Evaluation Report #1:

Stakeholders, Goals and Task Analysis

Evaluator: Mohammad Beheshti

(mbehesht@mtu.edu)

Development team: Stomp

Application: Ant Mound Mapper

Scientist: Andrew Storer

(storer@mtu.edu)

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App Design and Development team (Stomp)

Name	Email
Matthew Kersten	mkersten@mtu.edu
Colin Hogue	cmhogue@mtu.edu
Evelyn Adler	seadler@mtu.edu
Joau Perez Guenero	jperezgu@mtu.edu
Tory Taggart	tltaggar@mtu.edu
Kate Van Susante	kvansusa@mtu.edu

App Idea:

There are 24 species/sub-species of red wood ant in North America. One of the characteristics of this group is building large mounds. But the number of species building large mounds, for unknown reasons, is less than the expected (only five). To discover the reasons for lack of organic mounds, scientists need to have a complete knowledge of locations of organic-origin and mineral-origin mounds as well as locations with no ant mound. This is the motivation of “Ant Mound Mapper” application, which aims to equip scientists with a complete picture of geographic distribution of ant mounds. Using this app, students can record the location of ant mounds as well as their photos, which helps scientists to determine are they organic or mineral in origin.

Scientist: Andrew Storer-Professor of Forestry

Email: storer@mtu.edu

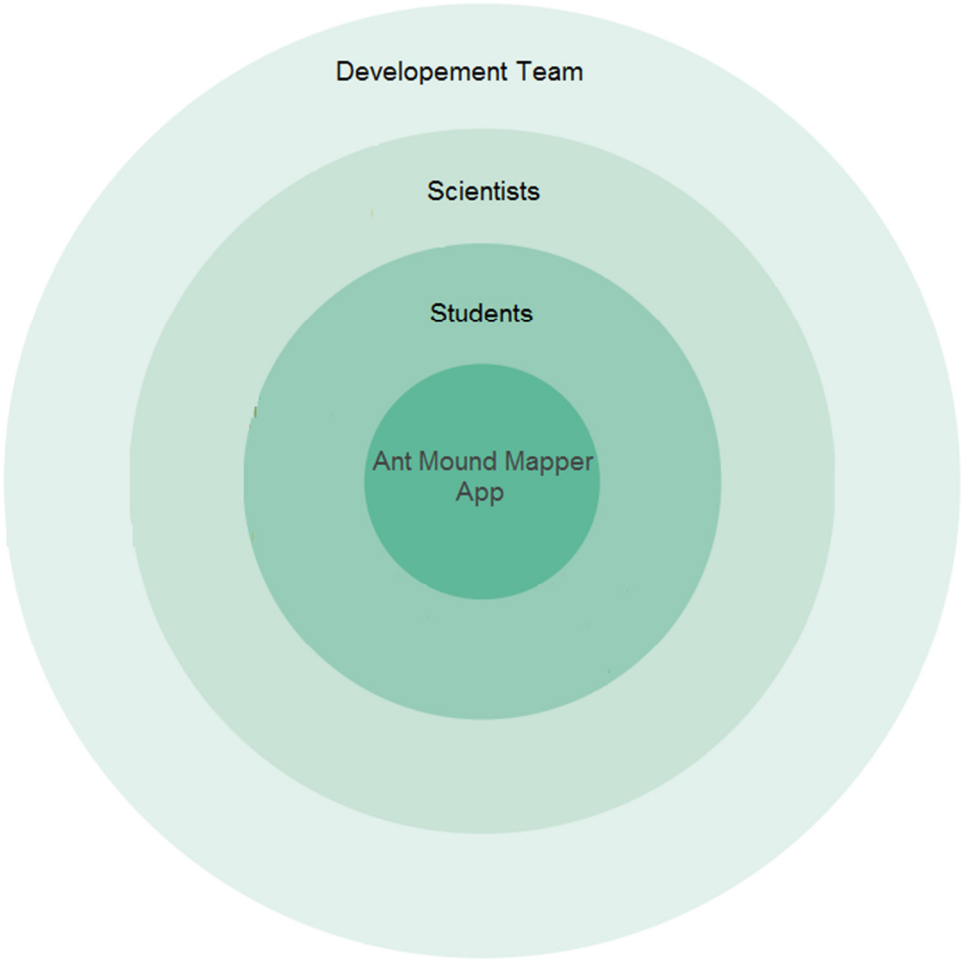
Phone: 906-370-2847

School of Forest Resources and Environmental Science

Michigan Technological University

Stakeholder Analyzes

a. Onion model of stakeholder



b. Description of each Stakeholder

Primary Stakeholders are middle school or high school students. They explore their school forests or other forested areas around their school and record the location and photos of every ant mound that they've found.

Secondary Stakeholders are forestry scientists. They use the submitted information by the students to make a complete picture of geographical distribution of ant mounds and the locations with no trace of mounds. Using the recorded photos, they can also detect the origin of the mound (either organic or mineral).

Tertiary Stakeholders are development team members; team #5 (Stomp). They are actively involved to professionally design, develop and test the application. They closely work with the scientists to better understand the specifications of the desired application. Also they work with the students to get feedback about usability of the application.

c. Stakeholders' goal-influence table

Stakeholders' Goal-Influence Table			
Stakeholder	Goals	Influences	
		Contributing	Constraining
Students	Record the location of ant mounds	Gathering useful data to be analyzed by the scientists	May they are not able to properly distinguish between ant mounds and other similar objects in the forestry areas
	Take photos of ant mounds		May they cannot explore the forestry areas deeply and thoroughly

