



weep ea

Fiza, Omar, Darren, Lee, Mike F., Mike L., Jiawei, Azizz

Project Description

SweepSea is a NJ-based non-profit organization aiming to solve the problem of litter and polluted oceans by connecting high schoolers to an app that identifies pollution nearby and rewards for clean-up.

We want to see our planet get cleaner and see students get connected with community service easier.



Elevator Pitch

SweepSea aims to reduce the effects of litter and polluted bodies of water by presenting an app is able to log and locate polluted areas in need of attention.

- Over the past years, climate change has been increasingly detrimental to the environment.
- Approximately 8 **million** tons of plastic enters our nation's oceans every year.

Sweepsea is a non-profit organization whose main function is presented via app available on both IOS and Android. SweepSea's vital users are high school students in New Jersey that want community service hours. They can log polluted areas of concern, claim spots to clean up alone, or with a group.

SweepSea will require designers for the app, access to GPS/location, and phone cameras for capturing and logging areas of concern.

With students all around the states, we're hoping to see less pollution and litter in America.

The change starts with you!

High Fidelity Prototype

[https://www.figma.com/proto/4IDx1oUVGCLfV1KorDD8EC/SweepSea-Prototype-\(Community\)-\(Community\)?page-id=0%3A1&node-id=1-107&viewport=412%2C237%2C0.23&scaling=scale-down&starting-point-node-id=1%3A445](https://www.figma.com/proto/4IDx1oUVGCLfV1KorDD8EC/SweepSea-Prototype-(Community)-(Community)?page-id=0%3A1&node-id=1-107&viewport=412%2C237%2C0.23&scaling=scale-down&starting-point-node-id=1%3A445)

Lessons Learned

- Narrow down our target audience
- Realizing that there are competitors out there, making ourselves unique
- How to interpret market data
- Teamwork
- How to run numbers for our project cost
- Fundamentals of building an app
- How to efficiently gather data taken from surveys
- Using the gantt chart to plan out organizational processes

Stakeholders



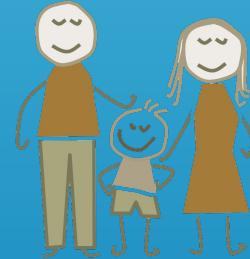
High School Students

High Schools want their students to succeed provide students with meaningful resources



Environmentalists

People and organizations who care about the planet are likely to support SweepSea



Parents

Some parents seeking to help their college student find community service may support SweepSea

Stakeholders Continued...



Waste Management

Private companies that collect and dispose of waste, including those that specialize in recycling and composting



Fleet Trackers

Tech companies that specialize in deploying GPS systems.



SweepSea Team

The members of SweepSea that are directly impacted by the company's success or failure

Customers

High Schools

High schools can direct their students to our app

Parents

Parents can direct their child to our app

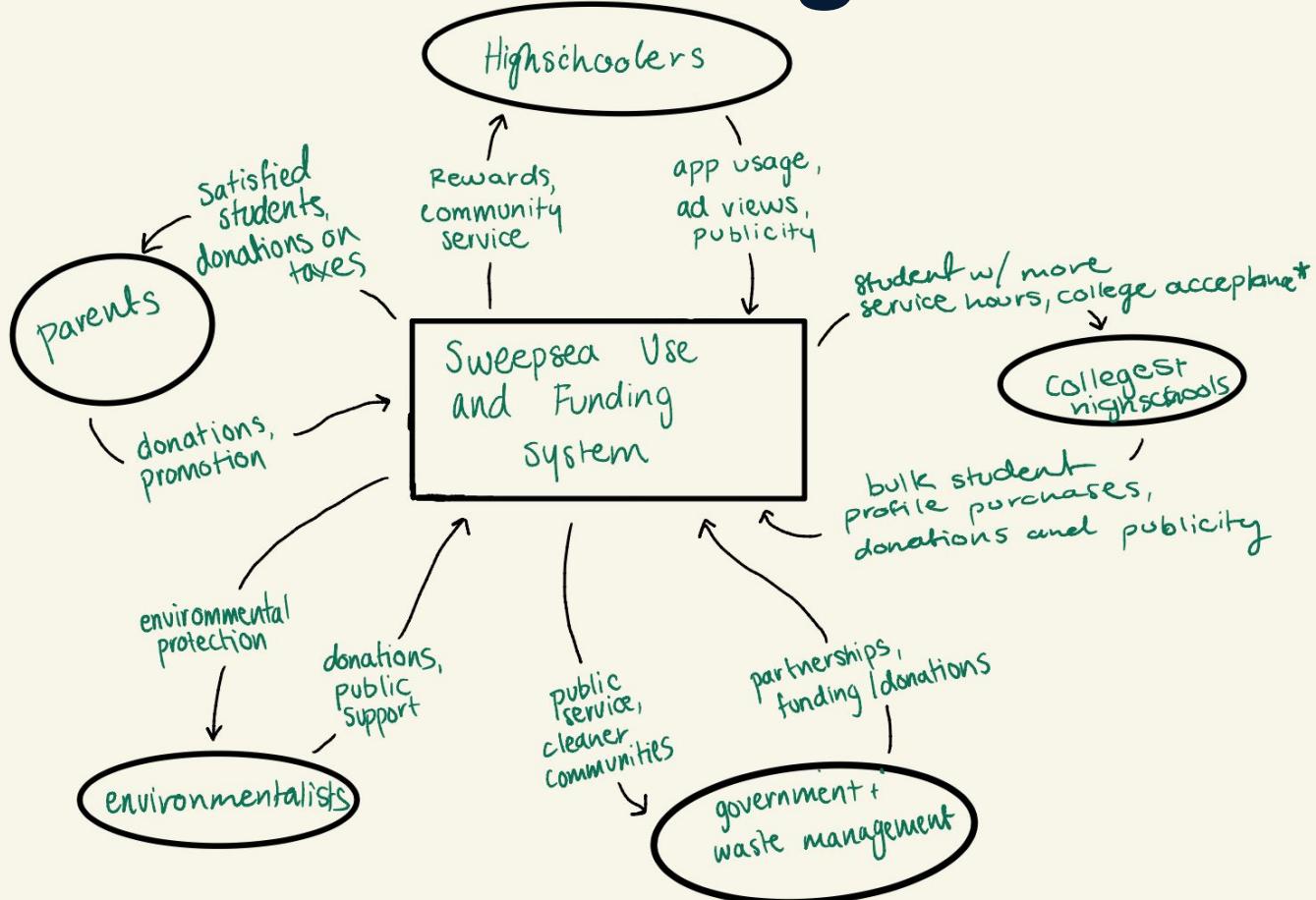
Students

Our app primarily targets high school students since the incentives our app offers matches their needs

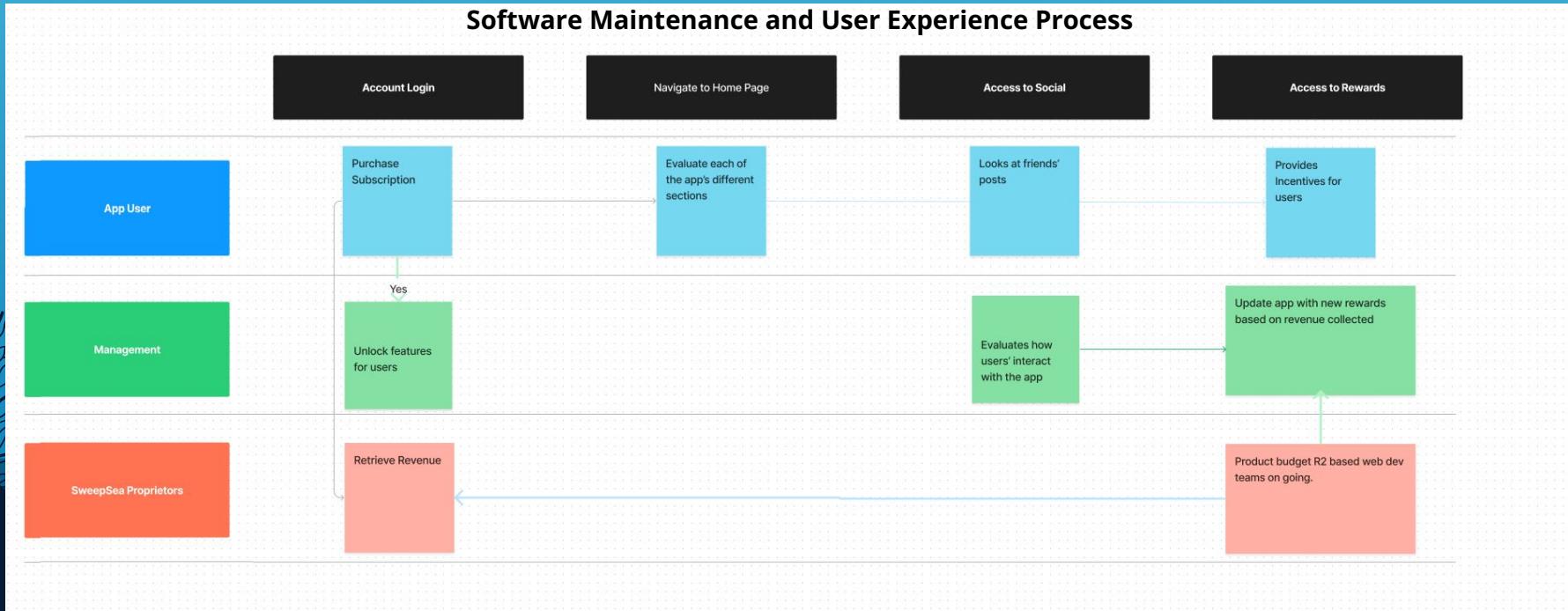
Scope

- As a startup in New Jersey, our SweepSea app aims to provide high-school students an incentive to engage in environmental cleanup.
- The app will operate through use of GPS for users to search for polluted areas and to log their findings.
 - An example of the app's reward system is the option to score points base off their logs
- We will have a dedicated server space to maintain smooth online functionality
- Will be available on iOS and Android smartphones for free.
 - High-level software such as xCode and Belatrix will be necessary for coding the SeaSweep application.
 - Costs roughly \$5000 /yr to develop, plus labor team costs
 - To enhance the user experience, SeaSweep will require UX designers to create an appealing design for the app
 - Gamification
 - Leaderboards to compare points with friends

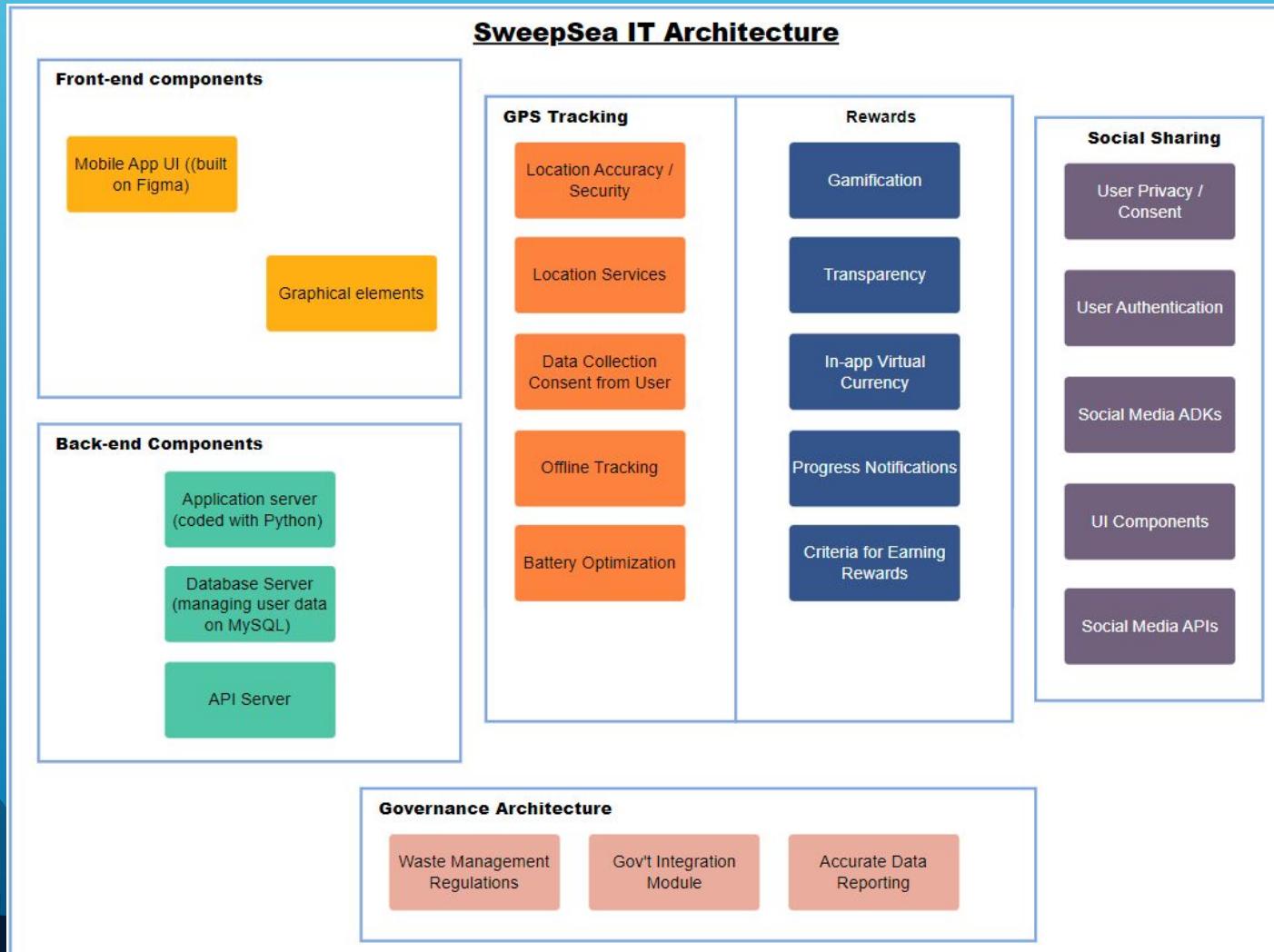
Context Diagram



Cross-Functional Flow Diagram (to be updated)



