

# ***EVALUATION ASSIGNMENT 1***

CS 5760 – HUMAN COMPUTER INTERACTIONS AND USABILITY

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HCI Team 6

## APPLICATION DESCRIPTION

The primary objective of the application is to assist in the analysis of risks of soil erosion. This is supposed to be a web based application which would be accessible to the users through various web browsers and on different devices as well. A preexisting model known as WEPP, would be used to analyze the risks of soil erosion.

## STAKEHOLDERS

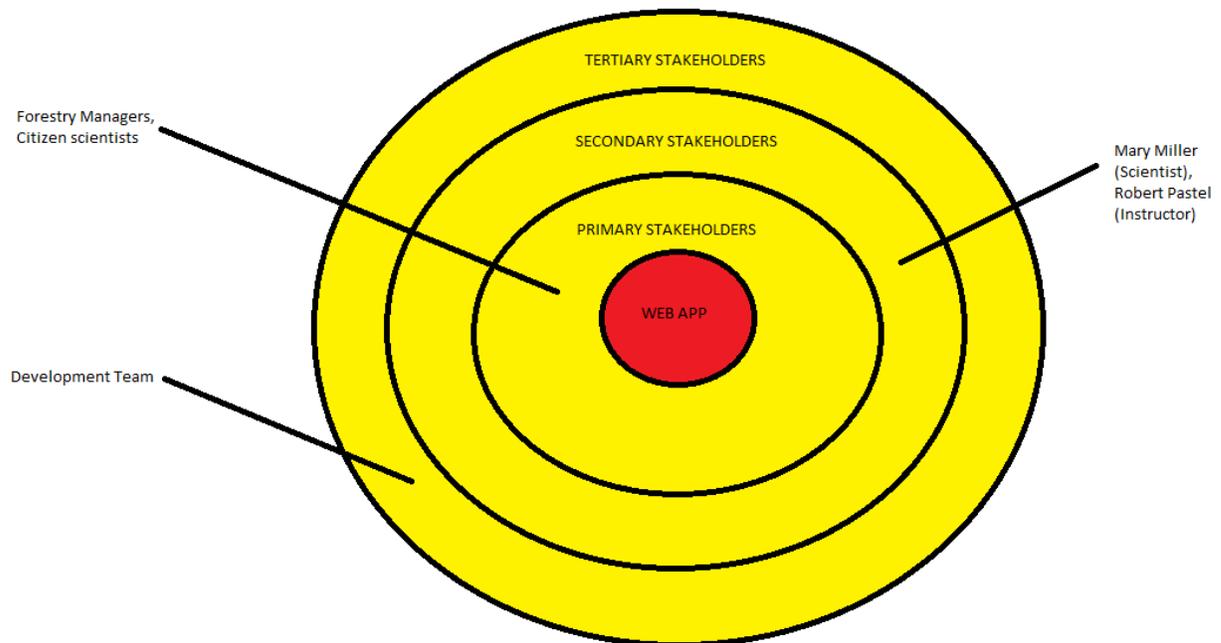


Fig 1: Onion Model

- 1) **PRIMARY STAKEHOLDERS:** Primary Stakeholders are those who use the Application directly. They includes Primary and Secondary users
  - **Primary Users**
    - Forestry Managers:** These users are experts in the field of soil erosion and users of the databases
    - Citizen Scientists:** Citizen Scientists would be those individuals which would be interested in using the WEPP model for various purposes such as education
  - **Second Users:** Secondary users of the application can be the educators and the students interested in the soil erosion and related research

## 2) SECONDARY STAKEHOLDERS

- **Mary Miller (Scientist):** Mary would not be directly related to the application and would not be using much of the application. She would however be interested in all the data that is collected by the primary users to carry on further research on the intended subject.

## 3) TERTIARY STAKEHOLDERS

- **Development team:** This team of undergraduates is responsible for the development of the web application. They are tertiary stakeholders of it because they don't have a direct usage of the application themselves but the success of the application would be beneficial to them as well.

### Developers:

Ashley Hauck  
David Mohrhardt  
Joshua Hooker  
Jialin Lei  
Prakhar Keshari  
Mohammad Seraj

- **Graduate Students:** The graduate students act as the consultants for the development team and would be responsible for testing the usability of it after it is completely built.

