SDG VIP - Final Presentation

Team Members:

Daksh Sharma - dsharma92@gatech.edu
Pragnya Velivela - pvelivela3@gatech.edu
Charlie Chen - cchen3413@gatech.edu
Swara Viswanadha - sviswanadha3@gatech.edu
Maryam Shah - mshah405@gatech.edu
Hibah Kazani - hkazani3@gatech.edu
Wilson Chen - wchen695@gatech.edu
Shalin Bhatia - sbhatia304@gatech.edu
Tanya Singh - tsingh87@gatech.edu

Problem Statement

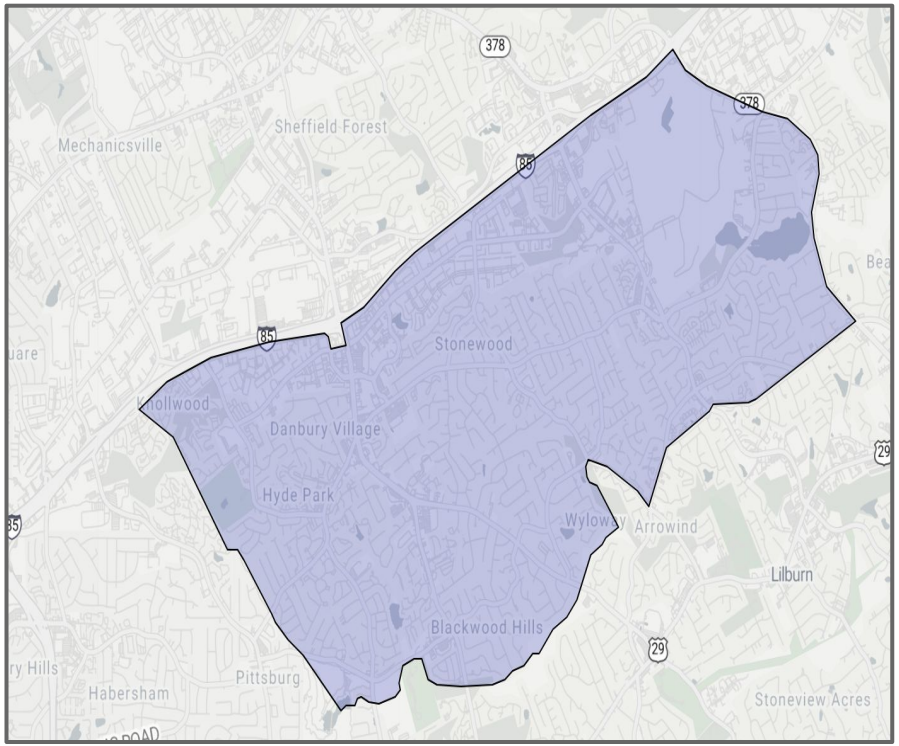
Issue - The lack of widely trusted physical solutions to bridge the digital divide, compounded by the absence of effective digital alternatives and a central control system (dashboard), hinders the comprehensive resolution of local issues.

Gap/Need - There exists a communication gap between community members with and without access to technology and city officials. There is a need for a hybrid communication model that both protects identity and makes a community's issues known to those who can fix them.

Proposed Methodology - Implement a Hybrid Communication Model by integrating our smart cities app with physical mailboxes in high traffic areas, establishing Community Hubs at local centers, integrating and analyzing feedback from both sources, and launching outreach programs for community feedback and updates.

Expected outcomes - We want to create an online application and physical mailboxes that would allow for a freer flow of information between city officials and the people they serve.

Geographical and Demographic Info: District 98



Value Proposition

What is the audience paying for?

Community members:

- Easy access to communication with officials
- Fast resolution of public safety issues
- Inclusivity for those who are less digitally literate

City officials:

- Improved trust and transparency with city members
- Data-driven decision making to improve community engagement

How we plan to increase willingness to pay

- Emphasize financial benefits of streamlining issue resolution within the community
- Highlight social benefits as well, more public support and voter support as well

Making it economically attractive

- Partner with existing communities (grocery stores, churches, libraries, etc) to reduce infrastructure costs
- To generate revenue, add marketing/ad placements on the mailboxes

Community Relations

What Local Impact Have We Had?