SweepSea IT Architecture





Research

| K What do we know? | W What do we want to know? | H How will we learn it? | L What have we learned? |
|---|---|--|---|
| Ocean pollution is a growing environmental issue that affects <ul style="list-style-type: none">❖ Marine life❖ Ecosystems❖ humans | What are the most significant sources of beach pollution? | Research scientific studies and reports and the impacts Consult with experts in the field of oceanography and environmental science | Preventing and bringing awareness to ocean pollution required effort from individuals, businesses, and governments |
| Plastic pollution is concerning because of the longevity of degrading and harm it causes | What can individuals and communities do to prevent beach pollution? | Browse websites of organization and initiatives focused on ocean and beach conservation | Cleaning the beaches and oceans involves a mass team effort and no one man can clean it |
| Plastic waste makes up 80% of marine debris | How effective will this be? | Read news articles and interview founders or team members of other similar organizations | Effective ways to reduce plastic waste include reducing consumption, reusing items, recycling, and switching to more sustainable alternatives |
| The app rewards users for participating in clean-up efforts | What type of clean-up efforts are rewarded? | Research and survey High school students on how they would like to be rewarded | High school students get community service hours to add to their academic career |

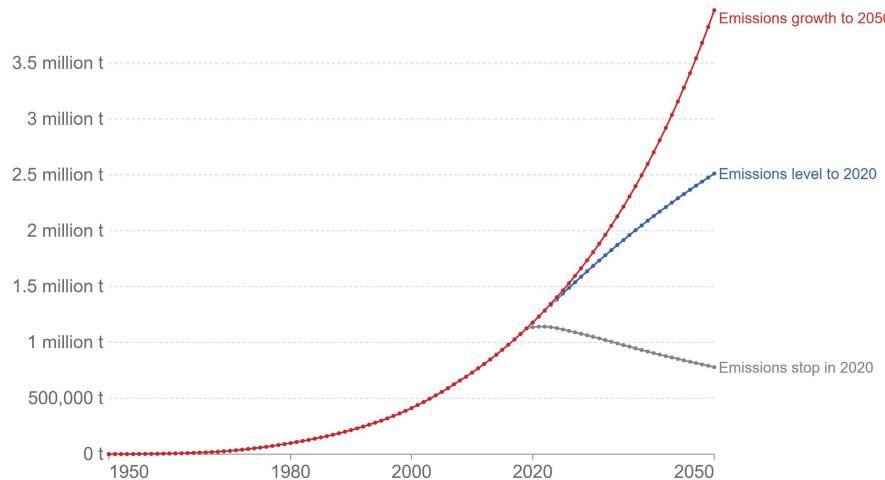


Secondary Research

Macroplastics in the surface ocean, 1950 to 2050

Macroplastics are buoyant plastic materials greater than 0.5 centimeters in diameter. Future global accumulation in the surface ocean is shown under three plastic emissions scenarios: (1) emissions to the oceans stop in 2020; (2) they stagnate at 2020 emission rates; or (3) continue to grow until 2050 in line with historical plastic production rates.

Our World
in Data

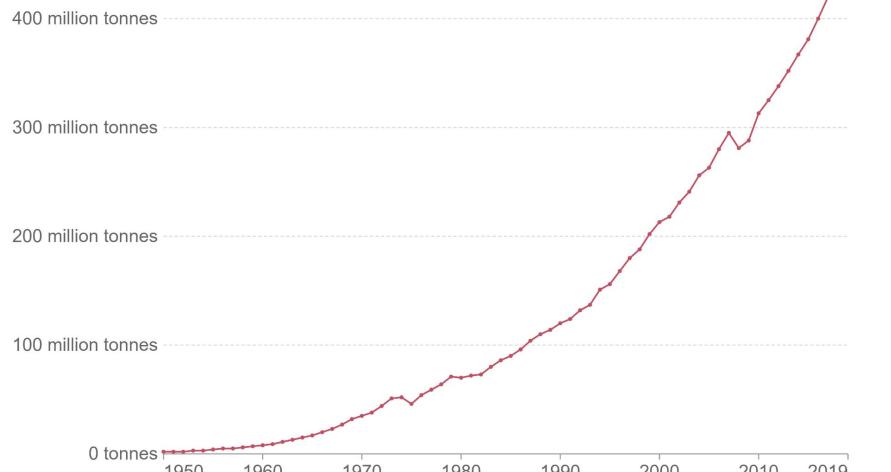


Source: Lebreton et al. (2019). A global mass budget for positively buoyant macroplastic debris in the ocean.
OurWorldInData.org/plastic-pollution • CC BY

Global plastics production

Plastic production refers to the annual production of polymer resin and fibers.

Our World
in Data



Source: Our World in Data based on Geyer et al. (2017) and the OECD Global Plastics Outlook

OurWorldInData.org/plastic-pollution • CC BY

- Macroplastics are likely the most dangerous kind of plastic because of their size
- Macroplastics are any piece of plastic larger than five millimetres in size
- They are detrimental to wildlife as some wildlife can ingest large pieces of plastic or become entangled in pieces

Secondary Market Research (Cont.)

Community Service makes a huge difference in a student's academic career

- Students applying to college are often concerned about their hours in community service
- This survey shows that 53% of admissions officers agreed that hours in community service is a tiebreaker when 2 students are relatively qualified



Primary Market Research

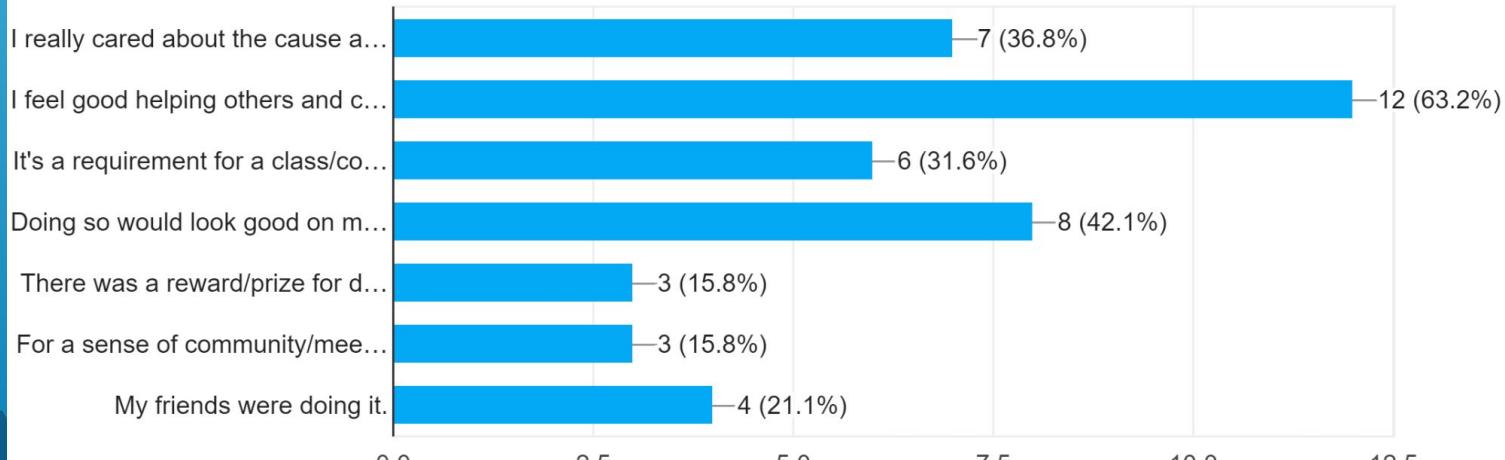
Summary

- We conducted a survey with our targeted demographic of high school students
 - We received a total of 19 responses
 - information we've gathered from this survey include:
 - Over 75% of respondents expressed at least some concern about climate change
 - At least 90% of respondents expressed at least some concern about ocean pollution
 - 63.2% of respondent's main incentive for volunteer work was that it feels good helping others and communities
 - The second highest reason was due to resume building and potential opportunities at 42.1% of respondents

Market Incentive For App Usage

If you do/have done volunteering work, what were your main reasons for doing so? If you haven't what WOULD your main reasons be? (Choose 2)

19 responses

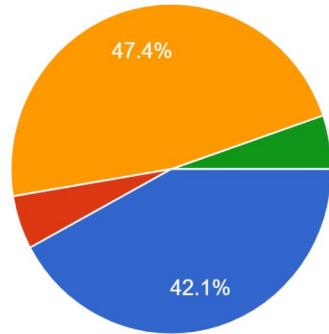




Limitations on Engagement

What would be your main reason for NOT doing volunteer work?

19 responses



- I have a busy schedule/too much time commitment.
- I don't believe in(or care about) the cause.
- I don't know my options/where to start.
- I don't get anything in return/waste of time.

Most respondent's main reason for not engaging in volunteer work was due to not having enough time on their hands or being uninformed on ways to engage

Main takeaways from our research

- Most genuinely care about the helping the environment and not just for the rewards
- Many do not know how to start, our app will make it easy for them to hit the ground running
- One of the primary reasons for not doing volunteer work is not having the time.
 - Our app is on the go and is not limited to a specific time. Our app can be accessed whenever and wherever, linking you to the nearest beach in NJ.



Analysis

SWOT Analysis

| Strength | Weakness | Opportunities | Threats |
|---|--|---|--|
| Innovative app-based solution to help encourage activists and conservation amongst high schoolers | Difficulty measuring actual impact of the clean up efforts particularly if the app is not used consistently regardless of the a log system | Growing concern and interest in environmental conservation and activism among high schoolers, emergence of youth-led climate movements | Fluctuating interest and engagement from high schoolers over time along with privacy concerns of location and parents allowing their high schoolers to use app |
| Unique gamification to incentivize pollution clean up | Reliance on user participation for success of the app, high schoolers may have limited time and competing interests | Potential to develop additional features to increase engagement and usage of the app, Social media integration or peer to peer challenges | Dependence on technology causing technical issues or glitches could discourage high schoolers |
| Strong potential with growing digital age for community engagement and participation through high schoolers | Limited to areas where high schooler shave access to beaches and other bodies of water | Extending to other countries and regions where environmental issues may be more pressing | Program may face challenges with data collection, analysis, and reporting which would be used to measure success |

SweepSea Magic Quadrant





Our App

- SweepSea gives an opportunity for high-school students primarily in New Jersey to earn community service hours as well as a reward system that include gift cards and merchandise. This is so that these students have another reason to go out and help fight against pollution.

Our Competitors

- Oceanhero serves as a challenger with their search engine that cleans one plastic bottle every five web searches. CleanSwell is an app that promotes environmental awareness by connecting users to the Ocean Conservancy's worldwide ocean trash database.
- Team Seas created by MrBeast is a strong leader as it's global campaign removed over 30 million pounds of plastic. The Ocean cleanup is also a strong leader as its been around for over 10 years cleaning up millions of plastic.
- Sea Change is placed in visionary as it is an educational app that help users learn about ocean plastic pollution and how to reduce their environmental impact.

