Evaluation Assignment 1

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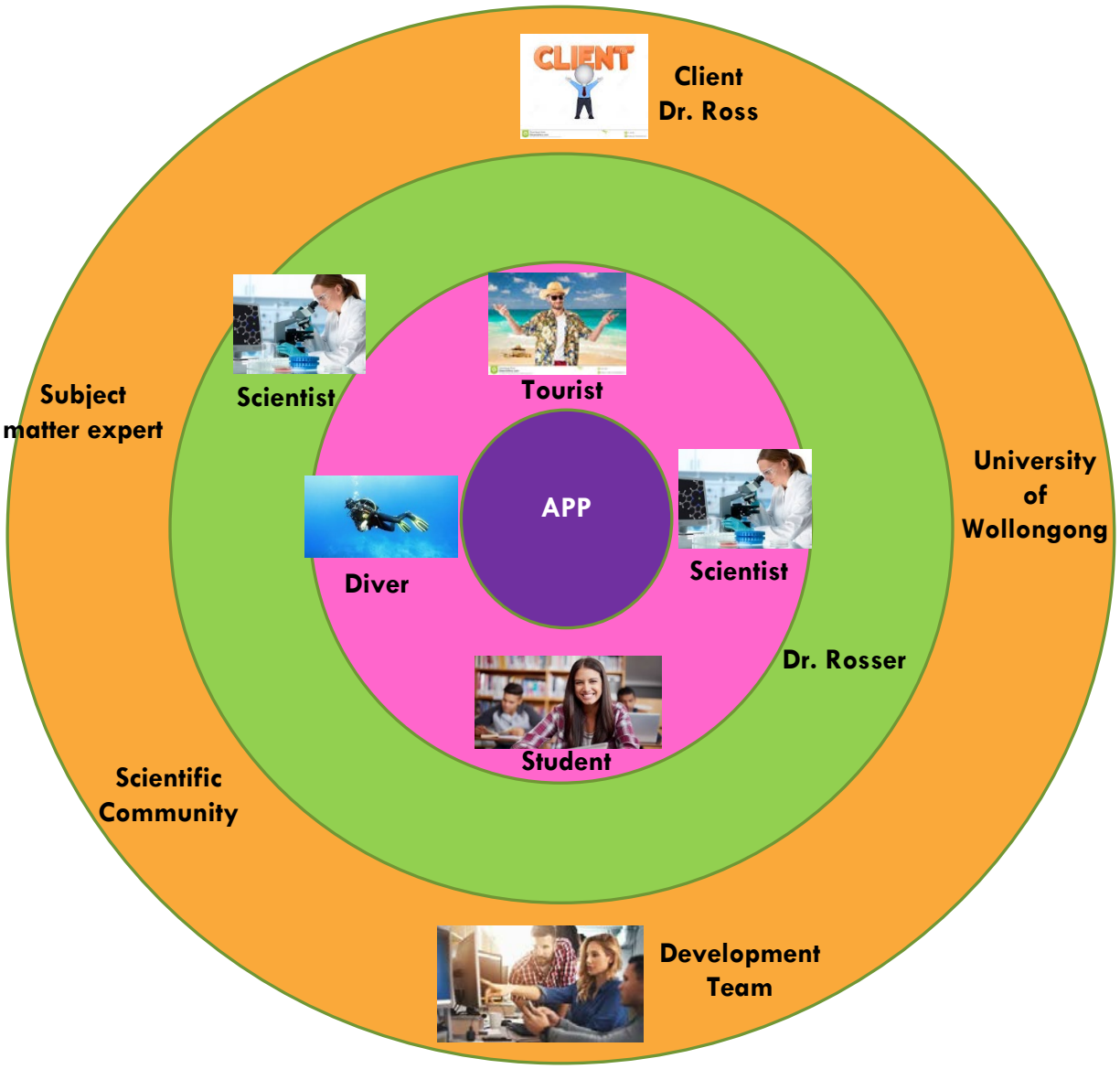
Team: Coconut Crab

