

# Stakeholders, Goals and Task Analysis

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Team 2: Blu Team

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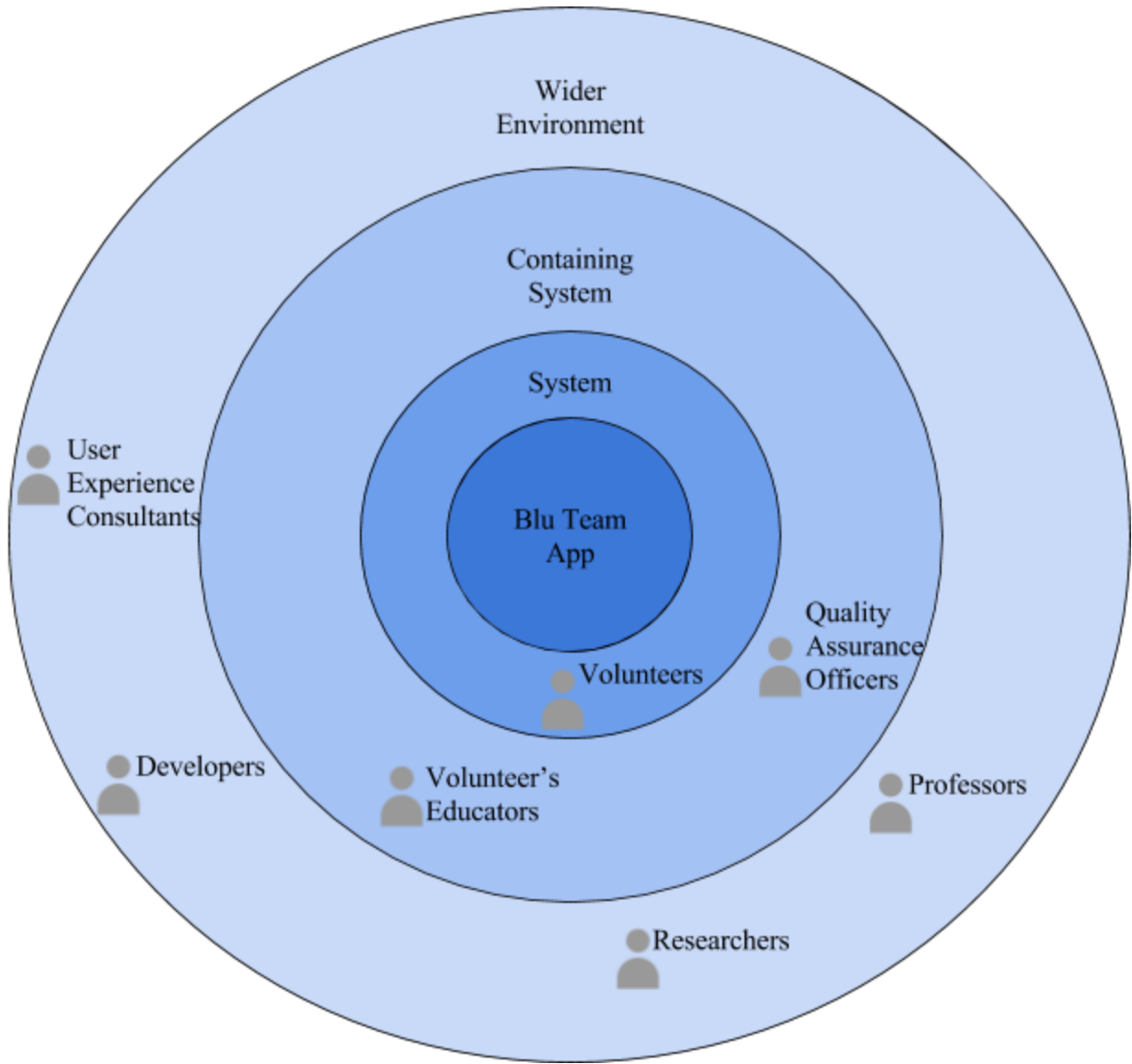
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# Stakeholder Analysis

## Description of Undergraduate System

Team 2: Blu Team will be designing, developing, and testing a water monitoring app produced for the Oklahoma Blue Thumb. Currently Blue Thumb relies on a large volunteer base's efforts to test local creeks and streams for the physical environment conditions and water samples. At the volunteer's discretion, recording monitored data can range from paper, Adobe Forms, to other methods and can be submitted from fax, email or even traditional mail. Water samples can also be submitted to be chemically tested. The app developed by Blu Team will be used to unify the means of monitoring and recording data to a form that can easily submit data to Blue Thumb.