Where are we at?

- As a start up organization, we believe that SweepSea belongs in the niche category as we are still small compared to the rest of our competitors. We however offer a twist and a rewarding system when cleaning up.

Ethics, Privacy, and Security

| | Potential Problems | Solutions | Costs |
|----------|--|---|--|
| Ethics | User might not necessarily want to have information tracked as well as not liking their location displayed on the app. | Have the user agree to having their location displayed on the app | Hire a legal team that costs \$95,000 per year |
| Privacy | Users might not want any social media app containing information attached to their account. | Option to not link social media to account | Hire a legal team that costs \$95,000 per year |
| Security | Confidential information risks potentially being stolen by hackers. | Focus heavily in ensuring users data is not in danger | Hire a cyber security that costs \$160,000 per year. |

An illustration set against a background of blue plastic waste floating in the ocean. Two business people in suits are pushing a large clock and a large gold coin, both featuring a dollar sign, through the plastic. Small fish are swimming around the debris.

Financials

Labor Costs

1. Project Management (3): **\$83,000 + 3%/yr**

- Oversees project, coordinates team
- Scrum Master: facilitates Agile development process.

2. Design (3): **\$75,000 + 3%/yr**

- UI/UX Designer: creates app interface.
- Graphic Designer: creates visuals..

3. Development (3): **\$75,000 +3%/yr**

- Front and back end Developer: codes app interface.
- Database Developer: designs and creates database.

4. Quality Assurance (2): **\$60,000/yr**

- QA Tester: ensures app quality.
- Automation Engineer: develops automated testing processes.

5. Marketing (2): **\$60,000/yr**

- Marketing Specialist: promotes app
- Social Media Manager: manages social media presence.

6. Legal Support (2): **\$75,000 + 3%/yr**

Legal Counsel: provides legal advice.

- Patent Attorney: protects app's intellectual property.

Hardware and Software Costs

Hardware cost

- Computers: \$5,000 once
- Mobile/Testing Devices: \$3,000 once
- Server hardware: \$8,000 once
- Networking equipment: \$3,200 once
- Printers and scanners: \$1,500 once

Software costs

- Development and Supporting Software: \$5,000/yr
- Operating systems: \$800 once
- Database software/support: \$2,000/yr
- Cloud services: \$800/yr

● Workspace, Legal, Insurance, and Fees

1. Coworking Office Space Rent: \$6000/mo

- Amenities, Meeting rooms, Outdoor Space
- Furniture (not including tech) \$6000 single payment

2. Cell phones and Service (3): \$70/phone, \$2,520/yr

- For customer calls and business communications

3. App Integration Fees

- Android Integration \$25
- IOS Integration \$99

4. Legal and Insurance

- General Liability \$2,000/yr
- Cyber Liability \$2,000/yr
- E&O Liability \$2,000/yr
- Workers Comp \$10,600/yr
- Utility Patent \$2,000 once
- Devices Insurance \$2,500/yr

5-Year Cost Spreadsheet

| | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Total |
|-------------------------------|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Labor | Project Management Team(3) | \$249,000 | \$256,470 | \$264,164 | \$272,088 | \$280,250 | \$1,321,972 |
| | Design Team (3) | \$225,000 | 231750 | 238702 | 245863 | 253239 | \$1,194,554 |
| | Development Team (3) | \$225,000 | 231750 | 238702 | 245863 | 253239 | \$1,194,554 |
| | Quality Assurance Team (2) | \$120,000 | 120000 | 120000 | 120000 | 120000 | \$600,000 |
| | Marketing Team (2) | \$120,000 | 120000 | 120000 | 120000 | 120000 | \$600,000 |
| | Legal Team (IP and Business Attorney (2) | \$170,000 | 175100 | 180353 | 185763 | 191336 | \$902,552 |
| Merchandise Production | T-shirts, Hats and Totes (\$10/unit, 500 units) | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$5,000 | \$25,000 |
| Hardware /Software | Development and Supporting Software | \$5,000 | 5000 | 5000 | 5000 | 5000 | \$25,000 |
| | Operating Systems | \$800 | - | - | - | - | \$800 |
| | Database Software + Support | \$2,000 | 2000 | 2000 | 2000 | 2000 | \$10,000 |
| | Cloud Services | \$800 | \$800 | \$800 | \$800 | \$800 | \$4,000 |
| | Computers | \$5,000 | - | - | - | - | \$5,000 |
| | Mobile/Testing Devices | \$3,000 | - | - | - | - | \$3,000 |
| | Server Hardware | \$8,000 | - | - | - | - | \$8,000 |
| | Networking Equipment | \$3,200 | - | - | - | - | \$3,200 |
| | Printers and Scanners | \$1,500 | - | - | - | - | \$1,500 |
| Workspace and Legal | Coworking Space Rent 5,000sqft + Amenities | \$72,000 | 72000 | 72000 | 72000 | 72000 | \$360,000 |
| | Furniture (desks, chairs, boards, enrichment) | \$6,000 | 6000 | 6000 | 6000 | 6000 | \$30,000 |
| | Cell Service (3) | \$2,520 | 2520 | 2520 | 2520 | 2520 | \$12,600 |
| | Basic Phones (3) | \$210 | - | - | - | - | \$210 |
| | Android App Integration | \$25 | - | - | - | - | \$25 |
| | IOS App Integration | \$99 | - | - | - | - | \$99 |
| | Worker's Compensation Insurance | \$10,600 | 10600 | 10600 | 10600 | 10600 | \$53,000 |
| | Utility Patent | \$2,000 | - | - | - | - | 2000 |
| | Insurances (Error, Cyber+ Gen. Liability | \$6,000 | 6000 | 6000 | 6000 | 6000 | \$30,000 |
| | Devices Insurance | \$2,500 | 2500 | 2500 | 2500 | 2500 | \$12,500 |
| Total | - | \$1,245,254 | \$1,247,490 | \$1,274,341 | \$1,301,997 | \$1,330,484 | \$6,399,566 |

Benefits

- Our employees on salary will receive a 3% yearly increase in salary

Worker's compensation and benefits are a package we offer for all employees

Most employees have the option to work remotely



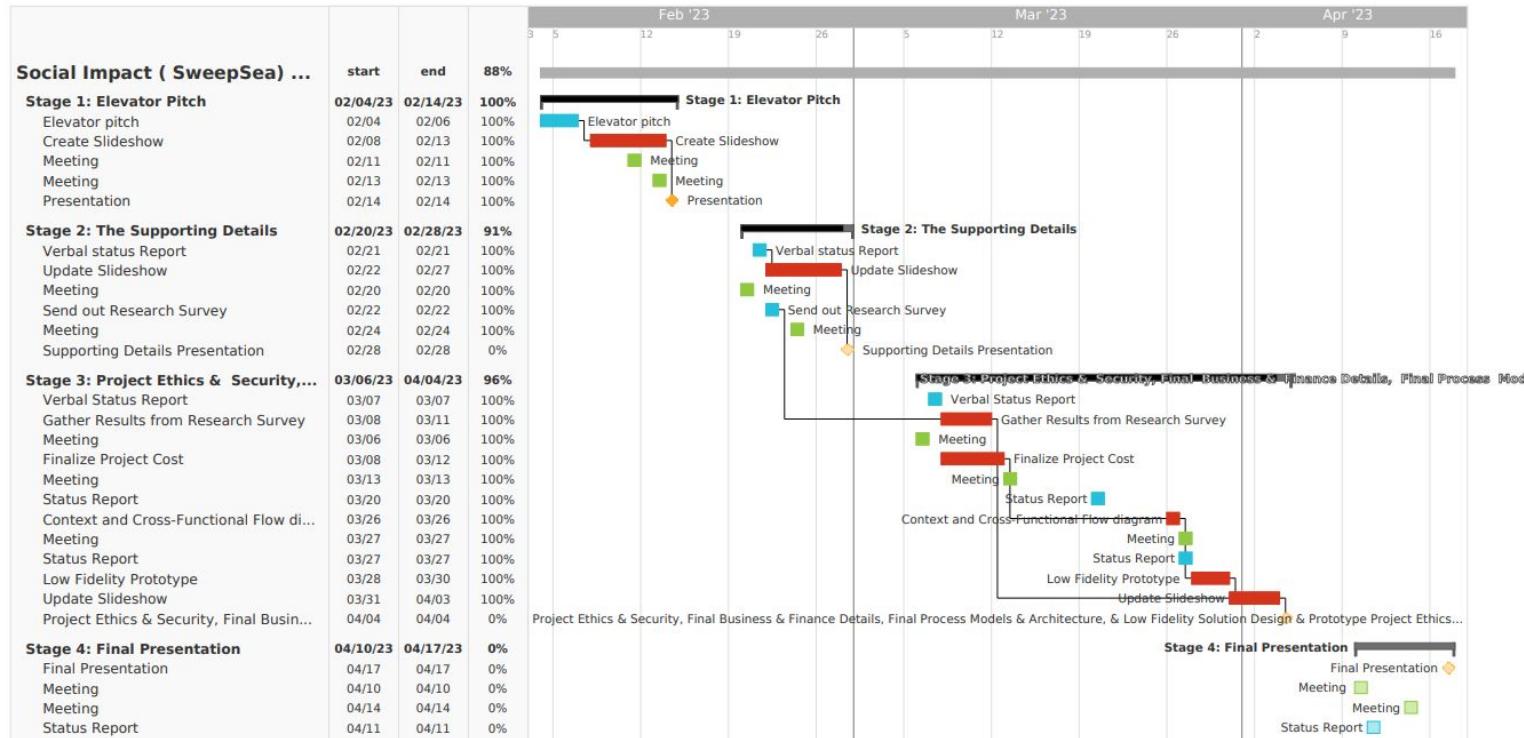
Revenue Streams

1. Donations
 - Flow from large corporations **\$15,000/yr**
 - Flow from NJ based companies and events **\$20,000/yr**
 - Flow from marketing reach **\$60,000/yr**
2. Partnerships with high schools (\$25/student account/year)
 - Cost associated with bulk high school profile creation via email + ID verification
 - \$10,580/school/year based on average student count of 529 in NJ high schools
 - Given that we can partner with just 1/6 of the 512 secondary schools in New Jersey, we are looking at up to an average of **\$1,128,093/yr**
3. Merchandise
 - T-shirts, hats, and tote bags sold via Shopify
 - Given an average of 400 units sold a year (events, site visitors), for an average price of \$25, merchandise entails revenue of **\$10,000/yr**
4. Ad Revenue
 - Ad views and clicks generate revenue as users spend time on the app
 - Given 30 ad sponsors distributed on our app and webpage, the rate of \$14.2/1000 views, we're looking at **\$19,222/yr** (calculated based on total students expected to use our app yearly)

Total: +\$1,252,315, expected yearly increase

Gantt Chart

teamgantt
Created with Free Edition



• Final Roles

| | Primary Role | Secondary Role(s) |
|--------|-------------------------------------|-----------------------|
| Fiza | Presentation/Document Manager | Financial Analysis |
| Azizz | Business Analysis/Context Modelling | Team Leader |
| Darren | UX/UI Design | Market Research |
| Lee | Prototype Development | Project Manager |
| Mike L | Cross-functional process model | UX/UI Design |
| Mike F | Prototype Development | Market Research |
| Omar | Business Analysis/Context Modelling | Market Research |
| Jiawei | UI/UX Design | Prototype Development |

Blue: Leadership and Management

Yellow: Business Analysis

Green: Solution Design and Development

Detailed Appendices

- <https://www.publicschoolreview.com/school-size-stats/new-jersey#:~:text=The%20public%20school%20in%20New,Charter%20School%20with%206%2C298%20students>. Average public school size in NJ
- <https://www.businessofapps.com/ads/research/mobile-app-advertising-cpm-rates/>
- <https://www.condorferries.co.uk/marine-ocean-pollution-statistics-facts>
- <https://blog.padi.com/11-inspiring-quotes-thatll-make-you-want-to-protect-the-ocean/>
- <https://www.nrdc.org/stories/beach-pollution-101>
- <https://courses.lsa.umich.edu/healthy-oceans/group-1/group-1-sub-1/plastic-pollution-and-it-s-economic-damage/>
- <https://www.sciencedirect.com/science/article/pii/S0048969722028054?via%3Dhub>
- <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>
- <https://yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/>
- <https://ourworldindata.org/plastic-pollution>
- <https://www.plasticpollutioncoalition.org/blog/2019/2/20/report-plastic-threatens-human-health-at-a-global-scale>
- <https://repository.usfca.edu/cgi/viewcontent.cgi?article=1009&context=inom>
- <https://som.yale.edu/story/2022/global-network-survey-finds-students-more-urgently-focus-on-sustainability#:~:text=A%20majority%20of%20students%E2%80%9452,the%20impacts%20of%20climate%20change.>
- <https://www.businesswire.com/news/home/20180420005010/en/Survey-College-Admissions-Officers-Sponsored-x2VOL-Verifies>

Detailed Appendices Cont:

- Survey Questions:

https://docs.google.com/forms/d/e/1FAIpQLSedJLNwUzMs5NBvbekgzvMRKmHzel8sYbsbGeGf7kEWr4QO2Q/viewform?usp=sf_link

The background of the image is a deep blue ocean scene. It features several large, translucent plastic bags of different sizes and shapes, some with handles, floating in the water. A white surgical mask is visible among the debris. Small, silhouetted fish are scattered throughout the water. In the bottom corners, there are dark, silhouetted shapes of coral reefs and rocks. The overall theme is environmental pollution.

