Evaluation Assignment - 4

<u>Water Matters App</u>
DESIGN SUPPORT DOCUMENT


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Team-2: Creative Types

Application Description

The objective of the application is to design and develop a bilingual web app which teaches Colonia residents about water conservation measures and rainwater harvesting which helps them to improve their water management. This App will have two sections., conservation and harvesting with easy to understand user interface. This app has two languages: English and Spanish as it is mainly used by the residents of US and Mexican borders. This app will provide information through a library of images, text and links in both the languages.

Stakeholder Analysis

Stakeholder Onion Diagram:
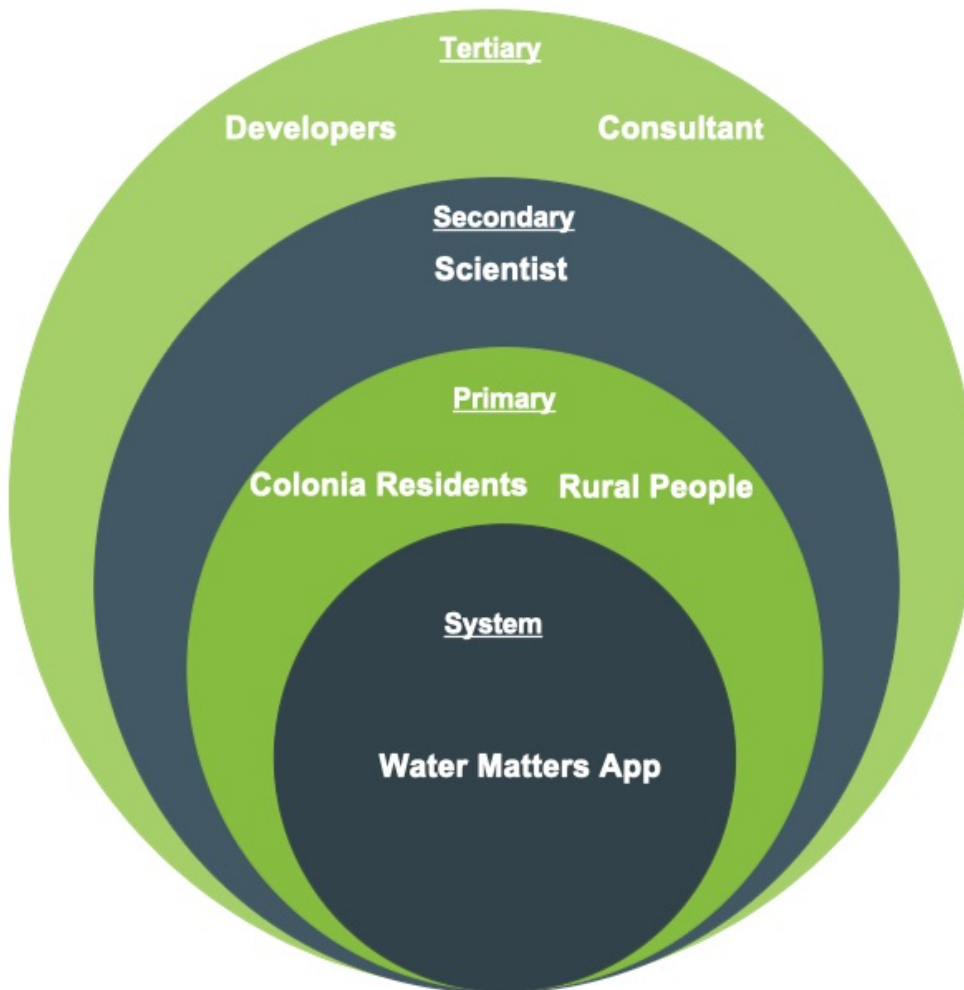
Stakeholder Description

System:
Water Matters App:
This application is currently in the development by the team-2 which is based on the requirements of the client.

Primary Stakeholders:
Colonia Residents:
These are the residents of the Colonias across the four border states of US-Mexican border. These are mainly older population with less experience using technology.