# Onion Diagram



## Description of Stakeholders

### Primary

#### Volunteers

With a wide range of backgrounds from a large base of citizen volunteers, this group will be the largest user group of the application. They will interact with the app to monitor and record data, and use the app to submit to the quality assurance officers.

### Secondary

#### Volunteer's Educator

Blue Thumb is responsible for training the volunteers to be able to use the monitoring application. Thus they need to be familiar with the app in order to support the primary users.

#### Quality Assurance Officers

Monitored data submitted by the primary volunteers needs to be verified by a Blue Thumb quality assurance officer. The validators must be familiar with the monitoring and submission process to locate and prevent erroneous data entry.

### Tertiary

#### Developers

Team 2: Blu Team will be invested in their responsibility to design, implement, and test the application however they will not be interacting with application for its intended use case scenarios.

#### User Experience Consultants

A pair of graduate students that will be consultants for the user experience during the design and testing phases of the application. Similar to the developers the application will only be used during testing, not used for its intended purpose.

#### Professors

Overseeing professors of the developers and the user experience consultants. The professors' credibility is affected by the performance of the students in their ability to satisfy the scientists' needs for their applications.

## Researchers

Data published by the Blue Thumb recorded from the monitoring application can be used by external researchers. While there is no direct involvement with the app, the researchers are affected by the project indirectly.

## Stakeholder's Goal Influence Table

Name	Goal	Contributing Influence	Constraining Influence
Volunteers	Monitor bodies of water and submit data to Blue Thumb.	Feeling responsibility to care for local environment.	Potential inability to understand the application.
Volunteer's Educators	Enable and support volunteer's ability to use application.	Potential pride in helping others and spreading knowledge about environment.	Must become very familiar with application in order to educate others.
Quality Assurance Officers	Ensure validity of incoming data from volunteers.	Responsibility of data sanitation.	Must be familiar with application and detect erroneous data from many submissions.
Developers	To design, develop, and test the monitoring app.	Course Credit. Experience in development.	Potential inexperience and lack of time.
User Experience Consultants	Ensure the application is user friendly	Course Credit. Experience in being a user consultant.	Potential inexperience and lack of time.
Professors	Enable students to create application satisfying scientists.	Potential pride in educating students. Salary.	Credibility is affected by students ability to create application well.
Researchers	Use Blue Thumb data to provide conclusions on hypotheses.	Available data may align with research goals and shorten data collection time.	Misunderstanding of data.



## Stakeholder's Goal Influence Table Description

With the project relying on such a large and varying amount of volunteers for the primary user basis, the goals may differ for each individual. However, goals may share an overall theme of caring for their local environments. While it may be difficult, designing an overall application that can accommodate the very wide range of primary user's technical level is a necessity. Any issues will cause frustration for the supporting volunteer educator's ability to teach and the quality assurance officers for having to handle larger amounts of erroneous submissions.

While the researchers using Blue Thumb's data may never encounter the application made by the Blu Team, the benefit they receive from using the data is entirely affected by the combined effort of the other stakeholders. A design and development flaw can lead to a hampered adoption of the volunteers through a more difficult time with the educators, as stated before this leads to a more difficult time for the quality assurance. This overall flow from the developer to the primary, secondary and tertiary emphasizes the necessity of meeting the developers' goals.

The students, being the developers and the user experience consultants only have slightly different influences, for both contributing and constraining. Their goals both pertain to satisfying the scientists expectations for the developing application, which differs from the other stakeholders as they won't directly use the application for its intended purpose. The professors can almost be considered a large supporting role for the students, and as such they hold credibility for their ability to enable the students to perform to their potential.

# Personas for Stakeholders

## Two Primary Users

User 1: Mason William

Age: 12

Occupation: Student

Mason is a middle school student and on a field trip hosted by the National Park Service he learned how to sample a local creek. Enjoying the experience, he his parents became interested in becoming volunteers with Blue Thumb to monitor the pond in their backyard. The application must be simple enough for Mason to use it without submitting erroneous data.

User 2: Lisa Thomas

Age: 57

Occupation: Associate Professor

Lisa is an Associate Professor who lectures chemistry at the local community college. She feels a strong attachment to her hometown and self monitored many local bodies of water for years. Recently hearing about Blue Thumb she decided to become a volunteer. Her method of recording data included pen paper and sometimes a detailed sketch. The application must be able to allow for her to become familiar with a unified technologically based method of recording data.

