attempted check-in, indicating that the signal has been successfully sent. It can take hours and many attempts for the device to report a successful check-in, and even then, these signals are only successfully received by the Outdoor Center around 25% of the time, making this feature essentially useless for assessing group safety. Excursion coordinators have simply had to assume that “no news is good news,” an extremely low standard of safety that the Outdoor Center is eager to surpass.

SPOTs also have difficulty sending signals in forested areas or under cloud cover, both of which are encountered more often than not on OC trips. SPOT communications are also one-way, meaning that trip leaders have no way of truly verifying that their signal has been received, or receiving information from the OC such as evacuation directions, meet up plans, or advice regarding a difficult situation.

Luckily, there have been no backcountry emergencies to date in which the Outdoor Center could not be reached. But the SPOT devices have proved problematic.

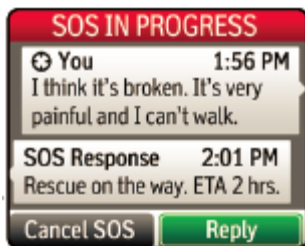
Two examples come from our 2014-15 season. On a WOOT trip there was a student who was experiencing a medical situation that when experienced prior, she had ended up hospitalized. The symptoms that she was experiencing was that similar to the times when she had been hospitalized. Given it was not an immediate life threatening situation, they dispatched the “Non-Emergency but need assistance” signal in the middle of the night. This resulted in Stephen dispatching to their field location based on the coordinates that were received. By the time Stephen had met the group the following morning her condition had improved and no longer required assistance. This could have been averted if there was the ability for 2-way communication.



Another instance was a simple situation that resulted in unnecessary use of resources due to a missing signature on staff paperwork. Just after students had departed for the NCNP it was discovered that one of the trip leaders had not signed their contract therefore they were traveling uninsured. If we had the ability to communicate with them via the proposed device, they simply could have stopped and waited for us to get there so she could have signed her contract. What it resulted in was Stephen having to go to the trail in which they were traveling on and hike in 6 miles to their first camp just to get her to sign her contract.

SOLUTION

To greatly improve student safety on outdoor trips, communication with leaders in the backcountry, and disaster prevention, the Outdoor Center would like to replace the SPOT communication devices with inReach Explorer Satellite Communicators by DeLorme. The inReach Explorer can send and receive 161-character text messages, which are relayed via a private satellite network that offers wider and far more reliable coverage than the GPS network used by the SPOT. The 2-way capability alone would radically improve the safety of our trips, allowing trip leaders to provide detailed updates about group progression, know whether emergency help is on the way, and where to go to seek help



The significance of two-way, reliable communication in the backcountry cannot be over emphasized. When they encounter a difficult medical situation, student leaders can communicate with the OC to determine the urgency, level of danger, and best course of action. Should a true emergency arise, students will be able to know with certainty that assistance is on the way, where the assistance will be, and when they can expect help.

The devices have many other valuable safety features:

- GPS auto-localization—gives current coordinates, which can be used to determine position on a map
- Digital Maps, Compass and Altimeter—exact location is displayed on color LCD screen
- Navigation—waypoints can be stored, routes planned, mapped and shared digitally
- Location Marking—sites such as vehicle location can be marked for future return
- Data Collection—actual routes and campsites can be stored by the OC for future use
- “Breadcrumb trail” of points can be left to retrace steps of groups

BUDGET

The Outdoor Center is requesting funds for the purchase and initial start-up fees of the inReach Explorer devices. The annual satellite subscription plans that the devices require to communicate are reasonably priced and offer monthly flexibility, allowing the OC to reduce the number of functional devices to our specified needs during the slower times of the year. These annual subscriptions will be paid for by the Outdoor Center after first year of use.

*Please see Page 3-6 for detailed fiscal information



Cost of Delorme inReach Explorer Devices

Purchase of 7 Delorme inReach Explorer Units

Before March 1st \$1995.00 (285.00/Unit)

Plus 8.7% sales tax

Total \$2,168.57

After March 1st \$2659.65 (379.00/Unit)

Plus 8.7% sales tax

Total \$ 2,891.04

One-time Activation Fees

One-time activation fee for 7 units

\$174.65 (24.95/Unit)

Plus 18.6% usage tax

Total \$207.13

Yearly Subscriptions

Currently we spend 108.69/year on each of our SPOT devices (5 total) -\$543.45

Under Delorme 1 Plan we would be spending \$160.16/year on each of the inReach Explorer devices (7 total)