Community Relations Update

The target market includes city governments and urban planners who seek inclusive community feedback solutions to enhance civic engagement and address local issues. Additionally, potential investors are:

1. **Technology-Focused Venture Capital Firms**: Interested in early-stage, high-growth tech companies that offer innovative solutions to societal challenges, such as Sequoia Capital, Andreessen Horowitz, and Accel.
2. **Impact Investing Funds**: Focus on investments with positive social or environmental outcomes, aligning with the project's emphasis on community engagement and service improvement. Examples include KKR & Co., TPG Rise Climate, and BlackRock Impact Funds.
3. **Smart City Development Companies**: Companies that implement smart city solutions could integrate the hybrid communication model into their project portfolios. Examples are Sidewalk Labs (Alphabet), Cisco Systems, and IBM.

Financial Considerations for Target Market and Investors

1. Market Potential and Revenue Projections:

- **Total Addressable Market (TAM):** The global smart city market is projected to grow to $873.7 billion by 2030, reflecting increased investment in urban innovation and digital transformation.
- **Revenue Streams:**
  - Subscription-Based Licensing: Licensing tailored software to urban planners and city officials to optimize planning decisions.
  - Consulting Fees: Offering customized solutions for cities and regions seeking smart city integrations.
  - Pay-Per-Use Models: Charging municipalities based on the scale of solutions implemented, like per-user fees for civic platforms.
  - Local Business and Grocery Sponsorships: Partnerships with grocery stores and local businesses to provide services like food delivery, small business integration, or promotional activities tied to smart city systems.
  - Public-Private Partnerships (PPPs): Collaborating with government bodies and private companies to co-fund and deploy the solution.

2. Funding Opportunities

- **Technology-Focused Venture Capital**:
  - Similar startups backed by Sequoia Capital and others raised an average of $10 million in Series A funding in 2023.
  - VCs show interest in scalable civic engagement tools, emphasizing recurring revenue and impact-driven metrics.
- **Impact Investing Funds**:
  - Initiatives like TPG Rise Climate's $1 billion budget allocated to urban innovation in 2024 highlight growing support for sustainable and community-driven tech solutions.
  - Projects with measurable social impacts, such as increasing civic participation or promoting sustainable city management, command 15-30% higher valuations.

Financial Considerations for Target Market and Investors

3. Financial Partnership Opportunities

- **Corporate Partnerships**: Companies like Sidewalk Labs invest $400 million annually in urban tech. Partnerships offering clear ROI benefits (e.g., hybrid communication models enhancing project ROI by 20%) are attractive.
- **Government Initiatives**: Programs like the **Community Reinvestment Act (CRA)** encourage financial institutions to support community-driven technologies, providing a framework for funding solutions that enhance underserved communities.

4. **Buyer Analysis and Decision-Making Process**

- **Key Buyers**:
  - **City Governments**: Typically led by urban planning or public works departments, with the ultimate decision often resting on city councils or officials like public sector representatives (e.g., Marvin Lim).
  - **Private Urban Developers**: Developers managing large-scale projects, seeking technologies to boost sustainability and efficiency.
  - **Local Business Alliances**: Grocery stores and small businesses looking to integrate with smart city platforms for operational improvements and advertising.
- **Government Purchase Process**:
  - **Budget Allocation**:
    - Solutions like yours can fit under budgets for urban planning, technology innovation, or sustainability.
    - Community-focused initiatives like CRA grants can further reduce fiscal pressure on cities.
  - **RFP (Request for Proposal)** Process: Governments often issue RFPs for tech solutions. Your product must align with outlined needs and demonstrate clear cost-benefit analysis and scalability.
  - **Legislative Approval**: Larger city governments may require council approval for allocating funds, especially if the project budget exceeds thresholds.