## Two Secondary Users

User 3: Michael Joseph

Age: 32

Occupation: Teacher

Michael is a middle school biology teacher is a main coordinator with the National Park Service every year for the creek field trip. Mason happens to be one of his students, and since Michael is a Blue Thumb Volunteer Educator he forwarded information to Mason's parents. He's excited for a unified application to be made, but is worried about how much extra work he'll have to do personally to educate a wide range of volunteers to one standard. The application must be as simple to teach as it is simple to use.

User 4: Jessica Tiffany

Age: 29

Occupation: Business Analyst

Jessica is a successful self employed business analyst for her local hometown. Doing well, she recently decided to step up her volunteer role at Blue Thumb and become a quality assurance officer. While it was difficult to accommodate to varying amount of user submission types, she's now worried that changing the working method will introduce more problems. The application must only simplify the quality assurance process by reducing, not increasing, the varying types of data submission through standardization.

# Simplified Hierarchical Task Analysis

## Volunteer Application

### Sign In

Record Data

Site Location

Geo-Referenced Photo

Testing Kits Used

Submit Data

Confirm / Cancel

### Sign Out

### Support

Password Reset

Help

FAQ

Help Ticket

## Summary of Simplified Hierarchical Task Analysis

The Simplified Hierarchical Task Analysis is highly subject to change, and in essence that's why it's simplified and primarily high level without concrete details. Initially the user has two options: sign in, or help.

### Sign In

The volunteer application will require a sign in from the volunteer in order to start recording data, from there they have three options: record data, submit data, or sign out.

### Record Data

This will be the overlapping menu that will allow the volunteer to switch between data types to record. They include the site location, a geo-referenced photo, testing kits used, bacteria tests. This is subject to change to add even more options as the design process narrows down for the application.

### Site Location

The scientists suggested a latitude and longitude record would be beneficial to their data and as such it can be an option in the record data menu.

### Geo-Referenced Photo

A photo can be used to supplement accompanying data. This can be implemented multiple ways, one is to simply attach a photo image for upload, another would be to open a camera interface then attach photos taken.

### Testing Kits Used

Many different testing kits can be used to record data from the water. This includes bacteria, ph level, color, temperature, and more. These may have their own individual entry in the record data menu or they can be combined into a text entry.

### Submit Data

Once data has been recorded, the user has the ability to select which records can be submitted to Blue Thumb and become validated by the quality assurance officers. The user will have two options upon selecting a record: confirm or cancel.

### Confirm / Cancel

Upon confirming a record submission, the selected data will be uploaded from the application to a Blue Thumb database awaiting validation. Upon canceling a record submission the data will be unselected and not uploaded.

### Sign Out

The volunteer can choose to sign out, which will bring them back to the sign in screen for the next time they want to use the application.

### Support

The volunteer can access the support menu, which has two options: password reset and help.

#### Password Reset

The password reset may be implemented differently, but as an example it could reset the current user back to their originally assigned password provided by Blue Thumb.

#### Help

The help section has two separate options to choose from: the frequently asked questions (FAQ) and the help ticket option.

#### FAQ

The frequently asked questions list is subject to change, but will provide a list of commonly asked questions and the official responses to those answers. If there are extraneous questions then the user can request a help ticket from the help menu.

#### Help Ticket

In the event that a user cannot get their question answered by the FAQ, then the user can submit a help ticket to Blue Thumb, and a volunteer educator may answer help questions from a queue containing tickets. The educator may have the ability to add commonly asked questions and their answers to the FAQ.

## Notes from Scientist Interview

Scientist-Development Team meeting minutes are posted on the Blu Team's website which can be found [here](#). The first link [here](#) contains the meeting minutes for the first meeting on January 25th. If the hyperlinks do not work correctly use corresponding two links below.

Meeting Minutes:

<http://www.csl.mtu.edu/classes/cs4760/www/projects/s18/group2/www/sciNotes.html>

First Meeting with Scientists and Development Team:

[http://www.csl.mtu.edu/classes/cs4760/www/projects/s18/group2/www/meeting-notes/bluteam\\_sci\\_1.pdf](http://www.csl.mtu.edu/classes/cs4760/www/projects/s18/group2/www/meeting-notes/bluteam_sci_1.pdf)