Thanks For Listening!

SweepSea Stage

3

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KWHL Table

| K What do we know? | W What do we want to know? | H How will we learn it? | L What have we learned? |
|--|--|--|--|
| Litter and pollution are estimated 8 million metric tons of plastic, NJ has 700 water ways impaired | What specific types of litter and pollution are most found in New Jersey's bodies of water? | Conduct research studies and surveys on the types and sources of litter pollution in New Jersey's bodies of water | Plastic waste is a major contributor to ocean pollution, estimated 1.2 million tons of plastic generated each year |
| New Jersey has over 700 waterways listed as impaired by New Jersey Department of Environmental Protection | What percent of active High School students are actively involved in environmental activism and volunteer? | Survey high school students in New Jersey to better understand their interests and motivations | High School students are a key demographic for SweepSea's mission, due to passion about environment |
| High school students are interesting, Pew Research Center 70% of US teens say climate change is major threat | How can SweepSea effectively partner with local organizations to incentivize clean-up efforts, and successful strategies for app | Conduct case studies of successful environmental non-profit organizations and initiatives to learn from their strategies and tactics | SweepSea offers rewards to users who participate in clean-up efforts, successful strategies for app and user engagement use reward |

Primary Market Research

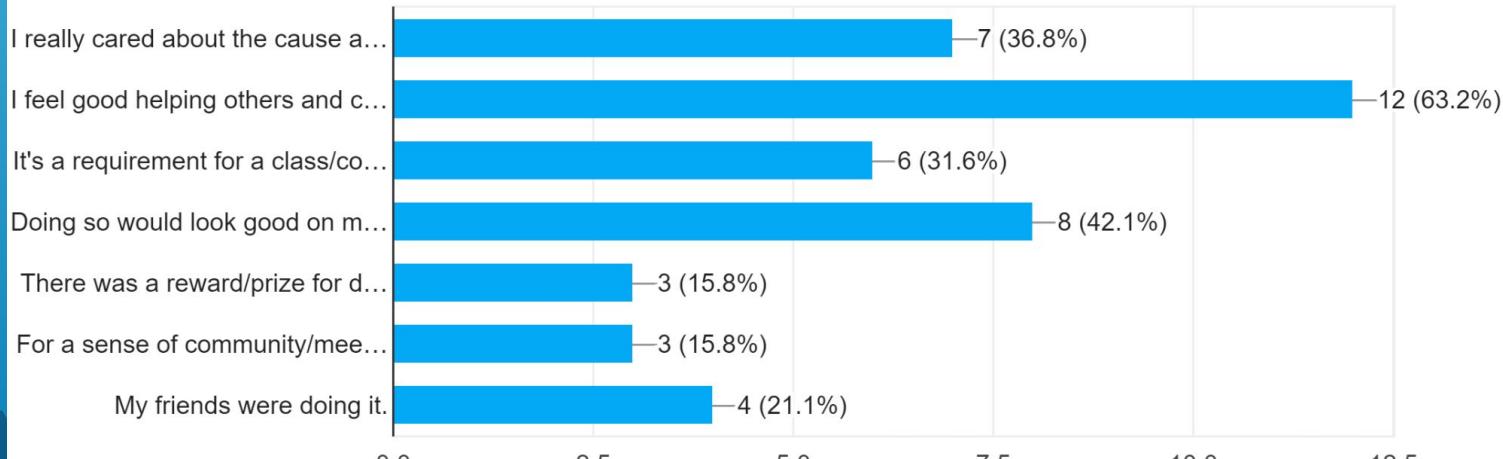
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 - The second highest reason was due to resume building and potential opportunities at 42.1% of respondents

Market Incentive For App Usage

If you do/have done volunteering work, what were your main reasons for doing so? If you haven't what WOULD your main reasons be? (Choose 2)

19 responses

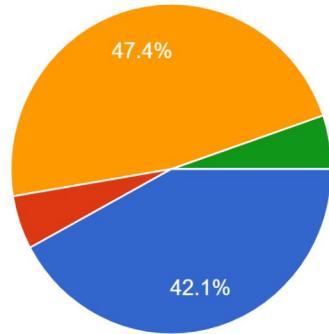




Limitations on Engagement

What would be your main reason for NOT doing volunteer work?

19 responses



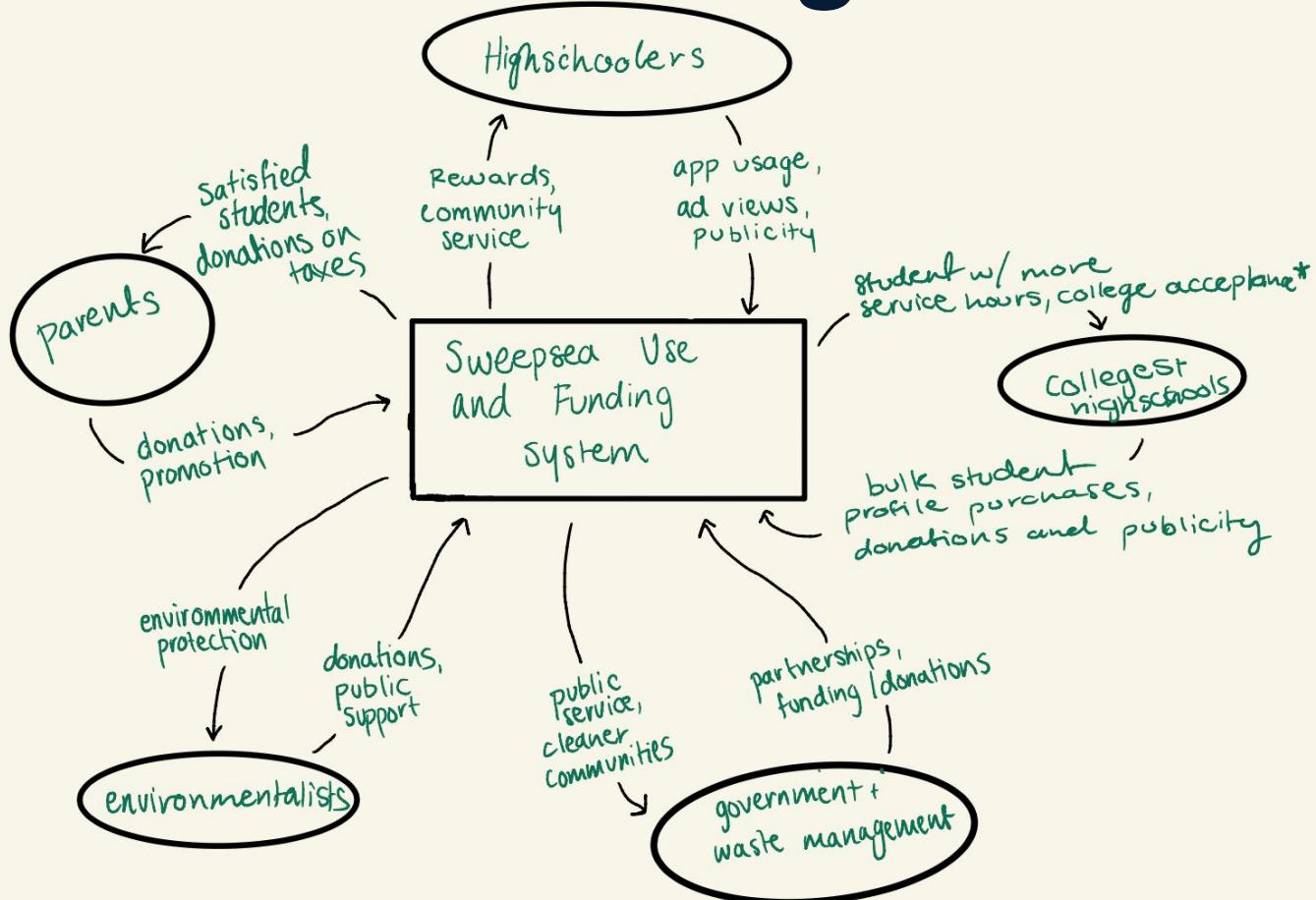
- I have a busy schedule/too much time commitment.
- I don't believe in(or care about) the cause.
- I don't know my options/where to start.
- I don't get anything in return/waste of time.

Most respondent's main reason for not engaging in volunteer work was due to not having enough time on their hands or being uninformed on ways to engage

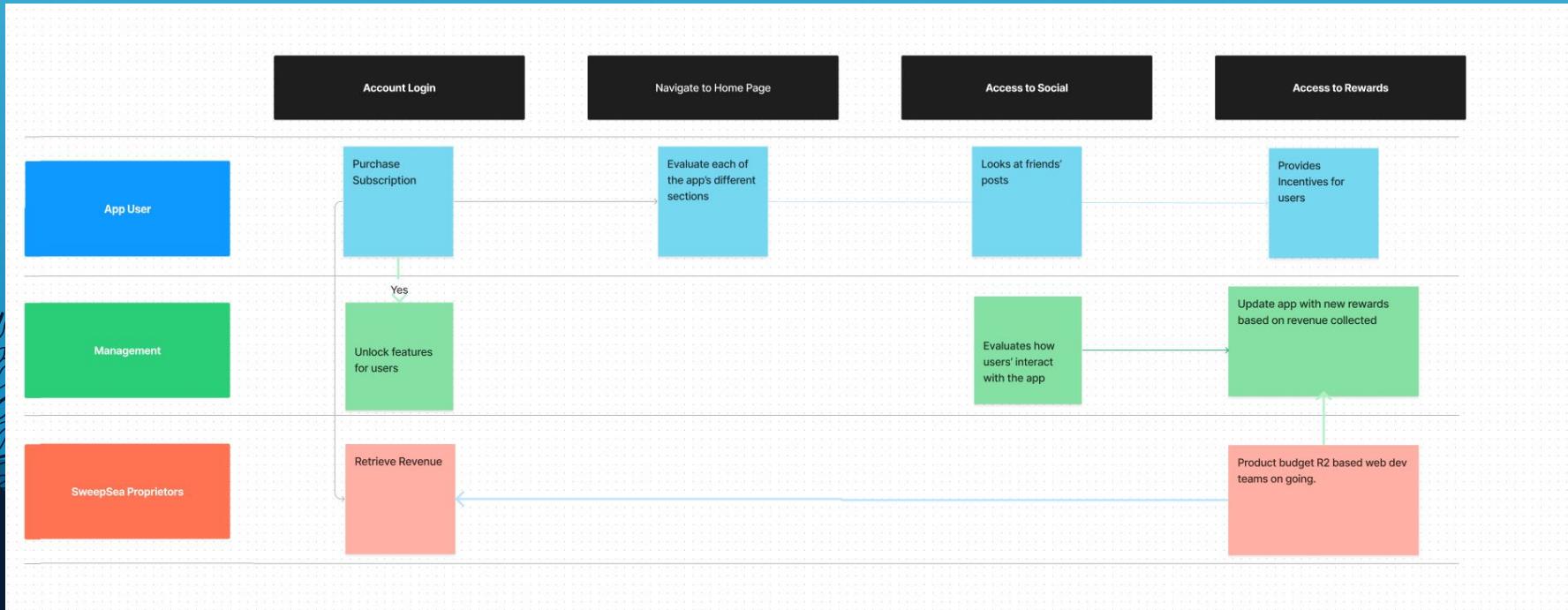
Main takeaways from our research

- Most genuinely care about the helping the environment and not just for the rewards
- Many do not know how to start, our app will make it easy for them to hit the ground running
- One of the primary reasons for not doing volunteer work is not having the time.
 - Our app is on the go and is not limited to a specific time. Our app can be accessed whenever and wherever, linking you to the nearest beach in NJ.