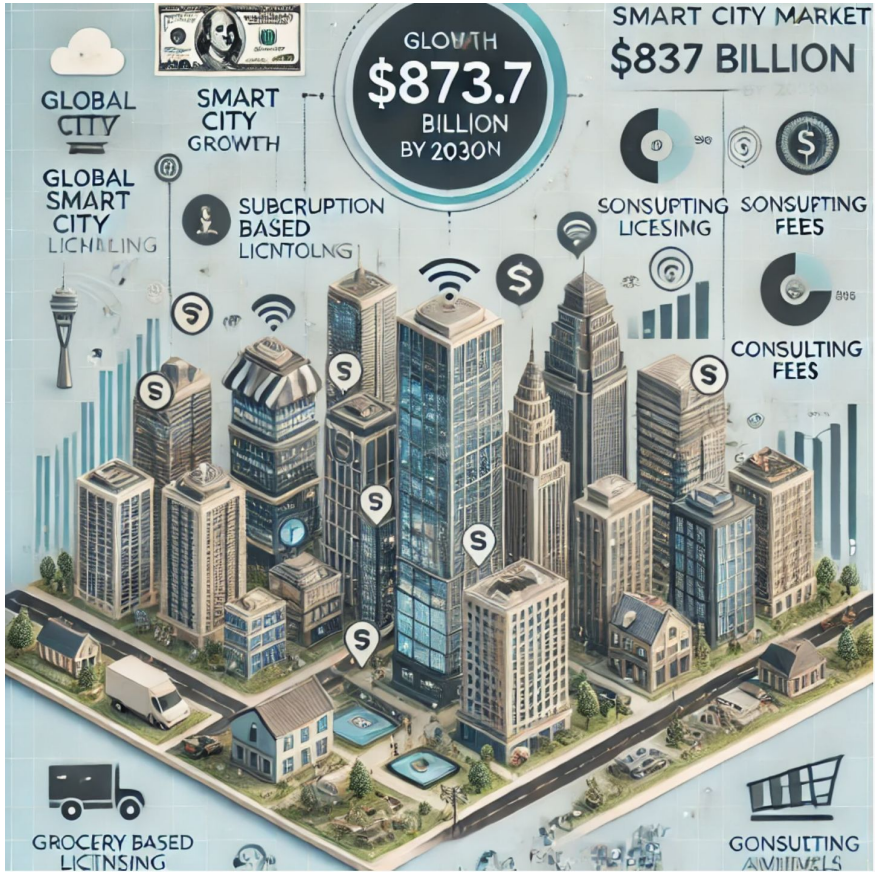
Financial Considerations for Target Market and Investors

5. Revenue Stream and Sponsorship Integration

Adding local businesses and grocery sponsorships diversifies revenue while creating mutually beneficial relationships:

- **Grocery Stores**: Provide location-based offers or delivery options integrated into smart platforms.
- **Local Businesses**: Sponsor community initiatives or contribute to platform costs for visibility and customer engagement.

This strategy creates a hybrid revenue model combining **direct sales**, **partnership funding**, and **subscription-based income**, increasing financial sustainability.



Marvin Lim Outreach

Who is Marvin Lim?

Mr. Marvin Lim is the Georgia House District 98 Representative, and he is essential to our project because of how much we have focused on this region thus far. It has been the model on which we've based how our application would be successful. Outreach to Mr. Lim, therefore, was *imperative* for our application's longevity, as we first need the application to be successful in its target region.

Marvin Lim Outreach

This semester, we've been successful with:

- Initial outreach/connection with Marvin Lim, who we envision to be a longstanding contact for us
  - Reaching out to public officials for a larger community impact
- Brainstorming future community connections
  - **GA House District 98 Churches, Libraries, etc. → *Through Physical Mailboxes***

More on Physical Mailboxes

How Do We Make Physical Mailboxes *Available* and *Accessible* in Stores, Churches, and Other Community Spots?

Planning and Design:

- **Accessibility Features:** Ensure the tablets are user-friendly, featuring large touchscreens, adjustable font sizes, **a Spanish dictation option**, voice assistance, and compatibility with assistive devices to accommodate individuals with disabilities.
- **Physical Placement:** Install the mailboxes at accessible heights and locations within stores, adhering to ADA (Americans with Disabilities Act) guidelines
- **Tablet Selection:** Choose robust tablets capable of continuous operation, equipped with necessary peripherals like barcode scanners or printers if required.
- **Custom Application Development:** Develop intuitive applications that guide users through tasks such as submitting feedback, accessing city services, or reporting issues.

