

Evaluation Report-1
Stakeholders, Goals and Task Analysis
Team 4: Calm b4 the storm

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Stakeholder Analysis

a. Onion Model of Stakeholder:

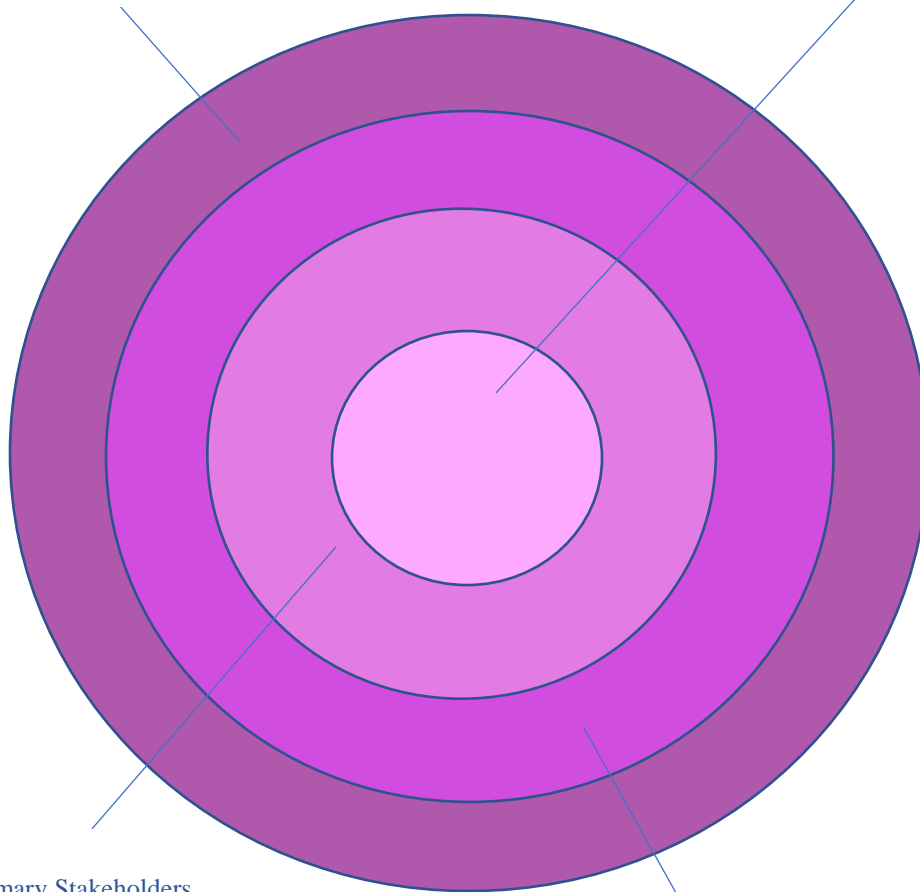
Onion diagram is used to represent the relationship of stakeholders with the project goal.

Tertiary stakeholders

Local Arizona Homeowners and Prospective Buyers,
Local Outdoor Recreation Programs,

DNR Researchers and Wildlife Researchers

Wet/Dry Mapping
app



Primary Stakeholders

Volunteers within TNC
and government
volunteers

Secondary stakeholders

Nature Conservancy of
Arizona (TNC)

Mexico Water Commission
(MWC)

b. Description of stakeholders

1. Primary Stakeholders:

Primary stakeholders are the users of this app. These include the volunteers that measure the coordinates of the wet spot at its beginning and end. The volunteers are generally grouped in members having maximum 5 people. These groups include the seniors from the company as well as some new members. Also, primary stakeholders include state agency partners who map the rivers.

2. Secondary Stakeholders:

There are three types of secondary stakeholders for this app. First is the Nature Conservancy of Arizona (TNC) for which TNC can use the data obtained to monitor the year-to-year conditions of the rivers and observe the drying of river. The second stakeholders are Mexico Water Commission (MWC) - The MWC can use the data obtained to monitor the rivers in Arizona and predict water surplus or shortage. This is done in partnership with the International Boundary and Water Commission. The third one is Michigan Tech Development Team (MTUDev) - The team is responsible for the creation of the application and ensuring that it meets the needs of the client.

3. Tertiary Stakeholders:

The tertiary stakeholders are Local Arizona Homeowners and Prospective Buyers - The homeowners can use the data for observing the conditions around their home. Local Outdoor Recreation Programs can use the maps produced from the data to identify good areas to explore as well as the risky areas for conducting any recreational activity. DNR Researchers and Wildlife Researchers can use the data to identify areas with potentially high wildlife traffic and places at risk for illegal resource harvesting.

c. Stakeholders goal influence table:

Stakeholders	Goal	Influence
Volunteers	To gather the information of wet spots.	Providing the details of wet spots along with their coordinates along the river for every reach.
Conservancy of Arizona	To observe the conditions of river.	Providing the data based on the dryness of the river.
Mexico Water Commission	Monitor the water flow of river.	Providing the data which can be used for predicting the water shortage.
Michigan Tech Development Team	Creation of application.	Working application with correct interface.
Local Arizona Homeowners and Prospective Buyers	Observing data around the home.	This can be used for prediction in future or help prospective buyers.
Local Outdoor Recreation Programs	Observing the areas for recreational activities.	The safe and risky areas can be figured out.
DNR Researchers and Wildlife Researchers	Monitoring the areas for high wildlife traffic.	Identify areas of illegal resource harvesting.