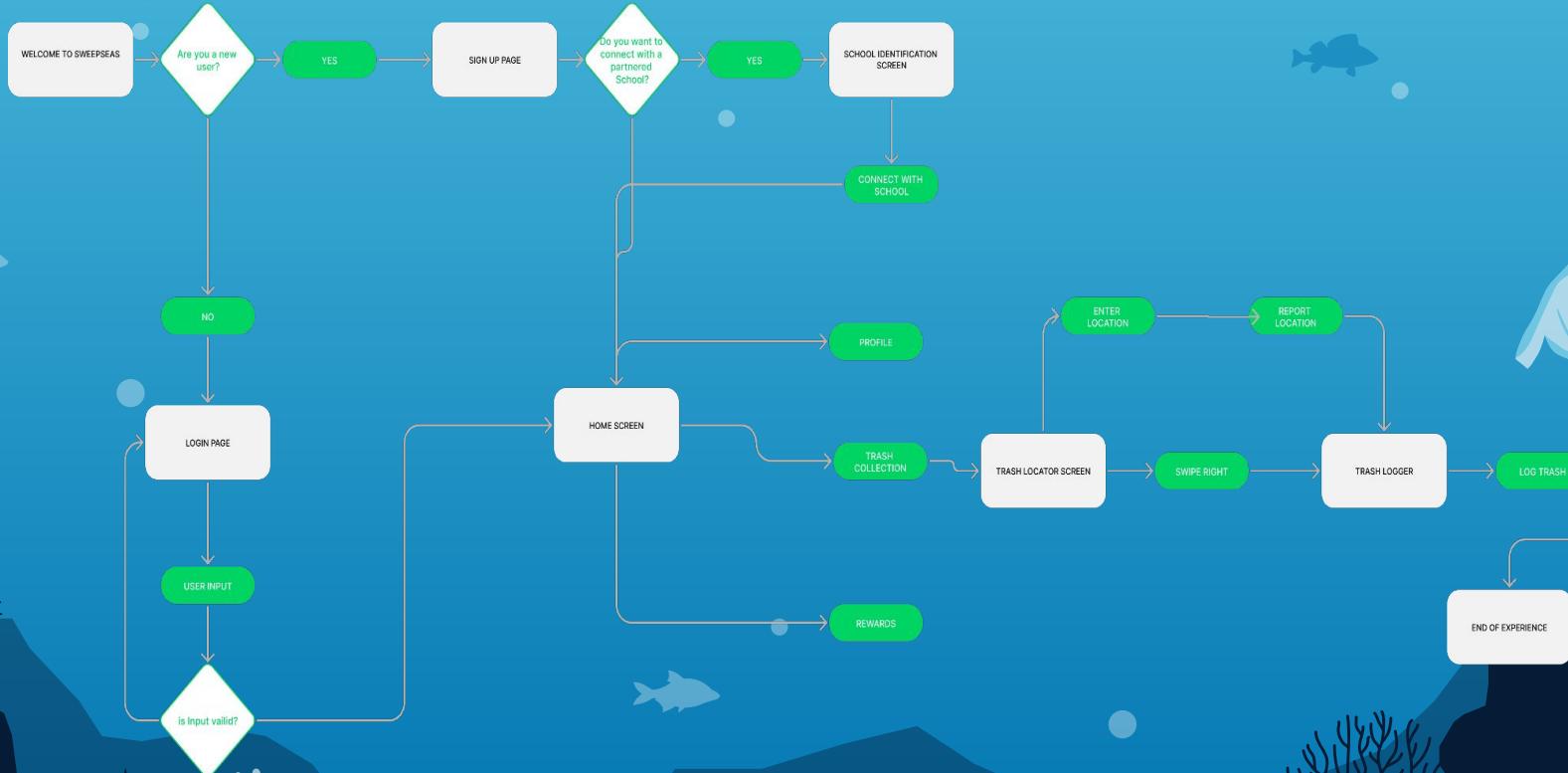
Context Diagram



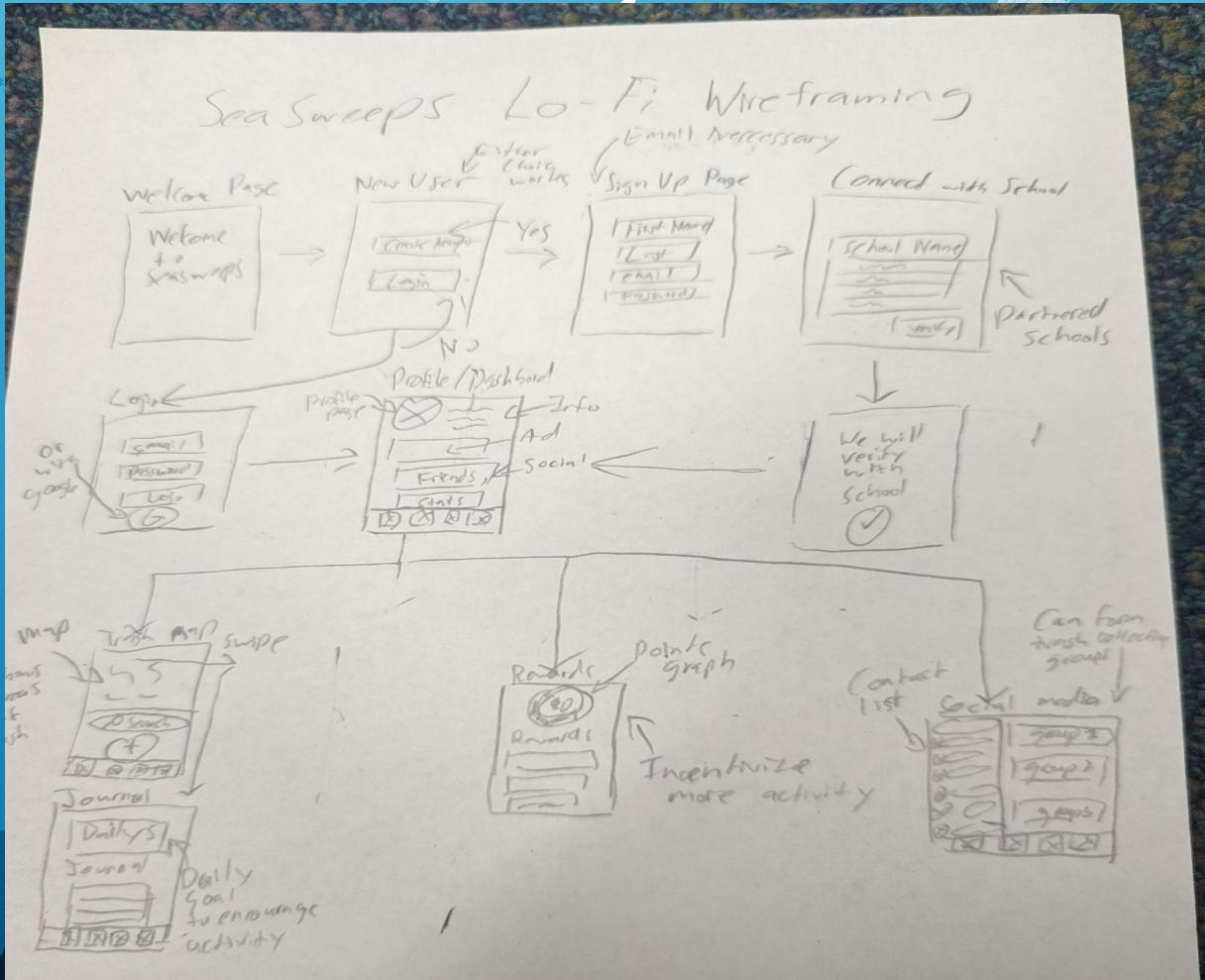
Cross-Functional Flow Diagram



Process Flow Diagram



Low fidelity Sketch



Low fidelity Mockup

The image displays a series of six mobile application screens for a platform called "SweepSeas".

- Welcome To SweepSeas!**: The landing screen featuring a "Login" section with fields for Email Address and Password, and options for Remember Me and Forgot Password. It also includes a "LOGIN" button, an "Or" link, and a "Login with Google" button. A "SIGN UP" link is at the bottom.
- Sign up**: The registration screen asking for First Name, Last Name, Email Address, and Password. It includes a "Next" button at the bottom.
- Map**: The main collection interface showing a map with several trash can icons. It includes a "Report Area" button, a "Search" bar, and a large central "Add Item" button. Navigation tabs at the bottom include Locator, Log Trash, Rewards, and Dashboard.
- Pollution Log**: A summary screen showing a "Daily Goal" progress bar (30/60 Collected) and a total of "30 Total Items Collected Today". It lists "Today's Entries" with columns for Trash Type, Location, and Time.
- Points and Rewards**: A rewards section showing "320 points" collected, with a goal of "80 more till 400 point prize!". It lists various reward items: \$10 McDonalds Gift Card- 100 pts, \$10 Starbucks Gift Card- 100 pts, \$10 Target Gift Card- 100 pts, and \$50 Dunkin Gift Card- 500 pts. Navigation tabs at the bottom include Locator, Log Trash, Rewards, and Dashboard.
- Dashboard**: The user profile and main navigation screen. It shows the user's name (Eric Jones), days since joined (91 Days Since Joined), and status (Status: Online). It includes sections for Collaboration/Advertisements, Friends List, and Stats/History. Navigation tabs at the bottom include Locator, Log Trash, Rewards, and Dashboard.

Completed Project Costs - labor

Software Development Team (3 People)-**\$285K** / Year

UI/UX Design Team (2 People)-**\$180K** / Year

Cybersecurity Team (2 People)-**\$160K** / Year

Customer Support Team (3 People)-**\$105K** / Year

Marketing Team (2 People)-**\$118K** / Year

Finance Team (1 Person)-**\$75K** / Year

Human Resources Team (1 Person)-**\$55K** / Year

Legal Team (1 Person)-**\$125K** / Year

Entire team is **\$1,093,000**
per year



IT Services & Equip.

Hardware (PC/Laptop, Monitor, Keyboard, Mouse): **\$1,800**

E-commerce Platform (Shopify): **\$348/year**

Payment Gateway (Stripe): **\$420/year**

Email Marketing Service (Mailchimp): **\$300/year**

Social Media Management Tool (Hootsuite): **\$588/year**

Cloud Storage (Google Drive): **\$120/year**

Website Hosting (Bluehost): **\$300/year**

Website Maintenance : **\$2,400/year**

Graphic Design Tool (Canva): **\$120/year**

Total: **\$5,196** for the first year, and **\$4,256** for each following year

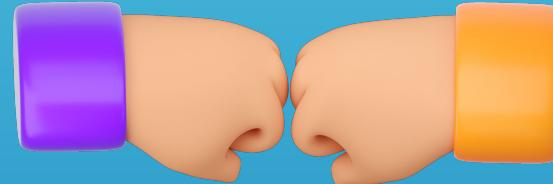


Summary Impact of Stage 3

- Developed Low-fidelity prototypes
- Began working on High-fidelity prototype
- Created Cross-Functional Flow Diagram
- Created KWHL table
- Created Context Diagram
- Updated Elevator pitch, project subscription
- Assigned roles for Stage 4