With 18.6% usage tax

Total \$1,121.12

Under Delorme 2 Plan we would be spending \$191.55/year on each of the inReach Explorer devices (7 Total)

With 18.6% usage tax

Total \$1,340.89

Total amount being requested Before March 1st

1st Preference: Delorme 2 Plan \$3,716.59

3rd preference: Delorme 1 Plan \$3,496.83

Total amount being requested After March 1st

2nd Preference: Delorme 2 Plan \$4,439.07

4th Preference: Delorme 1 Plan \$4,219.30

While in theory we can run on the Delorme 1 plan (average minimum usage of 905 bytes of 1500 bytes), the Delorme 2 plan (3000 bytes) would give us more freedom in utilizing some of the desired functionality of the inReach Explorer including additional text messaging, tracking points, and location pings.

After first year of subscription the Outdoor Center will pay the annual fees for operating and maintaining all Delorme Units. The reason for requesting first year of operations is due to the fact that this was not anticipated or budgeted for in our decision packages that were submitted. Next year we will make the proper fiscal adjustments to account for the subscriptions required.



Estimated yearly costs of all units after 1st year

\$1,121.13 Delorme 1 Plan W/Taxes

\$1,340.89 Delorme 2 Plan W/Taxes

Monthly Plan	Monthly Charge	Bundled Bytes	Overage Fee per 100 Bytes
DeLorme 1	\$ 20.45	1,500	\$ 0.67
DeLorme 2	\$ 25.90	3,000	\$ 0.45
DeLorme 3	\$ 34.70	8,000	\$ 0.28
DeLorme 4	\$ 42.20	12,000	\$ 0.16
DeLorme 5	\$ 48.20	17,000	\$ 0.23
DeLorme 6	\$ 70.45	30,000	\$ 0.17
Suspend	\$ 5.00		

Type of Usage	Text Message	Preset Message	Tracking Points	Location Pings w/MapShare
Average Size in Bytes	80	15	13	25

Trip Leader Required Check-ins	WOOT Trip	Overnight Trip
	5 nights/ 6 days	1 night/2 days
Arrival to trailhead (Preset Message)	1	1
Nightly (Preset Message)	5	1
Departure from trailhead (Preset Message)	1	1
Text Messages	10	10
Total Preset Messages	7	3
Anticipated Minimum Bytes/Month	905	845



	Per Unit	7 Needed	With Tax @ 8.7%
Delorme InReach Explorer Cost	\$ 379.95	\$ 2,659.65	\$ 2,891.04
Special Pricing 25% off (Ends March 1st)	\$ 285.00	\$ 1,995.00	\$ 2,168.57

	Units Needed
Transitions July 21-31	3
SummerStart August 2nd-22nd	6
Fall September 11th-17th	7
Excursions Year Round	2

7 Delorme InReach Explorer's Before March 1st with tax	\$ 2,168.57	7 Delorme InReach Explorer's @ Retail Cost with tax	\$ 2,891.04
Subscription Total with tax First Year Delorme 1 Plan	\$ 1,328.26	Subscription Total with tax First Year Delorme 2 Plan	\$ 1,548.03
Grand Total and requested Amount on Delorme 1 Plan Before March 1st	\$ 3,496.83	Grand Total and Requested Amount on Delorme 1 plan if purchased after March 1st	\$ 4,219.30
Grand Total and requested Amount on Delorme 2 Plan Before March 1st	\$ 3,716.59	Grand Total and requested Amount on Delorme 2 Plan if purchased after March 1st	\$ 4,439.07

Annual Yearly Operating Expense to be covered by the Excursions and WOOT Programs	Delorme 1 Plan with 7 Units	Delorme 2 Plan with 7 Units
Total W/Tax	\$ 1,121.13	\$ 1,340.89



	Monthly Plans in Effect	Anticipated Bytes Used/unit	Delorme 1	Delorme 2	Suspend Fees (Units not active)	One Time Activation Fee
June	2	845	\$ 40.90	\$ 51.80	\$ 25.00	24.95/unit
July	3	905	\$ 61.35	\$ 77.70	\$ 20.00	7 units total
August	6	905	\$ 122.70	\$ 155.40	\$ 5.00	
September	7	905	\$ 143.15	\$ 181.30	\$ -	
October	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
November	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
December	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
January	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
February	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
March	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
April	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
May	2	845	\$ 40.90	\$ 51.80	\$ 25.00	
	Totals	10320	\$ 695.30	\$ 880.60	\$ 250.00	\$ 174.65
	With tax @ 18.6%		\$ 824.63	\$ 1,044.39	\$ 296.50	\$ 207.13