Rural Population:
These are the residents in rural areas with poor access to water supply.

Secondary Stakeholders:
Scientist:
The scientist is involved in providing information to the system. The application is designed based on the requirements of the scientist. All the content displayed in the application is provided by the scientist.

Tertiary Stakeholders:
Developers:
They are responsible for developing and building the application based on the requirements provided by the client/scientist.

Consultant:
They are responsible for making sure the application matches the requirement of the client/scientist. They involve in testing the application, providing feedback and evaluation of the application.

Stakeholder Goal Influence Table

Stakeholder	Goals	Influences	
		Contributing	Constraining
Colonia Residents	- Using app to learn about water harvesting and conservation		- Bilingual Application - Simple UI - Majority users will be older population with less experience using technology.
Rural Population	- Using the app to conserve water to mitigate their poor access to water supply		- Simple UI - Less experience with technology
Scientist	- To help the Colonia residents in water conservation using the application	- Providing Requirements of the application. - Providing content and data to the application.	- Making sure specific content and information is presented within the app. - Easy navigation within the application
Developers	- Develop the application based on the needs on the Scientist. - To gain experience in developing applications.	- Code - UI Design	- Meeting the requirements of the scientist. - Bilingual Application including the content.
Consultant	- To ensure the app is designed based on the requirements of the Scientist. - To provide evaluation and feedback to development in order to improve the application.	- Provide advice with the user design. - Usability Testing - Evaluation of the application	- Ensuring the application meets the scientist requirements. - Providing testing results to improve on the application

Summary of Goal Influence Table

The main goal of the primary stakeholder is to learn about the water harvesting and conservation. Specifically, the residents of the Colonias intend to use the application to learn about improving their water management through rainwater harvesting and water conservation. The goal of the rural population will be similar as they would use the application to learn about the water conservation to mitigate their poor access to the water. Both are the stakeholders have no contribution towards the application. The main constraints with the Colonia residents are the application should be bilingual in both Spanish and English along with the content present in the application. The user interface of the application should be simple in such a way that any users should be able to use the application without much effort. This due to most of the people being older population with little experience with the technology. The constraints of the rural population will be the app should be simple to use as most of users will have limited knowledge of technology.

The main goal of secondary stakeholder will be to use this application to helps the Colonia residents with their issues with the water supply through learning about water management. The scientist will provide all the requirements of the application including the design, navigation and data. The constraints of the Scientist would be that the application should provide all the information so that the users can learn from it and the navigation of the application should be simple so that the it is use and understand.

The main goal of the developers is to make sure they meet the requirements of the scientist. They want to ensure to provide a better application without any bug within it. They will be contributing the code required by the application and user interface. The constraints of the developer will be to meet the requirements of the application and the application should be usable. They have the challenge to design this application in both Spanish and English including the navigation and content. The main goal of the consultant is to ensure the design of the application meets the requirements of the scientist. They also need to provide usability testing and evaluation of the application in order to further improve the application. The constraints of the consultants will be providing better testing so that the any require changes will be communicated with the developers. They also need to ensure the application being developed matches the requirement of the application.

Personas

Primary Users:

Persona-1: Nominal User
Gustavo fransisco
Age: 51
Height: 5'9"
Right-handed

Gustavo is a resident of the Colonia in Texas. He has been living over the for past 12 years. He has a family with 5 members. He works in nearby restaurant to support his family. From the time he moved over there he has been having major issues with the water supply. This situation has been worse over the years and he is been looking for any way to solve this issue. He can make use of water matters app and can learn more about water management. Mainly he can through videos which would explain them about the rainwater harvesting. He can use the calculator within the app to figure how much can he conserve based on the rainfall in that area.

Persona-2: Error introducing
Gabriella D'souza
Age:64
Height:5'4"
Right-handed

Gabriella is a resident of a Colonia in Arizona. She has been living over there for 20 years. Even though she has been there a long time, she was only good with Spanish. Their community has been experiencing water shortages recently. She is very good in terms of efficiently utilizing the water. Her family members suggested her to learn about collecting rainwater. Her children had to go other states for work so she has to manage house alone sometimes. She has limited usage of smartphone only making calls with that. She might find it difficult to use the application in the initial stages. And sometimes if the application switches to English version it is possible that she can't toggle it back.