More on Physical Mailboxes

How Can Grocery Stores *Uniquely* Sponsor Us in Lowering Costs?

Financial Aid:

Direct Funding: Stores can allocate part of their corporate social responsibility (CSR) budget to fund the installation of mailboxes

Grants and Donations: Larger grocery chains can provide grants or in-kind donations to reduce the upfront costs.

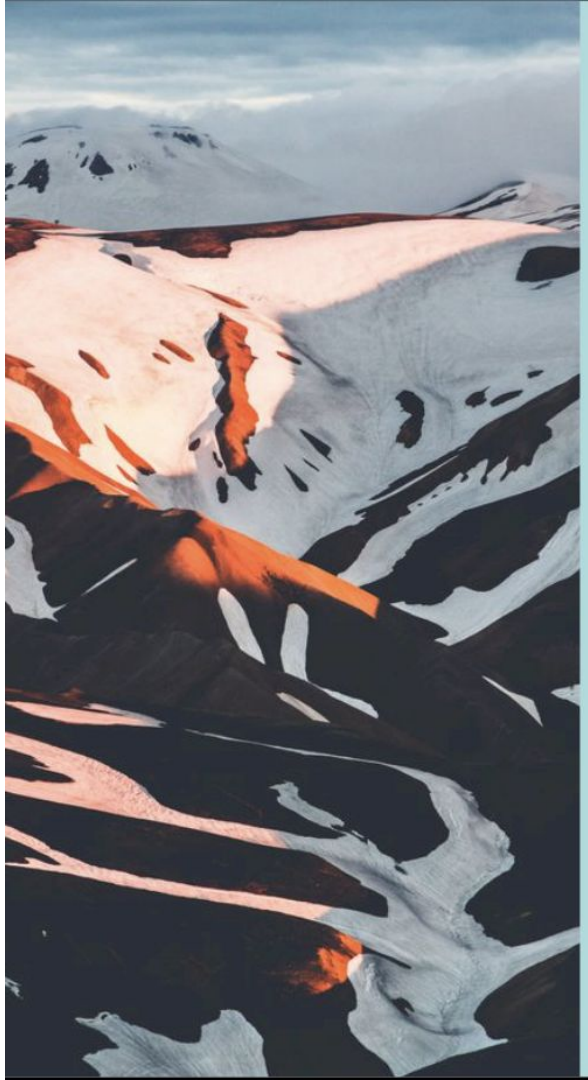
Providing Infrastructure:

Placement: Stores can place them in house tp reduce cost of renting land/spaces for the physical mailboxes.

Marketing:

Unique Marketing: Stores can put their logos on physical mailboxes to promote support for the mailbox and in return more outreach for the store

And How Would Data Transmission to the *Dashboard* Work?



SOLUTION: DASHBOARD

Data Visualization

Complaints from across the district will be displayed on an interactive map

Centralized Issue Reporting

Citizens report non-emergency issues via app/web or

Resource Prioritization

AI analyzes and ranks tasks for maximum impact.

Performance Tracking

Real-time metrics on response times and citizen satisfaction.

Data to Dashboard Pipeline

- **Data (Complaints) & API Setup**: Develop a widget (JavaScript, HTML, CSS), create an API endpoint to handle submissions from the widget, use POST requests for safe data transfer
- **Database:** Database schema (PostgreSQL) to organize complaints
- **Dashboard Integration**: Use frontend frameworks (React) to build a dashboard that displays the complaints, with filtering, sorting, and visualization features
- **Real-Time Updates & Security**: Implement real-time updates using WebSockets or Firebase, and ensure secure data transmission with authentication and encryption.
- **Deployment:** Deploy the widget along with your web app or as a standalone embeddable script hosted on AWS S3, use AWS API Gateway and Lambda for backend endpoints, or run the service on an EC2 instance.

From Dashboard to Departments: Bridging Data to Action

How Data Flows

- **Secure API Integration**: Departments receive real-time updates through API connections to the dashboard.
- **Issue Categorization**: Complaints are tagged (ex., public safety, waste) and routed automatically to the correct department.