Final Role assignment

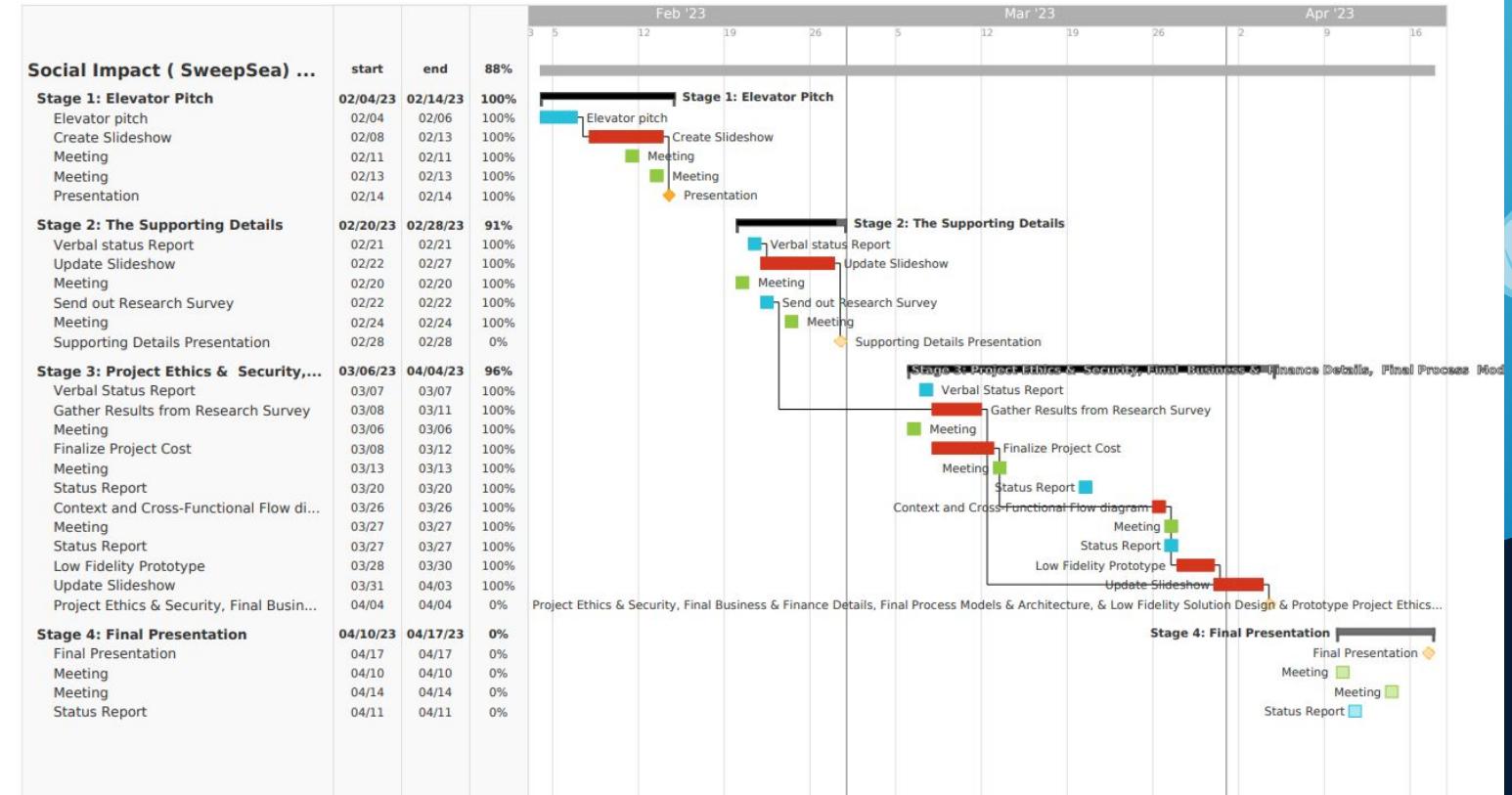
| | Primary Role | Secondary Role(s) |
|--------|-------------------------------------|-----------------------|
| Fiza | Presentation/Document Manager | Financial Analysis |
| Azizz | Business Analysis/Context Modelling | Team Leader |
| Darren | UX/UI Design | Market Research |
| Lee | Prototype Development | Project Manager |
| Mike L | Cross-functional process model | UX/UI Design |
| Mike F | Prototype Development | Market Research |
| Omar | Business Analysis/Context Modelling | Market Research |
| Jiawei | UI/UX Design | Prototype Development |



- Blue: Leadership and Management
- Yellow: Business Analysis
- Green: Solution Design and Development

Gantt Chart

teamgantt
Created with Free Edition



Next Steps

- High Fidelity Prototype
- Prepare for Stage 4 Presentation
- Reflect

Works Cited

1. <https://www.condorferries.co.uk/marine-ocean-pollution-statistics-facts>
2. <https://blog.padi.com/11-inspiring-quotes-thatll-make-you-want-to-protect-the-ocean/>
3. <https://www.nrdc.org/stories/beach-pollution-101>
4. <https://courses.lsa.umich.edu/healthy-oceans/group-1/group-1-sub-1/plastic-pollution-and-it-s-economic-damage/>
5. <https://www.sciencedirect.com/science/article/pii/S0048969722028054?via%3Dhub>
6. <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>
7. <https://yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/>
8. <https://ourworldindata.org/plastic-pollution>
9. <https://www.plasticpollutioncoalition.org/blog/2019/2/20/report-plastic-threatens-human-health-at-a-global-scale>
10. <https://repository.usfca.edu/cgi/viewcontent.cgi?article=1009&context=inom>
11. <https://som.yale.edu/story/2022/global-network-survey-finds-students-more-urgenly-focused-sustainability#:~:text=A%20majority%20of%20students%E2%80%9452,the%20impacts%20of%20climate%20change.>
12. <https://www.businesswire.com/news/home/20180420005010/en/Survey-College-Admissions-Officers-Sponsored-x2VOL-Verifies>

SweepSea Stage

2

Fiza, Omar, Darren, Lee, Mike F., Mike L., Jiawei, Azizz

Project Description

SweepSea is a NJ-based non-profit organization aiming to solve the problem of litter and polluted oceans by connecting people to an app that identifies pollution nearby and rewards for clean-up.

We want to see our planet get cleaner and see students get connected with community service easier.



Project Pitch

SweepSea aims to reduce the effects of litter and polluted bodies of water by presenting an app is able to log and locate polluted areas in need of attention.

- Over the past years, climate change has been increasingly detrimental to the environment.
- Approximately 8 **million** tons of plastic enters our nation's oceans every year.

Sweepsea is a non-profit organization whose main function is presented via app available on both IOS and Android. SweepSea's vital users are college students in New Jersey that want community service hours. They can log polluted areas of concern, claim spots to clean up alone, or with a group.

SweepSea will require designers for the app, access to GPS/location, and phone cameras for capturing and logging areas of concern.

With college students all around the states, we're hoping to see less pollution and litter in America. **The change starts with U!**

The background of the slide features a stylized illustration of an underwater environment. It includes light blue, translucent plastic bags or debris floating in the water. Small, dark blue silhouettes of fish are scattered throughout the scene. In the bottom corners, there are dark blue, branching silhouettes of sea plants like coral reefs and kelp. A complex network graph is overlaid on the left side of the slide, consisting of numerous small, colored circular nodes (orange, teal, purple, green) connected by thin lines, representing data connections or relationships.

01: Research

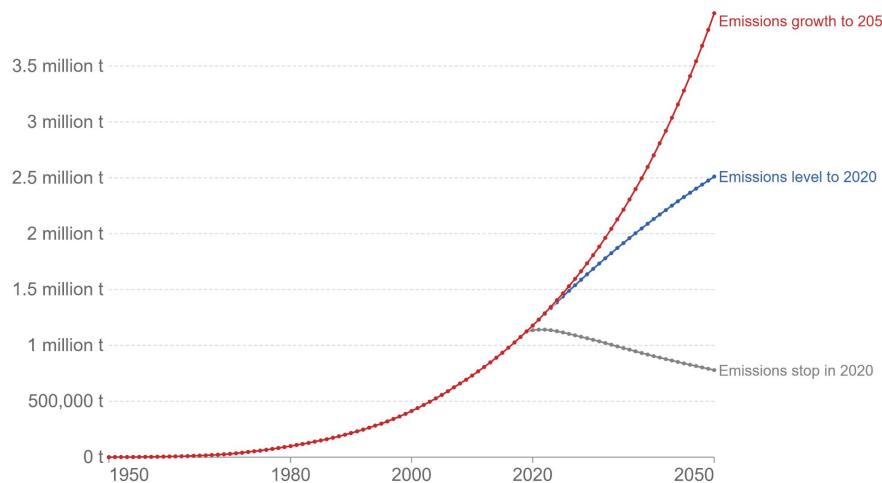


Secondary Market Research

Macroplastics in the surface ocean, 1950 to 2050

Macroplastics are buoyant plastic materials greater than 0.5 centimeters in diameter. Future global accumulation in the surface ocean is shown under three plastic emissions scenarios: (1) emissions to the oceans stop in 2020; (2) they stagnate at 2020 emission rates; or (3) continue to grow until 2050 in line with historical plastic production rates.

Our World
in Data

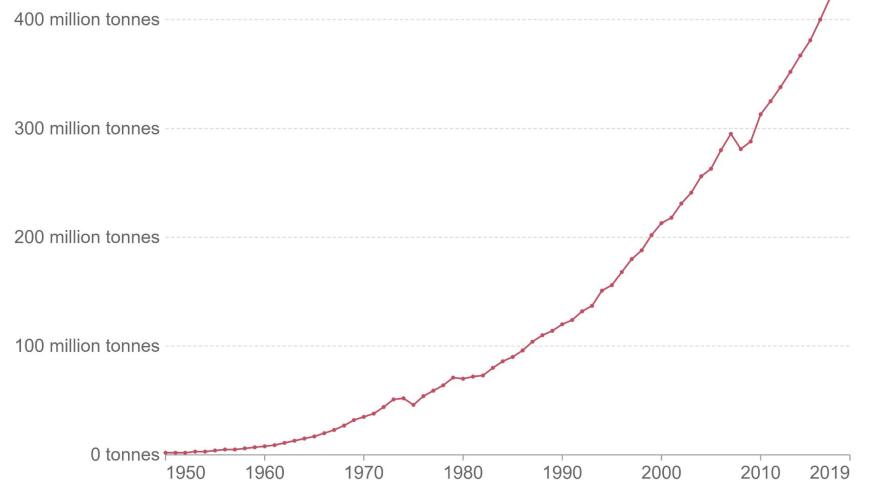


Source: Lebreton et al. (2019). A global mass budget for positively buoyant macroplastic debris in the ocean.
OurWorldInData.org/plastic-pollution • CC BY

Global plastics production

Plastic production refers to the annual production of polymer resin and fibers.

Our World
in Data



Source: Our World in Data based on Geyer et al. (2017) and the OECD Global Plastics Outlook

OurWorldInData.org/plastic-pollution • CC BY

- Macroplastics are likely the most dangerous kind of plastic because of their size
- Macroplastics are any piece of plastic larger than five millimetres in size
- They are detrimental to wildlife as some wildlife can ingest large pieces of plastic or become entangled in pieces

Secondary Market Research (Cont.)

Community Service makes a huge difference in a student's academic career

- Students going to college are often concerned about their hours in community service
- This survey shows that 53% of admissions officers agreed that hours in community service is a tiebreaker when 2 students are relatively qualified



Secondary Market Research (Cont.)

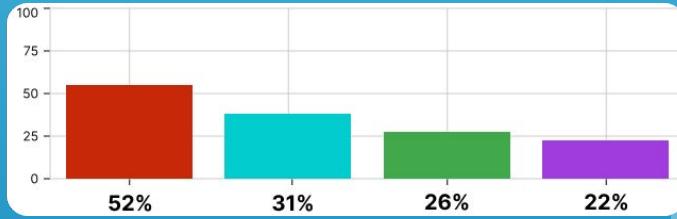
Volunteering Rates amongst College Students

- At least **one-half** of the students had participated in some type of volunteer activity in high school or college, but the amount of time they spent volunteering was relatively low.
- Younger people are more interested in using volunteer work as **a means for personal growth and fulfillment, to obtain job training, and to explore career options**

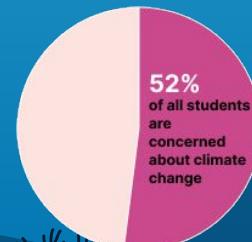
Environmental Concerns

- A majority of students—52%—are very or extremely concerned about the impacts of climate change.
- Asked to prioritize topics that business leaders should be knowledgeable about, however, students ranked sustainability below business domains like finance and operations.