### Graduate Students:

Ankitha Pille  
Joseph Rice

- **Professor Robert Pastel:** The professor, who is the course instructor for the development of this application, is also classified as a tertiary stakeholder here because he also does not have any direct relation in the development of the application. However, the success of the application would be beneficial for his course and his students.

## STAKEHOLDER GOAL INFLUENCE TABLE

Stakeholder	Goal	Influence
<b>Citizen Scientist</b>	To learn about the basics of soil erosion and how to prevent the top soil from blowing away.	Influences the quality of research with more accurate data and hence makes the application dependable and reliable
<b>Professional users</b>	To learn about type of soil erosions spread over a region.	Influences the quality of research with more accurate data and hence makes the application dependable and reliable
<b>Trainers</b>	To train students and share their knowledge	Influence the knowledge of soil erosion in different areas.
<b>Developers</b>	To develop a working application, get good grades and pass the course.	Influence the creation of a better application.
<b>Professor/Course Instructor</b>	To help students learn about app development while providing them hands on experience.	Influences the grades and evaluation of students.
<b>Graduate students</b>	To help the development team with consultations about the usability of the application	Influence the design of the application by sharing the UX expertise

## PERSONAS

### Primary users:

1. **NAME:** Thomas Cromwell  
**AGE:** 40  
**JOB TITLE:** Forestry expert

**DESCRIPTION:** Cromwell graduated from Michigan Technological University with a Masters degree in forestry. He is determined to find out different ways in which the environmental pollution can be reduced. His current research is related to the study of various methodologies to reduce deforestation in Michigan.

2. **NAME:** Jane Aderall  
**AGE:** 21  
**JOB TITLE:** Environmental science student

**DESCRIPTION:** Jane is a senior at Central Michigan University. She is very tech savvy and her areas of interest include the GPS based vegetation tracking system. She has been exposed to different instruments available for the estimation of various environmental elements such as vegetation, snow etc. She has a lot of applications on her cell phone and stays up to date with the technology.

### **Secondary users:**

1. **NAME:** Allan Wake  
**AGE:** 35  
**JOB TITLE:** Scientist

**DESCRIPTION:** Allan has been an environmental scientist at Michigan State University since the last four years. He is determined to pursue his research about the topographical study of different regions in Michigan. He is not fond of technology as such and just uses simple applications on his device such as chat messengers.

2. **NAME:** Helen Homer  
**AGE:** 57  
**JOB TITLE:** Professor

**DESCRIPTION:** Helen has been teaching Forestry at Michigan Technological University since the last 20 years. Her research areas include the study about symbiotic relationships between different plants and trees in rainforests. She uses the university computer for mostly emails and journals, and owns a cell phone with basic applications in it. She has been constantly rated as one of the highest ranked professors on campus in terms of her knowledge about forestry

## **SIMPLIFIED HIERARCHICAL TASK ANALYSIS**

### **Querying Data**

- Take inputs from the user
- Upload the data to the server
- Query the database
- Display the results to the users

### **Data Collection**

- Take data from the user using a web form
- Submit the data into the database

### **Changing Input Parameters**

- Take Input Parameters from the user
- Save the form

## ***MEETING NOTES:***

### **Date: 01/19/2017**

1. Application is for predicting the soil erosion and analysis the impact
2. Dr Mary has databases contains all the protected natural resources
3. Need to create two models- WEPP distributed and spatial Models from the datasets

### **Date: 01/24/2017**

**User Interface:** Application should have user interface that will allow users to collect data, these data will be stored into the database .There should also be feature to email scientist.

**Users:** Basic users for the applications are Citizen Scientist, students, educators, and forest personals.

**Database:** Application allows the user to modify data and query data from the database. Application will use two types of databases, both can be manipulated. Scientist can review the data and can make changes.

**Distributed WEPP Model:** It is a process based on hydrology model. 500 inputs go into running the model. It is built for BAER team, typically forest service personnel. It takes 7 days to decide hydrological threat after fire and it uses remote sensing data.

**Environment:** This should be online application and make it offline if possible. Login not required for this application. It should be easily accessible for everyone. Application should allow user to gather information from phone- access and edit database, application can use GPS location.

### **Licensing:**

Open source application. With regard to licensing Mary will be contacting the lead developer for clarification.