

BEACH MONITORING APP

Evaluation Assignment – 1

CS 5760 – HUMAN COMPUTER INTERACTIONS AND USABILITY

Website and Stakeholders, Goals and Task Analysis

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Description of system:

During the swimming season, the swimming conditions are monitored at many beaches between one and five times per week. Measurements that are taken on-site can be used to develop a model that predicts bacteria levels and they are part of a standardized sanitary survey. The sanitary survey information helps public health professionals identify potential causes of contamination. The application needs to capture observations made at the beach. Often student interns are hired to collect data and most have access to a smartphone. In some locations, WIFI or cellular signal may be limited so the app needs to be able to store the collected information until the collector is within signal range to send the data to the centralized database or beach manager who then uses the data as inputs to the model.

Stakeholders Analysis

Stakeholders description

Primary stakeholders:

Wisconsin Department of Natural Resources: DNR employees can use this data to update and maintain information on the state's beaches.

Wisconsin County Health Departments: State employees in the health departments can use this data to maintain information about the conditions of the beaches.

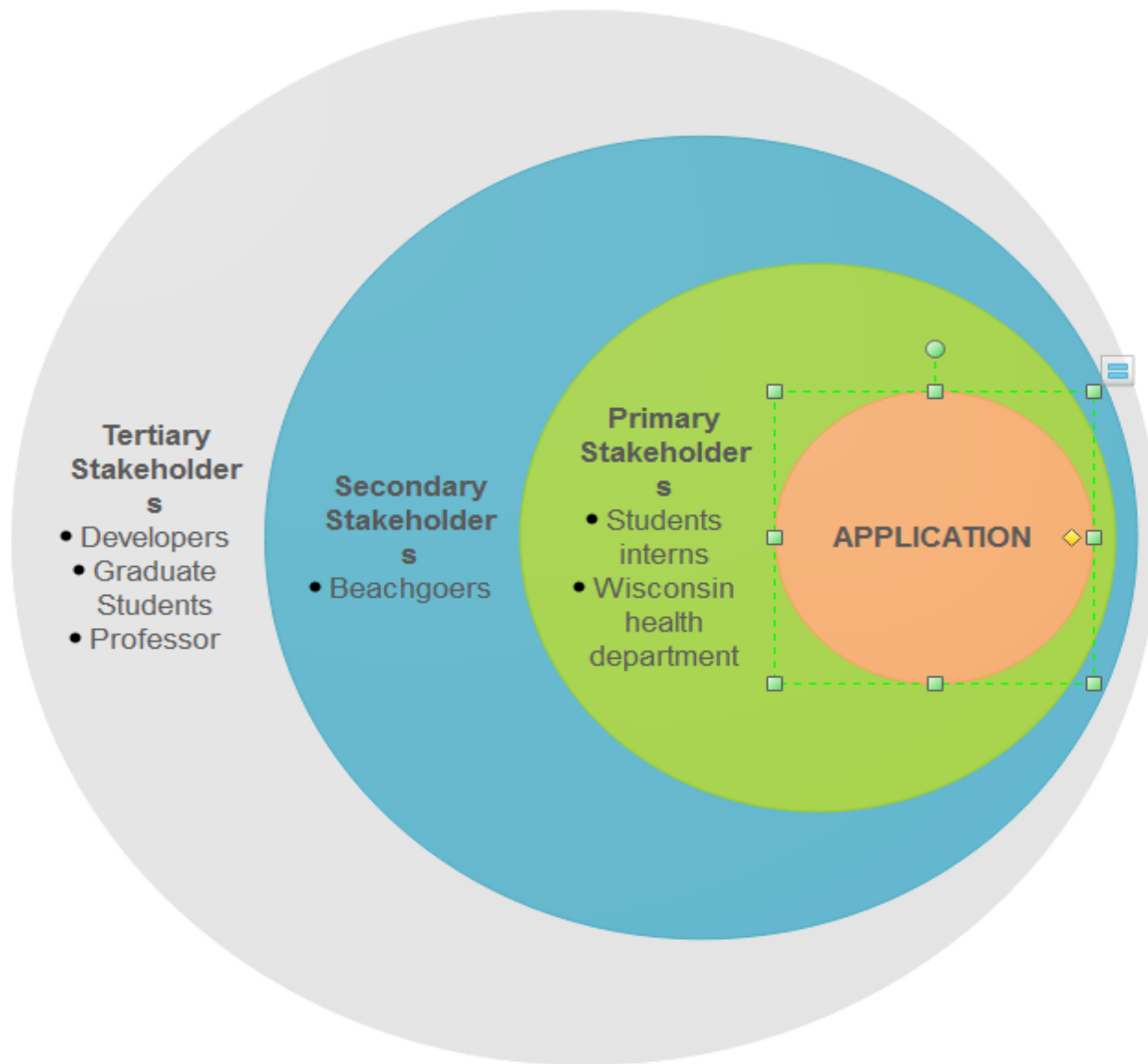


Fig. 1 Onion Diagram for Stakeholders

Primary Users:

Student Interns: Interns of the state, normally college students with biological backgrounds, whose job is to go out and complete the survey's this app assists in.