Reasons to Volunteer amongst College Students(CIRP Survey)



= "It gives me a sense of satisfaction to help others."
= "learning to relate to different types of people"
= "it upsets them to see people in need"
= "part of their religious beliefs"



Primary Market Research Plan

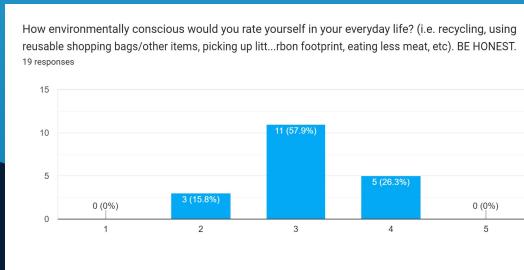
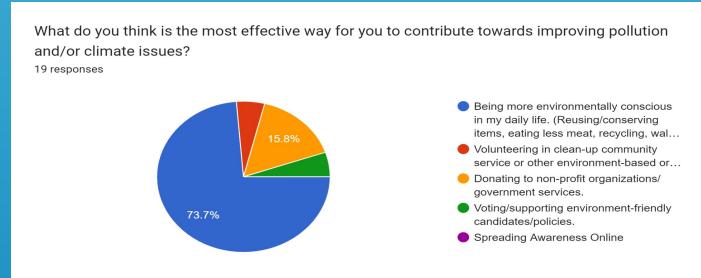
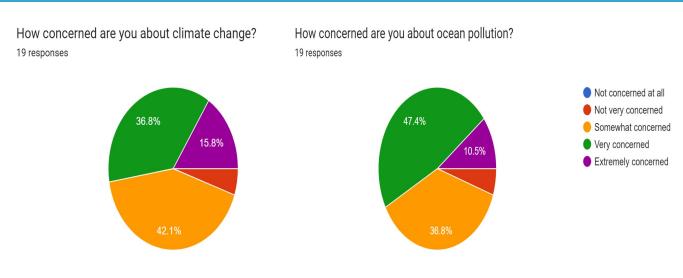
- For our Primary Market Research, we will be conducting a survey through google forms. Our Target demographic for our survey will be college students, specifically Rutgers students as they are the most accessible people to survey.
 - Generally targeting **ALL** college students, try to get a mix of students dependent on major and organization(**i.e fraternities/sororities**) for more diverse perspectives.
 - Two main themes: **Environmental Issues/Habits** and **Volunteering Habits**.
- The type of questions will be:**
- How concerned are you about climate change?
 - How concerned are you about ocean pollution?
 - How environmentally conscious would you rate yourself in your everyday life
 - What do you think is the most effective way for you to contribute towards improving pollution and/or climate issues?
 - How often do you partake in volunteering/community service?
 - If you do/have done volunteering work, what were your main reasons for doing so?
If you haven't what **WOULD** your main reasons be?
 - What would be your main reason for NOT doing volunteer work?



| K What do we know? | W What do we want to know? | H How will we learn it? | L What have we learned? |
|---|---|--|---|
| Ocean pollution is a growing environmental issue that affects <ul style="list-style-type: none"> ❖ Marine life ❖ Ecosystems ❖ humans | What are the most significant sources of beach pollution? | Research scientific studies and reports and the impacts Consult with experts in the field of oceanography and environmental science | Preventing and bringing awareness to ocean pollution required effort from individuals, businesses, and governments |
| Plastic pollution is concerning because of the longevity of degrading and harm it causes | What can individuals and communities do to prevent beach pollution? | Browse websites of organization and initiatives focused on ocean and beach conservation | Cleaning the beaches and oceans involves a mass team effort and no one man can clean it |
| Plastic waste makes up 80% of marine debris | How effective will this be? | Read news articles and interview founders or team members of other similar organizations | Effective ways to reduce plastic waste include reducing consumption, reusing items, recycling, and switching to more sustainable alternatives |
| The app rewards users for | What type of clean-up | Research and survey | College students get |

Primary Market Plan

- For our Primary Market Research, we created a survey and sent it to student around campus.
- We asked students questions pertaining to environmental concerns alongside volunteering habits.



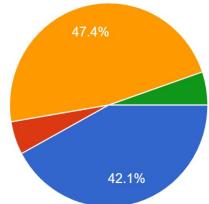
- Both Climate Change and Ocean Pollution were things students were relatively concerned with. **However**, there was **MORE concern for ocean pollution**.
- Being more Environmentally Conscious** was the solution that people thought was the most important solution towards climate issues, leading with 73.7%. This was followed by donating to non-profit organizations, which was 15.8%.
- In terms of being environmentally conscious, **more than half** of people rated themselves as 3, around 25% as a 4.

Primary Market Plan Part 2

Over 80% of people **rarely** do volunteer work.(Or not at all)

What would be your main reason for NOT doing volunteer work?

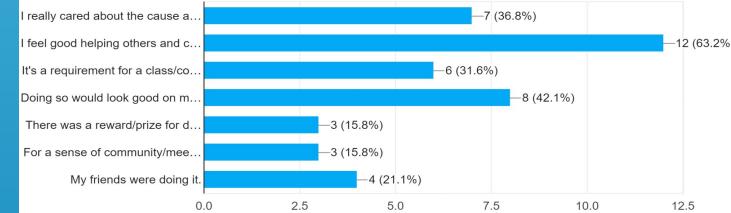
19 responses



- I have a busy schedule/too much time commitment.
- I don't believe in(or care about) the cause.
- I don't know my options/where to start.
- I don't get anything in return/waste of time.

If you do/have done volunteering work, what were your main reasons for doing so? If you haven't what **WOULD** your main reasons be? (Choose 2)

19 responses



The **top two** reason for not doing volunteering work were **split evenly** between **having a busy schedule** and **not knowing options/where to start**.

The biggest motivator for doing volunteering work were:

1. Helping out/contributing makes people feel good about themselves - **63.2%**
2. Volunteering would look good on their resume/credentials - **42.1%**
3. Caring deeply about the cause - **36.8%**



02: Analysis



Strengths

- Ethical Incentives
 - Offer useful ways to help against pollution such as community service hours



Weaknesses

- App is reliant on community engagement
 - If users aren't incentivized by the rewards, they may not engage in environmental cleanup
 - User base is targeted towards college students

Opportunities

- The points system could be expanded to include partnerships with businesses or retailers, offering discounts or other incentives to users who accumulate a certain number of points.
 - Giftcard to starbucks
- Students can show off their accumulated points to employers
- The project can use data collected from the app to identify areas where pollution is most prevalent, which could influence future environmental policy decisions.

Our biggest threats

- Competition
 - Similar apps exist that challenge users to pick up trash and contribute to a cleaner environment
- Legal hurdles (users potentially roaming onto forbidden premises)
 - Trespassing
 - Example: "Pokemon Go!" resulted in users trespassing onto private property

SweepSea Magic Quadrant





Our App

- SweepSea gives an opportunity for college students primarily in New Jersey to earn community service hours as well as a reward system that include gift cards and merchandise. This is so that these students have another reason to go out and help fight against pollution.

Our Competitors

- Oceanhero serves as a challenger with their search engine that cleans one plastic bottle every five web searches. CleanSwell is an app that promotes environmental awareness by connecting users to the Ocean Conservancy's worldwide ocean trash database.
- Team Seas created by MrBeast is a strong leader as it's global campaign removed over 30 million pounds of plastic. The Ocean cleanup is also a strong leader as its been around for over 10 years cleaning up millions of plastic.
- Sea Change is placed in visionary as it is an educational app that help users learn about ocean plastic pollution and how to reduce their environmental impact.

Where are we at?

- As a start up organization, we believe that SweepSea belongs in the niche category as we are still small compared to the rest of our competitors. We however offer a twist and a rewarding system when cleaning up.

A stylized illustration set against a background of floating plastic bags and debris in the ocean. Two men in dark suits are pushing a large, blue and white clock and a large, gold-colored coin with a dollar sign (\$) on it across the surface. Small fish are swimming around the debris.

03: Financials

Labor Costs

1. Project Management: \$40-\$150/hr

- Oversees project, coordinates team
- Scrum Master: facilitates Agile development process.

2. Design: \$50-\$150/hr

- UI/UX Designer: creates app interface.
- Graphic Designer: creates visuals..

3. Development: \$50-\$150/hr

- Front and back -end Developer: codes app interface.
- Database Developer: designs and creates database.

4.Quality Assurance: \$30-\$80/hr

- QA Tester: ensures app quality.
- Automation Engineer: develops automated testing processes.

5. Marketing: \$50-\$150/hr

- Marketing Specialist: promotes app
- Social Media Manager: manages social media presence.

6..Legal Support: \$150-\$400/hr

- Legal Counsel: provides legal advice.
- Patent Attorney: protects app's intellectual property.

Hardware and Software Cost

Hardware cost

- Computers: \$1,500 - \$5,000
- Mobile devices: \$1,000 - \$3,000
- Server hardware: \$5,000 - \$20,000
- Networking equipment: \$1,000 - \$5,000
- Printers and scanners: \$500 - \$1,500
- Testing devices: \$1,000 - \$5,000

Software costs

- Development software: \$2,000 - \$10,000
- Operating systems: \$500 - \$1,500
- Database software: \$2,000 - \$10,000
- Cloud services: \$500 - \$5,000

Workspace, Legal, Insurance, and Fees

1. Coworking Office Space

- Rent: \$6000/mo
- Amenities, Meeting rooms, Outdoor Space
- Furniture (not including tech) \$6000 single payment
- Cell phones \$70/phone and Lines \$70/phone

2. App Integration Fees

- Android Integration \$25 (15% commission)
- IOS Integration \$99 (30% commission)

3. Legal and Insurance

- General Liability \$2000/yr
- Cyber Liability \$2000/yr
- Error & Omission Insurance \$2,000/yr
- Utility Patent \$5000 one time
- Workers Comp \$10,600/yr for 20 employees
- Utility Patent \$5000 one time
- Devices Insurance \$2500/yr

Cost Spreadsheet

| Team | | Hardware | |
|---|-----------------------|---|--------------------------------------|
| Project Management Team(3) | \$83,000/yr/employee | Computers | \$5000 one time |
| Design Team (4) | \$95,000/yr/employee | Mobile Devices | \$2,500 one time |
| Development Team (4) | \$100,000/yr/employee | Server Hardware | \$8000 one time |
| Quality Assurance Team (2) | \$60,000/yr/employee | Networking Equipment | \$3200 one time |
| Marketing Team (2) | \$60,000/yr/employee | Printers and Scanners | \$1500 one time |
| Legal Team (IP and Business Attorney (2) | \$100,000/yr/employee | Testing Devices | \$1000 one time |
| | \$1,469,000 | | \$21,200 |
| Workspace | | Insurance + Legal + Fees | |
| Coworking Space Rent 5,000sqft + Amenities | \$72000/yr | Android App Integration | \$25 one time + 15% in-app commision |
| Furniture (desks, chairs, boards, enrichment) | \$6000 one time | IOS App Integration | \$99 one time + 30% in-app commision |
| Cell Service (3) | \$840/yr/line | Worker's Compensation Insurance | \$10,600/yr |
| Basic Phones (3) | \$70/one time/phone | Utility Patent | \$2000 one time |
| | \$80,730 | Insurances (Error, Cyber+ Gen. Liability | \$6,000/yr |
| Software | | Devices Insurance | \$2,500/yr |
| Development Software | \$5000/yr | | |
| Operating Systems | \$800 one time | Total First Year | \$1,600,754 |
| Database Software + Support | \$2000/yr | Total Next Years (minus one time fees) | \$1,570,420 |
| Cloud Services | \$800/yr | | |
| | \$8,600 | | |



• Benefits for Our Audience & SweepSea

We are providing a new software and design using already existing technology. This limits our costs and strain on design.

We are a non-profit organization and our main goal is to support student and see the planet change for the better. This benefits the audience as it does us. We are attracting investors and corporations that offer grants to nonprofits.





04: Planning



Stakeholders

- Our stakeholders have changed! WE, the SweepSea team, are stakeholders. We would like to see SweepSea succeed.

Summary Impact

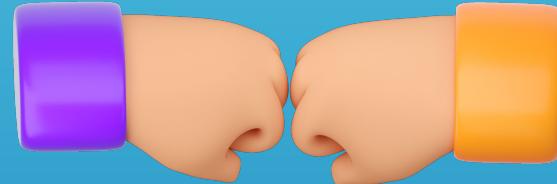
Target Audience

- We have scaled down our target audience to simply college students in New Jersey. There are plenty of students and beaches in the area, and it helps us to narrow down our reach as a start-up.

There are currently no changes our scope and pitch!