Summary of the Stakeholder Goal influence table

The primary stakeholders include the volunteers in TNC. They are generally a group of 4-5 people with some expertise as well as the freshers. Each team is equipped with the GPS and the data sheet to measure the coordinates along the river and to note the details of those coordinates. The river is divided into different reaches and each reach is assigned to a team. The goal of secondary stakeholder Nature Conservancy of Arizona (TNC) is to monitor the river conditions every yearly. The influence can be to provide data based on the dryness of river. The second stakeholders are Mexico Water Commission can use the data obtained to monitor the rivers in Arizona. This data is helpful in prediction of water surplus or shortage in Arizona. The Michigan Tech Development Team is responsible for the creation of the application and provide the functionalities based on the requirement. The app should provide appropriate and useful user interface in which functionalities can be easily identified and navigated. The tertiary stakeholders are Local Arizona Homeowners and Prospective Buyers can use the data for observing the conditions around their home. This collected information can be useful for prospective land or home buyers. Local Outdoor Recreation Programs can use the maps produced from the data. The maps give all the information to identify good areas as well as the dangerous areas for conducting any recreational activity. DNR Researchers and Wildlife Researchers can use the data to identify areas with potentially high wildlife traffic and places at risk for illegal resource harvesting.

Personas

Two primary users:

Name	Age	Gender	Description
Rachel	32	F	Rachel is 32-year-old TNC volunteer. She has been working with TNC for last 7 years. She is the lead volunteer for one of the groups. She goes with her team to gather the data of the river. As she is the lead member, she also helps the new members of the group in the process of filling the data sheets by measuring the GPS coordinates. She is not a tech savvy but would like to learn new helpful application.
Harry	52	M	Harry is a 52-year-old and works for TNC since last 13 years. He works as a front-end staff. He is responsible for collecting the data from each team. He then scans the sheets of data and puts them in a file if they are required for future use. As the data sheets are just stored on the paper, it is difficult to maintain the files for him. He also informs the team leads if any of the team forgets to submit the data sheets.

Two secondary users:

Name	Age	Gender	Description
Andrew	29	M	Andrew is 29 years old. He works in TNC since last 3 years. He works in the back-end team. His job is to gather the information from the front-end team members. He analyses the data provided by them and store in tables. He is also responsible for the documentation.

			He is very tech savvy person and loves using new apps.
Ryan	41	M	Ryan is a government officer working in Arizona. He works for a company which is based on conservation of natural resources. This app will help to measure the dryness of river and the measurement of water in the rivers. This information will help in determining the future use of water in case of less or heavy rains. He is very interested in learning the apps and their practical use.

Simplified HTA

Simplified HTA for Wet/Dry mapping is shown below:

Begin survey view

- Team Number
- Team member names
- River segment
- Direction
 - Downstream
 - Upstream
- GPS unit number
- Begin Survey

Surveying view

- GPS Waypoint Record
 - Waypoint Number
 - Easting
 - Northing
 - Accuracy
- Water states
 - Starts
 - Stops
- Remarks
- Add Data Points
- Review Data
 - Edit Data
- Finish Survey

End Survey View

- Review Data
 - Edit Data
- Send Data
 - Data successfully Sent view
 - Data unsuccessfully sent view

Help/Usage

Done

Summary of simplified HTA

Hierarchical task analysis provides an understanding of the tasks users need to perform to achieve certain goals. These tasks can be broken down into multiple levels of subtasks.

The above diagram of Wet/dry mapping HTA shows the task of surveying by the users.

In the beginning of survey, the details of the teams should be noted. These details include the team members along with their team number. The teams are assigned to a segment of the river which must also be noted. The direction of the river can be upstream or downstream. The GPS unit number must be also considered before starting the survey.

The actual survey will enter the coordinates of GPS at the location of water spot. The GPS waypoint number calculation will consider Waypoint number, Easting, Northing and the accuracy. The coordinates are noted at both the start and end of the spot. The team members will add additional remarks if any. All the data points are noted and data sheets. The data is then finally reviewed.

The survey ends with updating the data if required and submitting the data by each team. The data should be successfully submitted to the respective supervisors.

Notes from interview with the scientists

First Meeting 26 Jan 2018

- ❖ The wet/dry mapping is done by the employees of the company
- ❖ The people are divided into smaller teams having expertise as well as the new people. Every team has a leader, returning volunteers and new people.
- ❖ The river is broken up into reaches and the readings are taken along each reach by the teams.
- ❖ Each team carries a clipboard and datasheet. When they see a wet spot, the GPS coordinates are noted also known as Start GPS and at the end of the spot.
- ❖ The datasheets are stored as a paper and the scanned sheets are uploaded to their servers as PDFs.
- ❖ This app is an attempt to phase out paper data sheets.
- ❖ Various features like quality control of data input, dropdown boxes, timeframe, Static map from the last year can be included in the app.

Second Meeting 1 Feb 2018

- ❖ The volunteers are the employees of the company who must be physically able.
- ❖ Emergency contacts and arranged in the season of monsoon.
- ❖ Maximum team size is 4, but 5 in some cases.
- ❖ The remarks section on the data sheet should include categories of ponded water, flowing water and other.
- ❖ There should be no registration for users of this app as it would be hassle for them.