			May they are not comfortable with mobile apps or no Internet access in the forestry areas
Scientists	Having proper data to conduct their research	Providing necessary specifications and expectations of the desired application for the development team	May they do not represent specifications well or change the specifications
		Providing forestry and geographical knowledge, necessary for the development team	May they are not available for immediate consults/feedback
Developer Team	Deliver a practical application on time, with a satisfying quality	They are necessary for progress/success of the project	May they cannot deliver the application on-time
		They design/develop/test the desired application	May they do not have enough knowledge of design/coding/testing
			May they are not comfortable with team-work projects
			May they didn't understand the specifications well

Summary of the Stakeholders' Goal Influence Table:

Students (primary stakeholders) are information gatherer. They explore the forestry area carefully to find ant mounds. Then they record the location of the mound and take its photo. This information is necessary for scientists' researches. Because they are the primary users of the application, this app and its interface should be convenient for them. So, their point of view should be considered in all phases from design to development of the app, and they should attend in the test phase to demonstrate its functionality.

If the students cannot use the app properly, the other phase of the project, analyzing the data, would also fail. Also if they cannot provide the correct information, such as: properly distinguishing between mounds and other similar objects in the forestry area, it would negatively affect the rest of the project.

Scientists (secondary stakeholders) use the data provided by students to conduct their researches. They provide specifications and expectations from the application. Also whenever needed, they provide information related to their major (forestry and geology) for development team. Also they can attend in the test phase to give appropriate feedback to the application.

Any misrepresentation of requirements or changes in the original requirements may affect the progress of the project negatively. Also Scientists should give their feedback/consults as soon as possible.

Development team (tertiary stakeholders) is responsible to deliver a practical and easy to use application on-time. This application should satisfy the requirements as well as usability tests. Development team makes progress in the project. They design, write the code and test the deliverable application.

The final quality of the application relies on the technical expertise of the members and cooperative and supportive structure of the team. If they do not understand the requirements correctly or fail to accomplish their individual tasks, the final application's quality would not be satisfying.