SYSTEM OVERVIEW

The team is required to develop a mobile application (app) to monitor and record mass spawning events on Australia's coral reefs. Using the app, citizen scientists (like tourists, divers, scientists, nature enthusiasts, students) will upload their observations and photos (of the coral reefs) to a database, allowing scientists to track the timing of mass coral spawning over a long period of time (about a decade) and potentially identify long-term changes in the patterns of mass coral spawning. Most reef locations are remote and cellular signal may be limited, so ideally the app would be able to store the collected information until the collector is within signal range to send the data to the database. It is expected that the app would be used by tourists, divers, students and scientists who are nature enthusiasts and for whom viewing coral spawning might as well be a hobby. As the app will be used by both novices and experts alike, it needs to be user-friendly and easy to use.

STAKEHOLDER ONION DIAGRAM



STAKEHOLDERS		
PRIMARY USER	**SECONDARY**	**TERTIARY**
Tourists: mostly novice users in terms of content. May or may not have knowledge or have limited knowledge about coral spawning	**Scientists/ biologists:** Expert users in terms of content/topic. Will use the data gathers for scientific evaluations and may also contribute as user.	**Development & HCI teams, their mentors at MTU:** In charge of developing the App according client specifications. Mentors /course facilitators will offer guidance to development team.
Divers: can be a mix of deep sea divers, scientists and / or tourists. Some knowledge about coral spawning	**Dr. Rosser:** Subject matter expert, who will use the data for scientific development.	**University of Wollongong**: As the client is an employee here, it's policies, funding etc., may be influencing factors.
Students: Depending on their discipline, they may have some knowledge about the flora and fauna.		**Dr. Rosser:** The lead scientist in this project and our direct client. The App is being developed based on her specifications.
Scientists and biologists: Expert users in terms of content.		**Subject matter experts:** provide feedback to Dr. Ross on content and App, may contribute content on the topic.
		Larger Scientific community: The app will be a source of information for them. They may have inputs or suggestions on it.

STAKEHOLDER'S GOAL INFLUENCE TABLE			
STAKEHOLDER	**GOALS**	**INFLUENCES**	
		CONTRIBUTING*	**CONSTRAINING#**
Tourist	Goal is to help protect the environment and contribute towards science.	Pictures and data	Different knowledge levels
Diver	To know how the landscape is changing and contribute towards scientific knowledge.	Pictures and data	Levels of knowledge
Student	To gain knowledge and have a learning experience.	Pictures and data	Lack of Technical knowhow
Scientist	To analyze the data uploaded by the users and observe the phenomenon over long time periods.	Data analysis	Only in certain format (like Excel)
Dr. Ross	To use the data gathered for understanding more about coral spawning over a longer time period, to engage the community members in contributing to this study.	Provides content and design requirements for the app	May miss out some details or make assumptions about users that may not be accurate
Subject matter experts and Scientific Community	To provide important information that will help in designing the content, analysis of obtained data to improve understanding of the phenomenon, provide feedback.	Data and information for content that may be displayed	May not find the right and may need facility to upload
University of Wollongong	To advance science by providing the means to make it happen.	Contribute towards Scientific advancement	May place restrictions on format, funds, etc.
Development team and mentors	To develop a user friendly app	Development of the app	May be limited by expertise levels

**What the stakeholder can give to the system, #How the stakeholder limits the design of the system*

PERSONA

Primary User 1

Persona:	Tourist with basic knowledge of coral biology
Picture:	
Fictional Name:	Tom Berry
Job Title:	Marketing manager
Demographics:	40 years old, married, father of 2 children, has an MBA
Qualities	Is efficient in his job. Focused and goal oriented. His typical work day will include contacting potential clients, training his sales team, reporting. Likes interacting with people. Makes friends easily. Is tech savvy. Is a fun loving person and likes adventure. Is a nature enthusiast.

Primary User 2

Persona:	Certified Diver
Picture:	
Fictional Name:	Lisa Ray
Job Title:	Underwater Diver
Demographics:	30 years old, unmarried, pursuing graduation in marine biology
Qualities	Loves the sea. Is interested in understanding marine life, Is slightly reserved socially but is an enthusiastic instructor to new divers, takes on diving jobs on contract. Her latest job is as a scuba instructor and accompanying tourists on underwater explorations of the reef.

