



Carlsbad Site Selector Tool

City of Carlsbad | i4X | The Basement

TEAM CONTACT INFO

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BACKGROUND AND OBJECTIVES

Of the **6,700+ Carlsbad businesses**, many owners **struggle to identify and secure** locations that comply with zoning regulations. Complex requirements and limited access to property data make it difficult to determine where businesses can operate, often resulting in **delays and inefficiencies**.

Our solution is to:

- Build a **zoning-aware** site selection tool that filters based on business needs
- Centralize zoning, permit, and property data
- Provide **map-based visualization** for easy decision-making
- Provide pre-filtered, **compliant property options**

SITE VISIT



Sanjana, Mary-Ann, and Bhagya during our site visit of various Carlsbad businesses!

DELIVERABLES

1. Site Selector Tool Prototype

- Outputs available, zoning-compliant properties
- Integrates property availability with zoning data
- Translates complex regulations into **clear, user-friendly results**

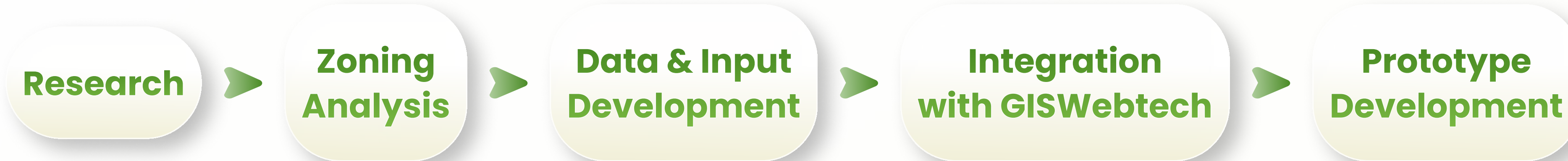
2. Zoning Matrices

- **Human-Readable layer:** clear explanations of permitted, conditional, and restricted uses
- **System-Logic Layer:** structured data (NAICS, zoning categories, conditions) for filtering

3. Business Intake Questionnaire

- Captures operations, space needs, and location preferences

PROJECT JOURNEY



Research

- Interviewed city staff and Carlsbad business owners
- **Identified challenges** in zoning interpretation and site feasibility

Zoning Analysis

- Built a zoning matrix linking business types to permitted/conditional uses
- Developed **human-readable + logic-based system** using NAICS codes

Data & Input Development

- **Designed intake questionnaire** that captured user needs
- Translated inputs into variables for zoning matching

Integration

- Collaborated with city staff and **GIS WebTech**
- Integrated zoning and property data with GIS mapping

Prototype Development

- Built a prototype that returns **available, zoning-compliant properties**

LEARNING OUTCOMES

Key Insights:

- Businesses struggle with both **zoning interpretation** and **access to property data**
- **Limited visibility** into available properties slows decision-making for business owners
- Combining structured data with simple explanations can improve usability

Skills Gained:

- **Understanding zoning systems**, including permitted and conditional uses
- Translating zoning ordinances into **site selection decisions**
- Mapping business types to categories using NAICS codes

NEXT STEPS

- Continue **user testing** with Carlsbad business owners and city staff
- Scale the tool to include **all NAICS zoning districts** in Carlsbad
- Explore partnerships to integrate **live property listings** directly into the interface.
- Explore **AI-driven** conversational search features