Department Interaction

- **Dashboard Access**:
  - Filter issues by type, location, or urgency.
  - Use interactive maps to visualize complaint hotspots.
  - View analytics like trends or resolution timelines.
- **Workflow Updates**:
  - Departments log resolutions and update complaint statuses for transparency.
  - Collaboration tools enable coordination on shared issues.

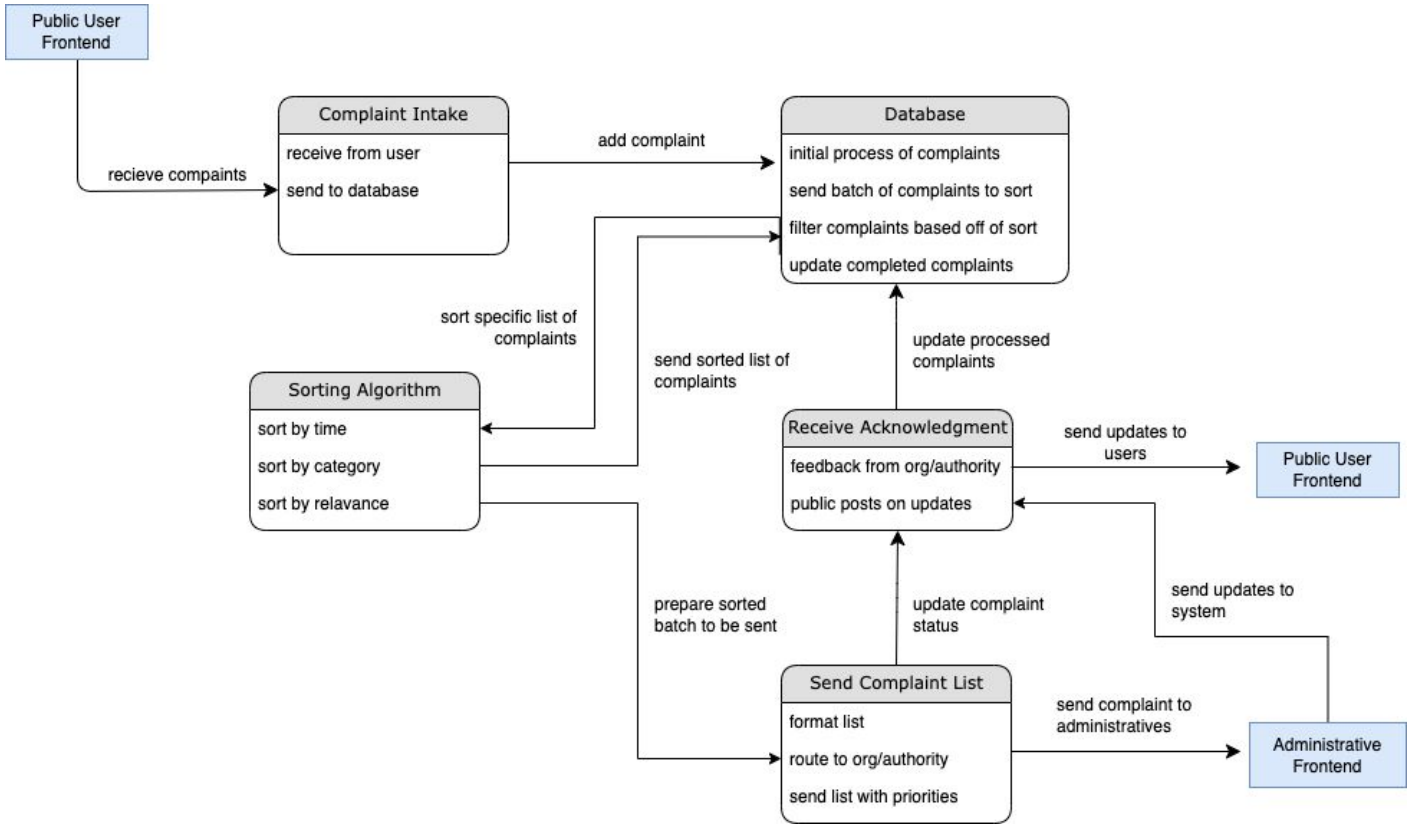
Key Benefits

- **Streamlined Processes**: Automated routing reduces response times.
- **Data-Driven Decisions**: Analytics guide prioritization of high-impact issues.
- **Transparency**: Real-time progress tracking improves trust with communities.