Secondary User

Persona:	Scientist who will use the collected data for analysis
Picture:	
Fictional Name:	Gary Bordeaux
Job Title:	Senior scientist
Demographics:	50 years of age, married with 3 children, two of them in college and one in high school.
Qualities	Is a dedicated scientist at Elmer labs, passionate about marine life and a keen interest in coral spawning. Keeps himself physically fit and is monitoring various databases across the world for indications of changes in environmental conditions and its effect on coral spawning.

Tertiary User

Persona:	Subject matter expert
Picture:	
Fictional Name:	Sita Ramachandran
Job Title:	Professor in Marine Biological sciences, are of research interest: effect of environmental changes on coral reefs
Demographics:	55 years of age with 20 years of experience in academia. Married to an It professional with 2 adult children and 1 grandchild.
Qualities	Soft spoken individual with keen interest in marine life. Has a hobby of collecting coins. Loves going for long walks along the beach, and spending time with her family. Has a social enterprise that is into water treatment. She is also part of a not-for-profit institution that works to educate people on the harmful effects of plastic and on how to reduce its usage.

SIMPLIFIED HTA

- Upload picture of coral spawning
- Record data
  - Date
  - Time
  - Location
  - Number of colonies
  - Coral Type
  - Water temperature
  - Sea State
- Add additional comments if desired

- Information and User Guide
  - Provide guide/tutorial for using the app
  - Info on coral spawning and why this app is used
  - Coral ID (Photos and descriptions of families)
  - Scientist's contact details

- My Profile
  - Information about the user of the app
    - Name
    - Email Address
    - Nationality
    - Name of their organization/vessel/tourist resort
  - Information Uploaded to database as metadata

- Photo Gallery
  - Page of photos/ photo gallery generated from uploaded photos by citizen scientists
  - Page with a map (like google maps)
    - Shows where spawning has been recorded
- Home Screen
  - Navigates to each of the four other pages

HTA SUMMARY

The App opens to a home page which gives an overview of the project and prompts the user to enter their information (name, Email ID, nationality and the organization through which they visited the reefs). Once they have entered this information, they will be taken to the submission page with instructions for submission, following which they will then be directed to the submission page to enter the following information: upload pictures, Date, Time, Location, Number of colonies, Coral Type, Water temperature, Sea State. There will also be provision for them to add additional comments if desired. All the information necessary for entering details for Number of colonies, Coral Type, Water temperature, Sea State will be provided in the form of a drop down menu, from which the user will choose the most appropriate data. They will also see a link to the guide in case they want to read up more information before choosing any option. Once they have entered all the information they will be asked if they wish to visit the gallery and the map showing the places where spawning has occurred. Depending on their selection, they will either if they directed to the gallery or back to the home page.

APPENDIX

Notes from the interview:

The task is to develop an application (app) that will

It should have the following features:

- Students and scientists to record timing of spawning events. long term project for 10 yrs we'll be looking at the timing of spawning events and how it has changed over the years.
- Diff people will capture different spots (divers, scientists, tourists,)spawning happens only at night
- Each person can upload upto 2 pictures . tourists might not have much knowledge about botanical aspects, so we will provide the content / descriptions about coral and may also include links to other online information sources.

If No WIFI is available in the vicinity:

Users upload data next day or whenever WIFI is there and log on to app and record location, time, date they saw spawning and upload photo, no of colonies spawning, type of coral

Create photo gallery for all to see, link to Instagram and using app showcase users photo to public

This data goes into database. Accessible to all

Able to compare date of spawning over time in each location and get a feel of the great barrier reef and gauge the variation if any a spawning may occur at diff times in diff locations to see the patterns if any

Water temp (is it related to shift in spawning)

Csv file with all 6 attributes for database

What can citizen scientists build into it to incentivize people?

Map with pictures in gallery to see where data is being collected from

Would you want others to correct or edit?