Team and Roles

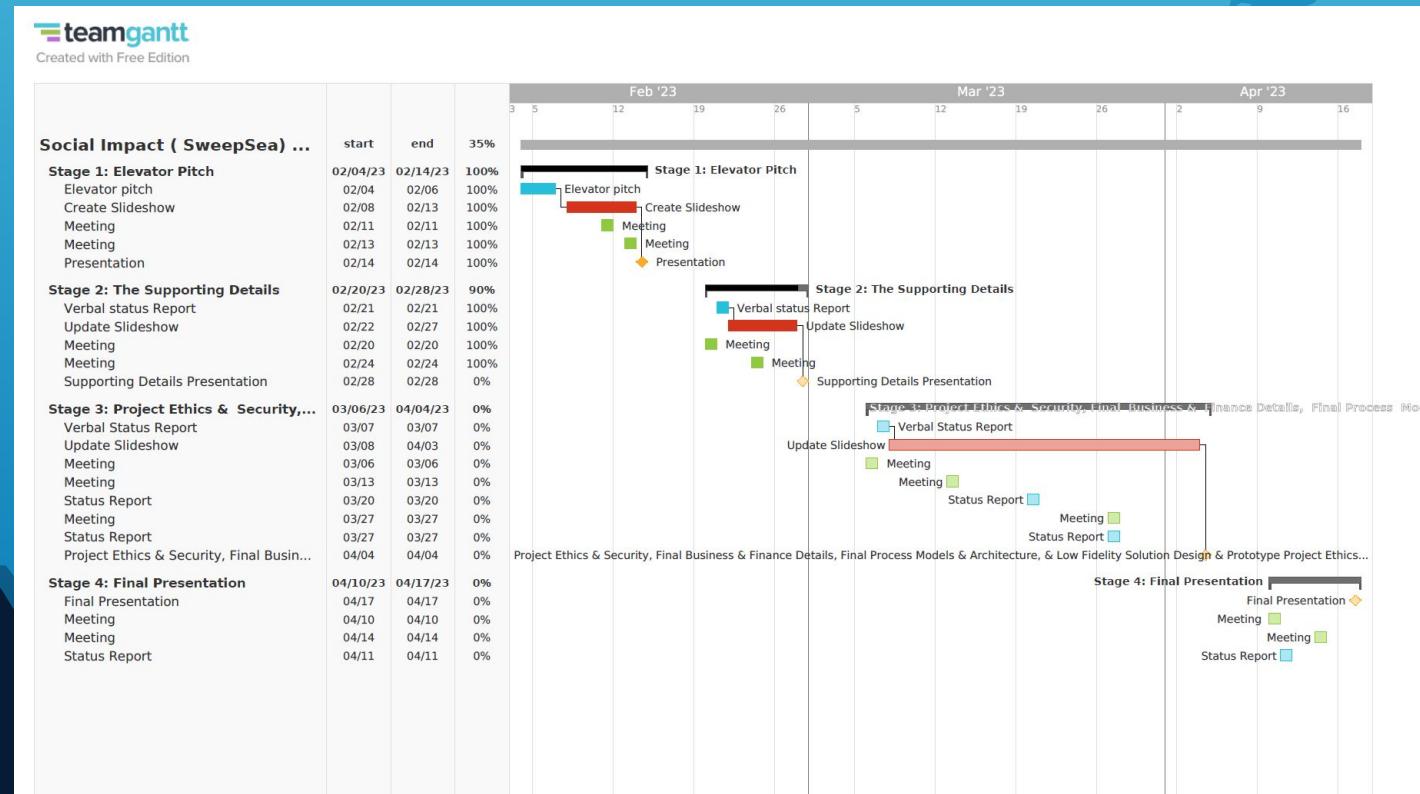
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- Blue: Leadership and Management
- Yellow: Business Analysis
- Green: Solution Design and Development



Stage 2 Expanded Gantt Chart



Project Plan: Next Steps

With the power of collaboration and support, we managed to put together strong research, financial plans. The SweepSea team is making good progress and are ready to tackle Stage 3.

CELEBRATION
OF THE CENTURY

Works Cited

1. <https://www.condorferries.co.uk/marine-ocean-pollution-statistics-facts>
2. <https://blog.padi.com/11-inspiring-quotes-thatll-make-you-want-to-protect-the-ocean/>
3. <https://www.nrdc.org/stories/beach-pollution-101>
4. <https://courses.lsa.umich.edu/healthy-oceans/group-1/group-1-sub-1/plastic-pollution-and-it-s-economic-damage/>
5. <https://www.sciencedirect.com/science/article/pii/S0048969722028054?via%3Dhub>
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7. <https://yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/>
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11. <https://som.yale.edu/story/2022/global-network-survey-finds-students-more-urgenly-focused-sustainability#:~:text=A%20majority%20of%20students%E2%80%9452,the%20impacts%20of%20climate%20change.>
12. <https://www.businesswire.com/news/home/20180420005010/en/Survey-College-Admissions-Officers-Sponsored-x2VOL-Verifies>

The background of the image is a deep blue ocean scene. It features several large, translucent plastic bags of different sizes and shapes, some with handles, floating in the water. A white surgical mask is visible among the debris. Small, silhouetted fish are scattered throughout the water. In the bottom corners, there are dark, silhouetted shapes of coral reefs and rocks. The overall theme is environmental pollution.

Thanks For Listening!

The background features stylized blue and white waves at the top, transitioning into yellow sandy beach at the bottom. Various pieces of trash are scattered across the sand, including a plastic bottle, a face mask, and a piece of trash wrapped in plastic.

*** start of Stage 1 ** upload with stage 2 slides

SweepSea

Fiza, Omar, Darren, Lee, Mike F., Mike L., Jiawei, Azizz

Table of Contents

- ★ Title Slide
- ★ Project Description
- ★ Project Pitch
- ★ Data Showing Waste Severity
- ★ Stakeholders
- ★ Quote – Environmental Advocate Robert Swan
- ★ Target Audience
- ★ Scope
- ★ Gantt Chart
- ★ Team & Roles
- ★ Works Cited



Project Description

SweepSea is a NJ-based non-profit organization aiming to solve the problem of litter and polluted oceans by connecting people to an app that identifies pollution nearby and rewards for clean-up.

We want to see our planet get cleaner and see students get connected with community service easier.



Project Pitch

SweepSea aims to reduce the effects of litter and polluted bodies of water by presenting an app is able to log and locate polluted areas in need of attention.

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- Approximately 8 **million** tons of plastic enters our nation's oceans every year.

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SweepSea will require designers for the app, access to GPS/location, and phone cameras for capturing and logging areas of concern.

With college students all around the states, we're hoping to see less pollution and litter in America. **The change starts with U!**

Data - Severity of Waste



- . Approximately 8 **million** tons of plastic enters our oceans every year.
- . There is an estimated 5.25 trillion pieces of plastic in our oceans as of today.



- . Around 1,000 species of marine animals get impacted by ocean pollution
- . 100 million marine animals die each year from plastic waste



- . Cigarette filters is the most common item from beach pickups
- . Approx. 3.5 million people get sick from water sewage from swimming, children being most vulnerable

Data Continued...

Solid Waste , especially plastics, contributes directly to **greenhouse gas emission** through **methane** generation.



Methane has **21 times** the warming potential of carbon dioxide.



Microplastics **reduce** microalgae growth and photosynthesis. This greatly **reduces** plankton's ability to **remove carbon dioxide** from atmosphere.

Carbon Dioxide accounts for **76%** of all Greenhouse Gas Emissions into the atmosphere.



\$255 Million

lost in revenue in US due to plastic pollution in 2018 alone.



Stakeholders



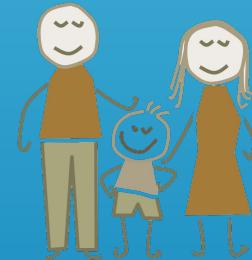
Colleges

Colleges want to see their attendees succeed and want to provide students with meaningful resources



Environmentalists

People and organizations who care about the planet are likely to support SweepSea



Parents

Some parents seeking to help their college student find community service may support SweepSea

Stakeholders Continued...



Waste Management
Private companies that collect and dispose of waste, including those that specialize in recycling and composting



Fleet Trackers

Tech companies that specialize in deploying GPS systems.



“The greatest danger to our planet is the belief
that someone else will save it.”

—Robert Swan



Target Audience

- Students in need of community service for honor society, college application, etc
- Fraternities and sororities looking for ways to take charge in their communities

Scope

- As a startup in New Jersey, our SweepSea app aims to provide college students an incentive to engage in environmental cleanup.
- The app will operate through use of GPS for users to search for polluted areas and to log their findings.
 - An example of the app's reward system is the option to score points base off their logs
- We will have a dedicated server space to maintain smooth online functionality
- Will be available on iOS and Android smartphones for free.
 - High-level software such as xCode and Belatrix will be necessary for coding the SeaSweep application.
 - Costs roughly \$100 to develop
 - To enhance the user experience, SeaSweep will require UX designers to create an appealing design for the app
 - Gamification
 - Leaderboards to compare points with friends

Team and Roles

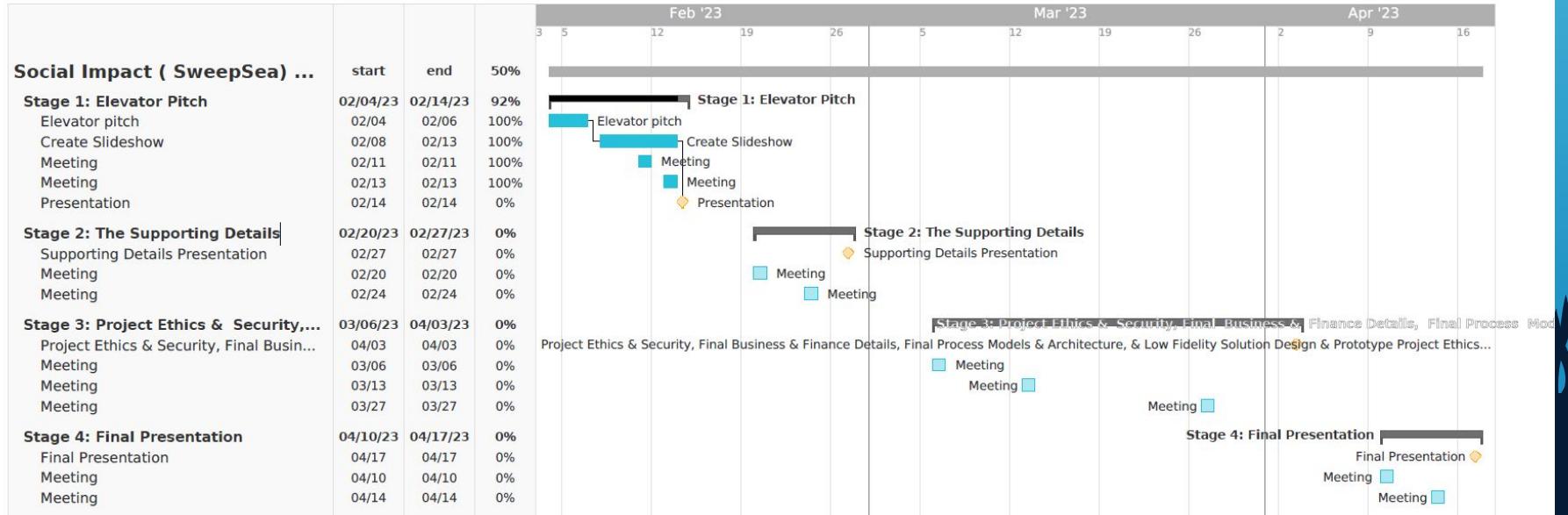
| | Primary Role | Secondary Role(s) |
|--------|-------------------------------------|-----------------------|
| Fiza | Presentation/Document Manager | Financial Analysis |
| Azizz | Business Analysis/Context Modelling | Team Leader |
| Darren | UX/UI Design | Market Research |
| Lee | Prototype Development | Project Manager |
| Mike L | Cross-functional process model | UX/UI Design |
| Mike F | Prototype Development | Market Research |
| Omar | Business Analysis/Context Modelling | Market Research |
| Jiawei | UI/UX Design | Prototype Development |

- Blue: Leadership and Management
- Yellow: Business Analysis
- Green: Solution Design and Development

Gantt Chart



Created with Free Edition



Work Cited

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2. <https://blog.padi.com/11-inspiring-quotes-thatll-make-you-want-to-protect-the-ocean/>
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4. <https://courses.lsa.umich.edu/healthy-oceans/group-1/group-1-sub-1/plastic-pollution-and-its-economic-damage/>
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6. <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data>
7. <https://yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/>
8. <https://ourworldindata.org/plastic-pollution>
9. <https://www.plasticpollutioncoalition.org/blog/2019/2/20/report-plastic-threatens-human-health-at-a-global-scale>
- 10.

The background of the image is a deep blue ocean scene. It features several large, translucent plastic bags of different sizes and shapes, some with handles, floating in the water. A white surgical mask is visible among the debris. Small, silhouetted fish are scattered throughout the water. In the bottom corners, there are dark, silhouetted shapes of coral reefs and rocks. The overall theme is environmental pollution.

Thanks For Listening!