Secondary Users:

Persona – 1: Nominal User
Amanda Bing
Age:45
Height: 5'3''
Left-handed

She is a resident of town in Louisiana. She has family of 4 members. She works in a convenient store. For past few year, their town is experiencing drinking water shortages. Their lake has been polluted so they can't use that water for drinking. And it's expensive to buy bottled water every time on her expenses. They are having frequent rainfalls and she want to make use of it. One of her children suggested to use our application to learn about rainwater harvesting. She was able to easily use the application with the help of their children and understand the information. She even uses the calculator to check how much water she could collect and she might needed for their family.

Persona-2: Error introducing user
Ron Dunn
Age:57
Right-handed

He is a resident of a town in Utah. He used to work as a truck driver and has been living in this town for a long time. He has a small area of land where he grows vegetables. Due to leakage in the pipelines, this town was experiencing short supply of water. Due to this he has been facing challenges to gather enough water to his land. He would like to address this issue and has some talk with his town people. They told him to use our application learn ways to conserve and efficiently use the water. But he has no experience using a smartphone. His friend's kids helped him setting up the smartphone and using the application. But while he was using the application, he was having some frustrations navigating through the app and difficulty in reading the words. Even though he has been having these difficulties he continued using the application for water conservation.

Hierarchical Task Analysis

Simplified HTA

Water Matters App View
- Language Selection
    - English
    - Spanish
- Homepage
    - Link to water conservation
    - Link to water harvesting
    - Link to rainfall calculator
    - Tool bar
- Water Conservation
    - Text
    - Images
    - Toolbar
- Water Harvesting
    - Text
    - Images
    - Videos
    - PDF Downloads
    - Tool Bar
- Rainfall Calculator
    - Dropdowns
    - Textboxes
    - Tool Bar

Summary of the Hierarchical Task Analysis

The Language section will appear as a first view for the users when they start the application. The users need to choose their language preference between English and Spanish. This determines the overall language within the application including the content in it. In the next section, the homepage would appear with the links/button to water conservation, water harvesting, rainfall calculator. There is also a tool bar is present if in case the user needs to change the language in the application. Based on their selection by the user will navigate towards information.

The water conservation section provides information about various methods in water conservation through text, Images. There will also be a toolbar and banner to navigate through other sections of the application. The user needs to scroll down to get more content.

The water harvesting section provides information about various activities for water harvesting through text, Images, PDF downloads, Videos. There will be a toolbar and banner for navigation.

Rainfall calculator will appear when the user selects the link to it either in the homepage or they can find it in the banners of other sections. This has a text box to enter the data and dropdown. The dropdown view has some locations where the user can select. Based on that selection the rainfall calculator gives the results particular to that region.

Appendix

<u>Scientist Meeting Notes – 1: 1/19/21</u>

App purpose – To teach about the use of water conservation and harvesting across 4 border states.
App users – Anyone would be able to use the application for learning about the conserving the water across U.S.
Languages- English and Spanish. No preference on specific type of Spanish
User Region – Mainly in US and Mexican border states
Information in the App - Information through images, text, videos. The content will be provided by the Scientist.
App functionality - Two buttons water harvesting and water conservation from the home screen. The users will directly go to that section based on the selection.
Rainwater calculator – data regarding this is provided in the drive. Drop down to see the average rainfall in the area.

Scientist Meeting Notes – 2 : 1/26/21

App UI – the water harvesting section will have a blue or water droplets background. There is no specific look to the other sections in the app. Large font needed in each section.
Language selection – There need to be a button to change the language before the homepage appears. The language selection will be locked for the session.
Navigation in app – A banner in each section to navigate across sections
Content – The user will have to scroll for more content.
Rainfall calculator – the drop down menu will have five high populated areas. All the data required for it will be provided by the scientist.