Notifications Project Brief

Started on: 3/27/23
Last updated on: 7/17/23

Background
Describe what the project is about, what's its context and background.
Describe why it's being carried out. If it's a part of a wider customer journey, link it here.

When Orcasound users fill out the Google Form on the website (https://docs.google.com/forms/d/1oYSTa3QeAAG-G_eTxjabrXd264zVARId9tp2iBRWpFs/edit) to opt-in for notifications of Orcasound listening events at a hydrophone, they expect to be notified in real-time whenever there is "interesting" acoustic activity on any Orcasound location. Currently (mid-2023), an email is sent manually via Mailchimp when a live listening event has been detected by some combination of human listeners and a machine learning model.

During the persona development study that was conducted in Spring of 2020, it was discovered that Concerned Citizen Scientist users wanted to receive non-email notifications because they often missed the listening event because they were not alerted in real time that they had received the notification email. This finding was confirmed in an early 2023 survey of 27 web app users: in addition to more timely emails, SMS notifications were their highest priority.

To meet user needs based on that feedback, a notifications initiative was created. Some dev work focused on the back-end of a notification system was started by Dhananjay during the 2021 Google Summer of Code (see his project summary and pull requests). A UX team focused on notifications was also formed.

Since 2020, an AI known as OrcaHello is using machine learning to detect orca calls in the same live audio data streamed to human listeners via the Orcasound web app. When orca calls are detected with a mean confidence of >50% in any 60-second sample, OrcaHello automatically sends email notifications to Orcasound moderators, linking them to the OrcaHello moderator portal. Upon confirmation of each candidate detection event, the OrcaHello system sends an email to OrcaHello subscribers via SendMail (a different, much smaller test list than the MailChimp list). These automated emails trigger a manual send to the MailChimp list of Orcasound subscribers, as well, except in cases where the OrcaHello system detected weak signals or only the waning end of a bioacoustic event..

The notification system for Orcasound live-listening app users needs to be designed in such a way that users receive each type of notification they want. It can continue to be operated manually (e.g. by admins or moderators) in the short term, but in the long term could be automated through more advanced integration with both human and machine detection systems.

The user requested notification type is currently unknown- do users want desktop and/or tablet browser push notifications, mobile push notifications, SMS notifications, email notifications, or other form factor notifications like smart watches, smart speakers, etc.?

Regarding Calls To Actions (CTA), an ideal notification could have three options:

1. Listen live now (for users who get it in real time)
2. Listen to recording if the live event was missed
3. Listen to the best of recent events or all events

Each option within the notification could lead to a slightly different UI, all within the Orcasound web app.
Ideally, each option could eventually include a conservation call to action (CCTA) while listening to the live or recorded events. Stakeholder and discovery research should be done to explore how notifications could use CTAs to encourage conservation action from users.

Objectives

Describe what is the ideal future you want to have once this project is finished. What is the outcome you're looking to get out of this?
How does this fit into your team's and/or company's wider goals? (Link them here.)
What is the benefit for the business?
What is the benefit for the user?

Objective 1
Provide a notification system that meets user needs for live orca listening events at specific Orcasound hydrophones. This includes notification sign up, notification type choices (browser, mobile, etc. push notifications, SMS, etc.), and the ability to edit notification preferences or unsubscribe entirely. This system must also include designing and implementing a feature for moderators or admins manual sending of notifications before the notification system is automated.

Objective 2
Alerting Orcasound users that a SRKW pod is heading (or most likely heading) toward a hydrophone, so that they can start listening before the listening event begins. This would be accomplished by combining other data sources, such as satellite tracking data that we have access to that indicate in real time where specific SRKWs are. Collaborating with the Bioacoustic Dashboard team would be critical in making sure that notifications are sent out based on the other data sources we have access to as an organization.

Key results & Success criteria
How will you know the project was successful once it's finished?
Think KPIs, OKRs, UX metrics, benchmarks, company targets (whatever your company is using).

Key result 1
Transferring all current Orcasound users who have opted into notifications to the redesigned system, including contacting them via email so that they can sign up for specific location(s) or all hydrophone locations notifications, notification type (email and non-email notifications), and any other features designed for the redesigned system.

Key result 2
Providing an opt-out flow that is easily accessible to users.

Key result 3
Replacing current sign up process through Google Forms with a customized interface that allows new users to opt-in to notifications, providing them options for specific or all hydrophones, notification type, and other user-centered features identified via discovery research.

Target audience
Describe the target audience for this project.
You can link to your personas.

The target user is the Concerned Citizen Scientist. This persona is highly motivated to be notified of orca activity at an Orcasound hydrophone and will often listen even without being notified. They may or may not take conservation action but may be more motivated to do so if they are able to be alerted in time to be engaged by live-listening events and provided with conservation CTAs.

Concerned Citizen Scientist persona:
Version 1: Persona- Concerned Citizen Scientist (Version 1).png
Version 2: Persona- Concerned Citizen Scientist

The team and stakeholder map
Define team roles and responsibilities.
List stakeholders and describe what level of involvement is needed/expected.