Personas

Primary Users

Name: Jeremy

Gender: Male

Age: 22

Height: 6'

Wight: 150 lbs

Location: Houghton, MI

He is first year Master student in Electrical Engineering at MTU. He is smart and very social. He can make new friends in a moment! He has a lust to experience new things. He can provide different perspectives to a problem. He likes to attend in a testing project to get more familiar with life-cycle of mobile applications. He looks to develop his own application very soon.

Name: Joe

Gender: Male

Age: 31

Height: 6'

Wight: 200 lbs

Location: Houghton, MI

He is graduated student in Electrical Engineering at MTU. He is creative and he can conduct a project individually. He is always first one in the volunteer activities. He always provides comments and feedbacks to make current situations better. He is fan of nature and he always looks for

hiking/biking programs in the nature. He has good relation with kids and enjoys spending time with them.

Secondary Users

Name: Nicolas

Gender: Male

Age: 27

Height: 5’5’’

Wight: 145 lbs

Location: Houghton, MI

He is a PHD student and he works on Natural resources. Also he works with some other scientists and he is conducting some researches in this area. He has good information about the current issues affecting our habitat and he has a broad knowledge about forestry. His feedback to this application can verify if it is practical from a scientist point of view or not.

Name: Matt

Gender: Male

Age: 27

Height: 6’1’’

Wight: 189 lbs

Location: Houghton, MI

He is a PHD student and he works with GIS systems. He works with geographical data, analyzes them and extracts meaningful patterns from them. His experience with database is valuable for this project. He can provide feedback on the data gathered by the application users and determine if they are meaningful for the research purposes or not.

Simplified Hierarchical Task Analysis

- Start the app
  - Location
    - Turn the location service on
    - Check for the signal
    - If signal is available:
      - Communicate with GPS and receive the location info
    - If signal is not available:
      - User enters location in the text box
    - Store the location info in a predefined directory
  - Receive data from user
    - Name of the forestry area
      - Choose from dropdown menu, or
      - Enter in the text box
      - Store the name in a predefined directory
    - Take photo
      - Call the camera service
      - Name and store the taken photo in a predefined directory
    - Receive mound info
      - Choose mound info (size, origin) from menu, or
      - Enter mound info in the text box
      - Store this info in a predefined directory
  - Storage
    - Store the entered data in a temporary directory until they are submitted to the database
  - Submission
    - Turn Internet service on
    - Check for Internet signal

If signal is available:

Send the collected data to the predefined database address

Flush the temporary files

If signal is not available:

Check for signal every 1 minutes until the submission is done

Summary of the simplified HTA

When the application is started, it receives the current location from the GPS or manually from the user (in the case of no signal, which is common in the forestry area). Then user should be able to enter/select name of the forestry area, take photos and enter mound info. Application should store all these information in a temporary directory until submitting them to the database. Also application should be able to establish a connection to the database server and submit the data, or in the case of failure re-attempt in a loop.

Appendix: “notes from the interview with the scientist”

Meeting was going on in an intimate and friendly atmosphere. First, interviewee and interviewers get familiar with each other. Then the scientist talked about necessity of his research and the importance of ants in the wildlife and their effects on our habitat. Then he followed by expressing the different behaviors of ants in the Europe and North America. He also demonstrated some photos of ant mounds and described the differences between mineral and organic mounds. Then he answered to the questions about this project and his expectations from the app, which is summarized below:

1. Users of this app are considered to be middle/high school students to encourage/introduce them to some important issues in the geology and forestry.

2. When user runs the app, explores the area (20 meters distance) for ant mounds. If he/she couldn’t find any traces of ant mounds, simply takes a photo from the area with no ant mounds, tag it with “no mound is found” and submits it.
But if an ant mound is found, its photo, its size and another photo from its environment should be submitted.
In either of the cases, the location of the area (received from the GPS) would be sent along with the data.
After the submission, application would ask the user that if he/she wants to continue (explore another 20 meters) or not.

3. The interface of this application should be simple on smartphones.

4. A combination of dropdown and text box menu is desired.