Next Steps

- Integrate with department CRMs.
- Develop AI-powered tools for prioritizing urgent complaints.

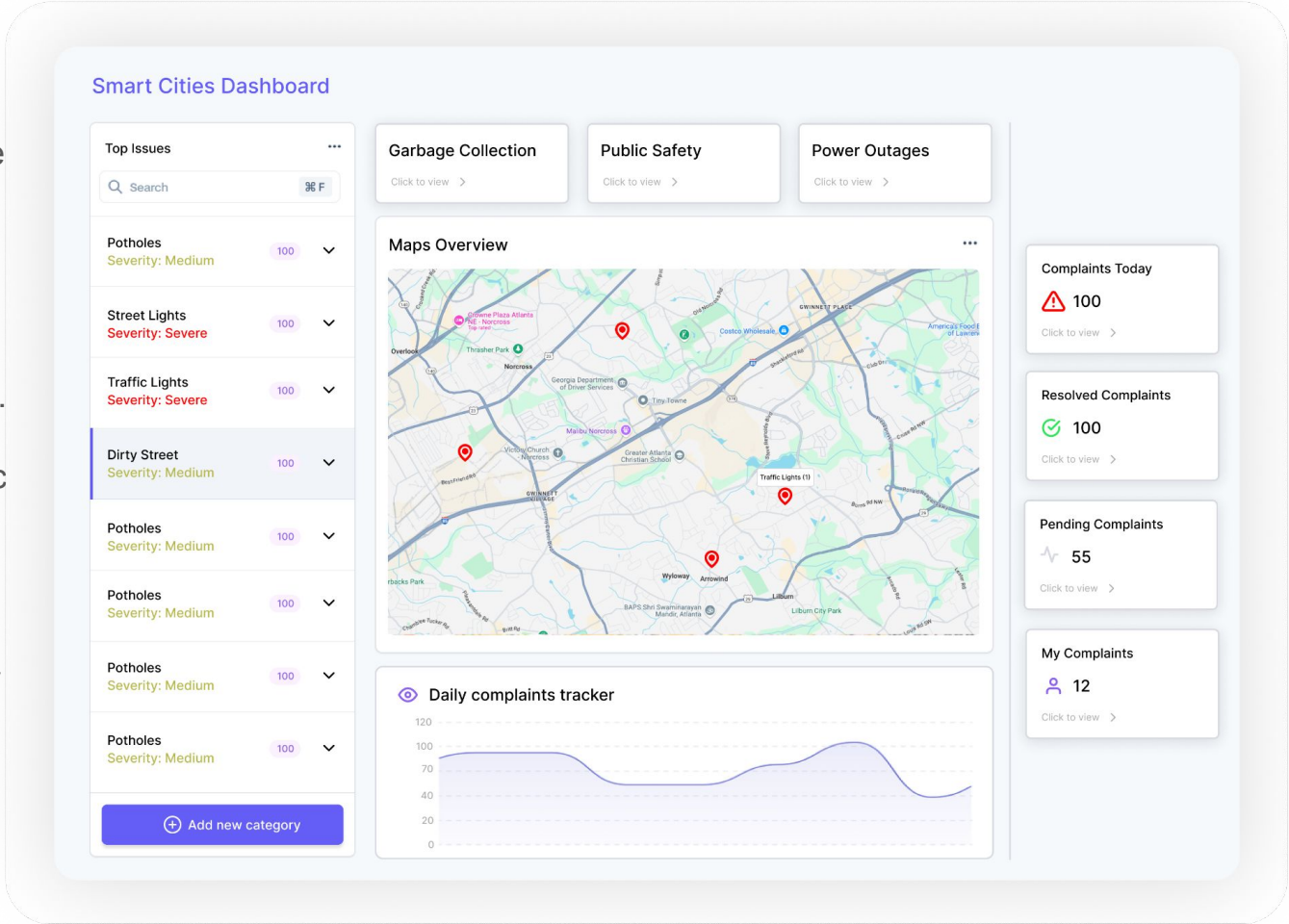
System’s Diagram



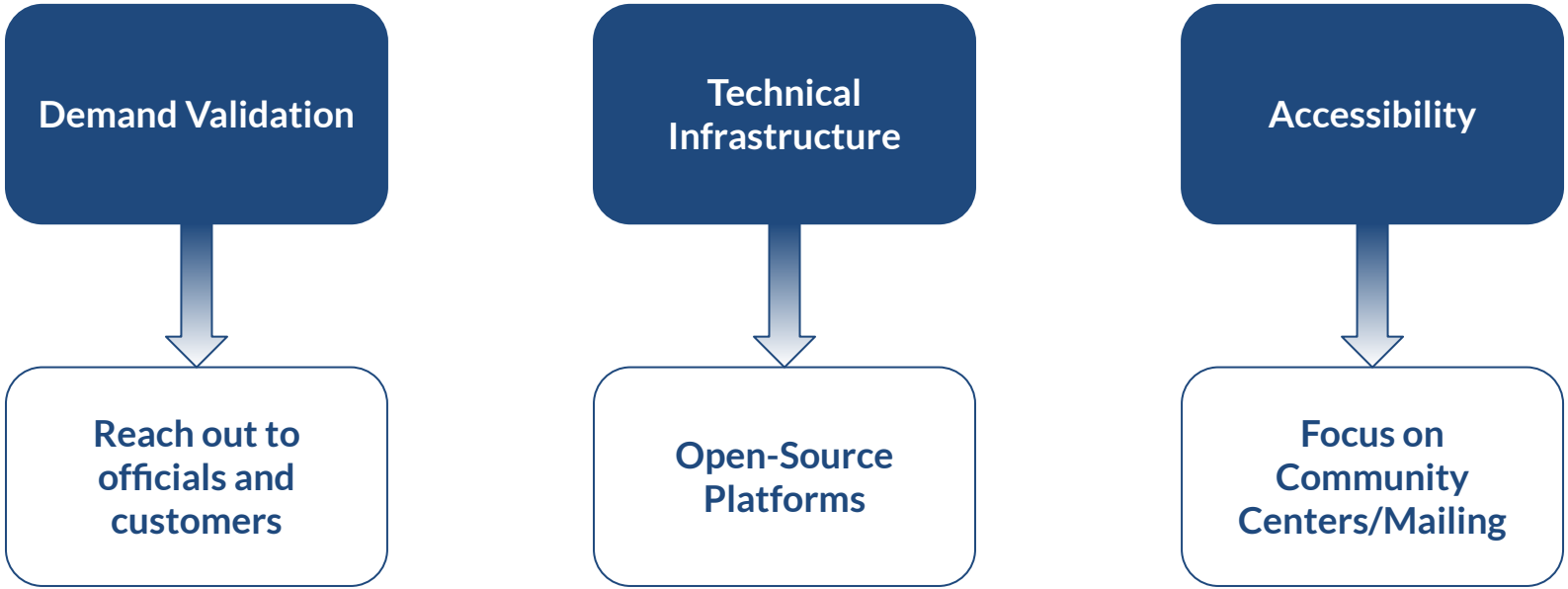
Dashboard

Features

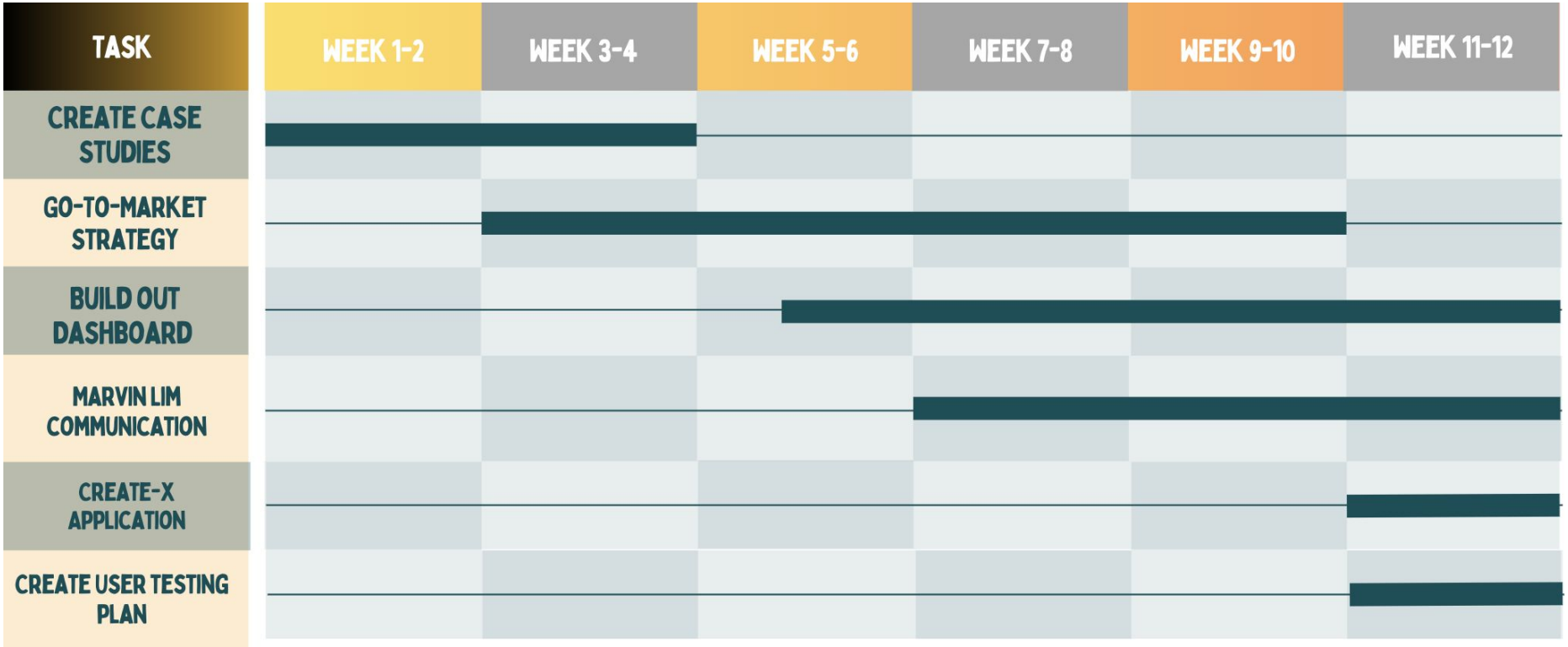
- Users can access all of the current complaints as well as their own submitted one.
- Users have an interactive map which displays all of the complaints via location.
- Users can hover over pins on the map to view specific complaints by location.
- Analytics like a “Daily Complaints Tracker” can show trends.
- The map can be filtered by issues by the top cards. Some filters include “Garbage Collection”, “Public Safety”, etc.



CHALLENGES


Demand Validation
Reach out to officials and customers
Technical Infrastructure
Open-Source Platforms
Accessibility
Focus on Community Centers/Mailing

Gantt Chart: Semester updates



Contribution Table

Daksh Sharma	Gantt Chart, Challenges, Dashboard Solutions, Dashboard Development in React, Next Semester
Swara Viswanadha	Value proposition, More on Physical mailboxes
Tanya Singh	From Dashboard to Departments: Bridging Data to Action, Systems Diagram
Wilson Chen	Dashboard Development UX/UI Researcher & Designer.
Shalin Bhatia	Marvin Lim Biography & Outreach, General Physical Mailbox Accessibility
Maryam Shah	Community Relations Update, Financial considerations
Hibah Kazani	Financial Considerations for Target Market and Investors and Community Relations Update
Pragnya Velivela	Dashboard Development in React, Problem Statement, Geographical and Demographic Info, Data to Dashboard Pipeline, System’s Diagram

Next Semester

- Working Demo
- Usable Application
- Web version
- Attending Conferences