Who is the decision-maker (sign off)?
[Note: One way of doing this can be a RACI matrix]

Stakeholders:

- **Main Orcasound Stakeholder:** Provides background on who, what, where, why, and how for notification system, including technical limitations. Limited, as needed involvement. *Scott Veirs*
- **Principal UX Manager:** Can provide background on who, what, where, why, and how for notification system, including technical limitations, but will refer to Main Orcasound Stakeholder. Involved as needed, is contacted before Main Orcasound Stakeholder, and directs project lead. Signs off on work when requested. *Brendan Thatcher*
- **Product Manager:** Can provide background on who, what, where, why, and how for notification system, including technical limitations, but will refer to Main Orcasound Stakeholder. Involved as needed, is contacted before Main Orcasound Stakeholder, and directs project lead. Signs off on work when requested. Facilitates UX work to production in GitHub. *Brendan Thatcher*
- **UX Managers/Other UX, Dev, or Other Leadership:** Can provide background on who, what, where, why, and how for notification system, including technical limitations, but will refer to Principal UX Manager or Main Orcasound Stakeholder. May not be direct reports but can be as needed. *Various*

UX Team Members

- **Team Lead/Co Lead:** Schedules, leads, and sends reminders for weekly team stand up meetings. Can be an individual contributor (IC) as well. Writes or delegates the writing of user stories in Github when design is sent to production. Reports to Principal UX Manager.
- **UX Researchers (IC):** Plans, conducts, and reports on UX Research for projects. Accesses Research Operations program to recruit participants for studies. Reports to Team Lead/Co Lead. *Various*
- **UX Designers (IC):** Designs based on user research as reported by UX Researchers. Reports to Team Lead/Co Lead. *Various*
- **Other UX Roles As Needed (IC):** Content Strategists, UX Writers, and any other UX-oriented roles who contribute their core competencies as needed. Reports to Team Lead/Co Lead. *Various*

Dev Team Members

- **Front End, Back End, Full Stack Devs:** Assigned issues by Team Lead/Co Lead or designate to develop design work. Uses established frameworks that meet the needs of technical specifications.

*** Note:** Any team member can transfer roles at any time. There is full support for exploring different roles for professional development. Please communicate role changes with teammates and leadership as needed.

Scope
What's in scope
Describe what definitely needs to be worked on and why.

- Notifications only for orca listening events at Orcasound sponsored hydrophones
- Understanding if users want notifications for other types of acoustic events- humpback or other whales, boat noises, etc.
- Opt-in user flow
    - How can we allow Concerned Citizen Scientists to subscribe to a complex suite of notification methods and logic?
- Opt-out user flow
    - In some cases, like push notifications, the user will be able to opt out through their web browser's notification preferences
- Notification sending interface for Orcasound affiliated volunteers -- authentication required to send notifications

What might be in scope
Often, there are those 'maybe areas and topics' — list them and describe conditions under which they could be included (e.g. if we have time, if we find out enough evidence in user research, etc.)

- Notifications for any interesting acoustic event at Orcasound hydrophones
    - This is dependent on user research and tech restraints- please discuss with Brendan (@Brendan in Slack)

What's not in scope
Describe what the design team should not challenge (e.g. hard technical constraints, change of CMS, major design overhauls during a platform migration project, etc.)
[Note: I use this one more as a guide to understand which topics will be hard to change, which things shall be taken as project constraints, and what the business values as a status quo. However, in practice, if you make some key discoveries which could significantly help the product and you have a really strong rationale for them, everything can be challenged.]

- TBD

Dependencies
Are there any other teams, people, technology or anything else that the success of this project is dependent on? Describe them.

1. Before an Orcasound user can sign up for notifications, they have to accept the "Be Whale Wise" guidelines, found here: https://www.bewhalewise.org/.
    a. Please refer to the current sign up form to see an example: https://docs.google.com/forms/d/1oYSTa3QeAAG-G_eTxjabrXd264zVARId9tp2iBRWpFs/viewform?edit_requested=true
        i. Content in current sign-up form:
            1. Do you agree to follow, share, & help enforce local laws and guidance related to whale watching and other vessel interactions?*
            Please read and share the latest guidance for the Salish Sea at https://bewhalewise.org/ before agreeing (which is a pre-requisite for receiving real-time notifications from Orcasound).
            Yes, I agree to follow, share, & help enforce local Be Whale Wise guidance.

2. Technical limitations as defined by stakeholders, leadership, devs, or other roles. If unsure, please go through chain of command until dependencies are understood.

3. The languages used in the orcasite repo is a key constraint. The good news is that Elixir is really strong in dynamic functionality. The bad news is that it is still relatively unknown in coding schools, so beginning devs will be challenged to contribute.

Risks
List risks and caveats that need to be considered.
E.g. What are the risks to the success of this project? What would happen if we don't meet the deadline?

TBD

Deliverables
List tangible artifacts that this project is expected to deliver.

- UX Discovery Research Presentation
- Design presentation to UX team, Principal UX Manager, other stakeholders, leadership, and devs
- Design of full notification system using Figma
    - Designs for desktop, tablet, and mobile
    - Redlined features, interactions, etc. as needed
- User stories in GitHub
    - Assigned to Principal UX Manager
    - User story template here (please download- it is a Word Template file): https://docs.google.com/document/d/16CaKvAQzBrsAvKle0ieSUCQpYvCCXp8v/edit?usp=share_link&ouid=110838499857425540356&rtpof=true&sd=true

Communication
What communication tools will you use and what for? (Email vs Slack vs JIRA vs Zoom, etc.)

Slack channel: #ux-notifications

Shared data
Where is the project space/folder and all the materials relevant to the project? Does everyone have access? If not, who will make sure everyone has it?

- Project folder: https://drive.google.com/drive/folders/1DqlqQubxkD9E545b-Q_M6DIfz5F2XqsY?usp=drive_link
- GitHub Product Repo: https://github.com/orcasound/product
    - GitHub project: https://github.com/orgs/orcasound/projects/24

Additional notes
If there is something else, specific to this project, state it here.

UX Project Resources: Link to GitHub wiki here