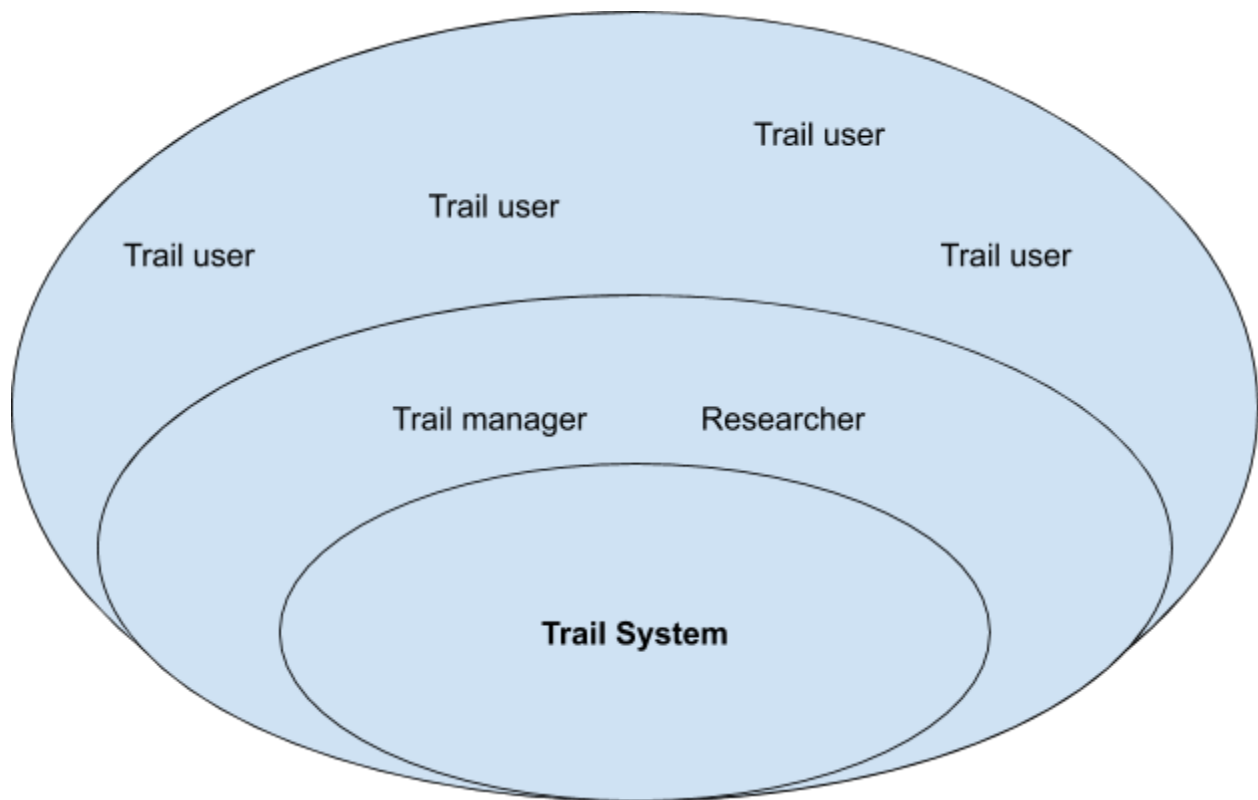


Overview of the System & Devices

The application is expected to be run on mobile devices, as it's intended point of use is often on the trails themselves. The app will also have to interface with the stream sensors in some fashion in order to access the data.

Stakeholders



- Kristen Bretz (researcher)
 - Interested in analyzing the data to find patterns correlating trail usage, trail conditions, and stream levels
- Trail manager
 - Interested in looking at usage patterns to figure out where to direct funding
- Trail user
 - Want to see the trail conditions before they travel to use the trails
 - Want to provide feedback on the condition of the trails to help other user

User Personas

Ron Smith

Age: 21

Height: 6' 0"

Weight: 180 lbs

Right handed

Ron is a sophomore student at Virginia Tech. He wants to do some undergraduate research. He likes to fish and explore the outdoors while hiking.

Ed Valentine

Age: 37

Height: 6' 0"

Weight: 148 lbs

Right handed

Ed Valentine is an avid mountain biker. He tries to get out on the trails at least twice a week, but doesn't like to ride if trail conditions are poor.

Elinor Major

Age: 61

Height: 6' 2"

Weight: 180 lbs

Right handed

Elinor is on Blacksburg's city council. She doesn't particularly enjoy the outdoors, and often struggles with technology.

Joyce Mcarthur

Age: 47

Height: 5' 7"

Weight: 170 lbs

Right handed

Joyce is a park manager and coordinates upkeep of the trails. She doesn't have a lot of experience with technology and is reluctant to use new things.

Environments

The User's Home (before going to the trail)

The user will check the conditions of the trail at their own home

The Trail

The user will log conditions while on the trail and check the conditions of specific trails before taking them.

The Trail (after use)

The user will log conditions right after using the trail

The User's Home (after using the trail)

The user will log conditions at home any time after using the trail

A Research Lab

A researcher will download data to analyse at their lab

Park Management Offices

A park manager will check what conditions are reported and report their own data at their offices

Scenarios

Scenario: Ron wants to help Joyce plan a rough work schedule for the year using data from the previous year.

Ron gets forwarded an email from Joyce asking if the university would be able to use data from the previous year to find out what months are the most maintenance-heavy. He decides to help out, and logs on to the app. He then downloads the archived data and analyzes it in Excel. Ron emails back Joyce saying that it's likely May and April be maintenance-heavy months going by last year's data.

Scenario: Ed wants to know if the trails are muddy.

Ed wants to go biking, but knows that the trails might be unrideable due to the recent thunderstorm. He wants to confirm his suspicion before driving for half an hour to get to the trails. He opens the app, and sees that nothing has been reported lately. Surprised, he drives to the trails and enjoys the afternoon.

Errored scenario: Elinor wants to find out how many visitors the trail system had last year.

Elinor wants to cut funding to the trail system, and she decides to justify doing so by proving that the trails aren't used very much. She logs onto the app, but after clicking around for 15 minutes can't find any statistics of the previous year. Frustrated, she closes the app and the trails stay funded.