Volunteer Groups: Groups of volunteers who may take the role of a surveyor of Wisconsin beaches, a person of ranging skills and training.

Trained Surveyors: Employees of the state whose primary role is to go out and survey the state's lakes.

Secondary Users:

DNR/Wisconsin Health Employees: Employees of the state whose primary role is to go out and survey the state's lakes.

Secondary stakeholders:

Beachgoers: People who visit the many beaches in Wisconsin can be informed of the safety of the lakes they wish to go into.

Tertiary stakeholders:

Team Phoenix: The developers are responsible for creating the application, making sure it works as requested and expected.

Developer team (app designer and coder), Graduate Students (evaluate and test the app), Professor Dr Pastel.

Stakeholders Goals and Influence Table

Stakeholders	Goal	Influence
Scientist	To develop an application which predict the bacteria level at beach.	Contribution: to analyse the data and develop predictive model.
Interns	To gain professional experience and money.	Contribution: collecting data Constraints: No data connection and weather conditions
Public Health Professionals	To identify the cause of contamination	Contribution: To take necessary measures after data received
Developer (Undergraduate students)	Learning Usability and developing the application.	Contribution: Responsible for designing the application.
Graduate Students	To evaluate and test usability of the application created by developers and learn HCI usability testing	Contribution: Evaluate and testing the application
Course Instructor (Dr Robert Pastel)	To guide the development team and with consultations about the usability of the application and graduate students about testing of application.	Contribution: Guide and evaluate Developers and Graduate students

Summary of the Stakeholder Goal Influence Table

Scientist: The goal of scientists is to develop the application which predict the bacteria level of beach which is requirement. And they have to contribute to analyse developed model.

Interns: interns are masters or undergraduate students hired to collect data on the beach. They are the primary users. They are responsible for accurate data. Data signals may not be available during at beach location which is main constrain for them.

Public Health professionals: These are the officials who can take the necessary measures to reduce the contamination.

Developers: They are the undergraduate students team who will build the interface for the app. Their main goal is to learn how to design a human computer interface with high usability.

Graduate Students: They are the ones who will evaluate the interface. As part of the course, graduates will learn about human computer interface with high usability. Graduate students have to do research paper along with the evaluation, so time may be a constraint for them.

Dr Robert Pastel: As the instructor of the course, his goal is to teach the undergraduate and graduate students about the human computer interaction. And guide them in development process wherever they need help and evaluate there work.

Personas

Primary Stakeholders

Matt Smith

Age:24

Master's Student in Biological science department

Matt is right handed Android phone user. He like to ride bike. He is a nature lover. Matt like to Spend time with his friends and he has lots of friends.

Priya Kapoor

Age:21

Undergraduate student in Biological Sciences department

Priya is left hander international student. Priya like travelling and making. He is introvert who like to spend time in nature alone. She is intern to collect data at beach using this application.

Secondary Stakeholders

Name: James Bos

Age:32

Wisconsin Health Department Employee

James is left handed. James uses iphone. James is working in Wisconsin health Department from last 8 years. James like his work and he is very professional.

Name: Dr Steve Patrick

Age 45

Public Health Professional

City: Hancock

Steve is Public Health Professional and social worker. He is right handed who uses mac book. Steve is Michigan Tech Alumni who has completed his Doctoral a decade ago.

Simplified Hierarchy

Upper level views

Main menu

Select Data buttons

Insert / Edit button

Save

Exit return to main menu

View uploaded data

Lower level view

Upload saved data

Select data fields

Submit button

User Authentication

Username:

Password:

Cancel return to previous menu

Back return to previous menu button

Exit return to main menu button

Exit close application

Summary of the simplified HTA

- When the user opens the app, the main menu is displayed
- Select Data button opens the form to select data type
- Selected data type it opens up form where you can select whether you want to insert new data or edit the previous
- After editing done you can save it or cancel to go to previous menu without saving changes
- View save data you can see the saved data forms
- Uploading save data you can send the data to Wisconsin health department if the data connection is available.
- submit button will upload your data for which you need to authenticate the user to avoid misuse.
- Exit the application by clicking home button.

Meeting Notes

All the meeting notes can be found from undergraduate team's Website:

<http://www.csl.mtu.edu/classes/cs4760/www/projects/s17/group4/www/>

Appendix

Undergraduate team's page for documentation:

<http://www.csl.mtu.edu/classes/cs4760/www/projects/s17/group4/www/>