



# Iteration 4: Initial Prototype Solution Recommendation

Course: INT 6940 Experiential Learning

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# Part 1: Second Prototype Solution Recommendation

## 1. Business and Technical Requirements

### 1.1. Business Requirements

The project aims to develop a centralized platform to manage and visualize company information efficiently. Key business requirements include enhanced data accessibility, real-time updates and integrations, improved decision-making capabilities through better data visualization and integration, and the addition of a search engine capability to streamline finding specific information.

### 1.2. Technical Requirements

The technical requirements focus on implementing a low-code solution using Zoho Creator. This solution must support form inputs, tabular displays, and map integrations. It must also ensure high availability and scalability to accommodate a growing data and user base. Maintaining data integrity and security through robust data handling and storage protocols is paramount, as is adding a search engine to enable efficient data retrieval.

## 2. High-Level Design Approach

### 2.1. Option A: Fully Integrated Zoho Solution

Option A uses Zoho Creator for both the UI and backend logic, utilizing built-in Zoho services for CRM integration and the Yelp API for location data. The benefits of this approach include simplified architecture, reduced development time, lower maintenance costs, and seamless integration with Zoho services. Additionally, this option incorporates Zoho's search functionality to enhance data retrieval capabilities.

## 2.2. Option B: Hybrid Approach with Third-Party Services

Option B involves integrating Zoho Creator with external services for enhanced functionalities, such as advanced analytics. This approach offers extended capabilities and flexibility, leveraging best-in-class services for specific functions.

## 2.3. Selected Approach

Option A has been selected for its efficiency, seamless support for required integrations, alignment with a low-code strategy, and built-in search engine capabilities.

# 3. Detailed Design Approach

## 3.1. Platform and Tools

The primary platform for development is Zoho Creator, with integration tools provided by Zoho services for CRM and the Yelp API for location data. Zoho's built-in search functionality will also be utilized.

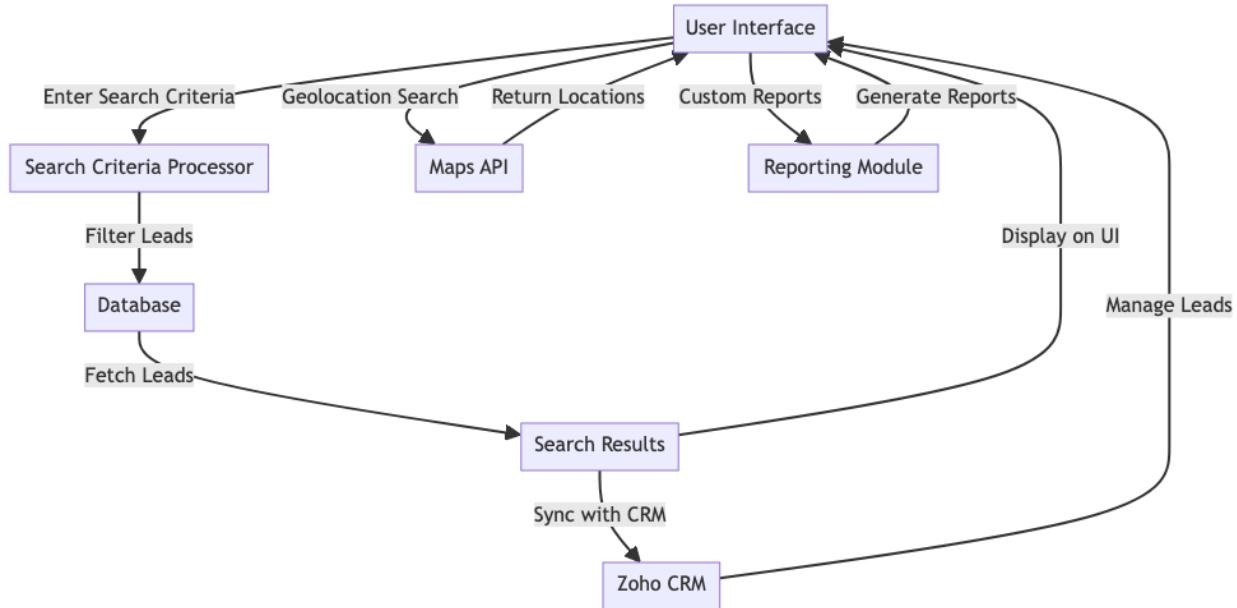
## 3.2. Programming and Scripting

Deluge, Zoho's powerful scripting language, will be used for custom business logic, data manipulation, and search functionality implementation.

## 3.3. Databases and Data Handling

Zoho Creator's own database services will be employed for secure and scalable data management. The search engine integration will utilize Zoho's search capabilities for efficient data retrieval.

## 4. Data Flow Diagram



### 4.1. Data Collection

Users input data through customized forms.

### 4.2. Data Processing

Automated validation and processing using Deluge scripts.

### 4.3. Storage

Data is securely stored in Zoho's cloud database.

### 4.4. Visualization

Data is retrieved and displayed in tabular format and visualized on maps.

### 4.5. Integration and Synchronization

Continuous synchronization with Zoho CRM to ensure data consistency across platforms.

## 5. Additional Technical Services or Activities

Additional technical services include custom function development for complex data manipulations and search functionalities, performance optimization through regular

updates and load testing to enhance query efficiency, and disaster recovery planning to handle potential data loss or system failures.

## 6. Potential Risks and Mitigations

Risk	Description	Mitigation
Integration Failures	Possible failures in integrating with existing systems.	Rigorous testing and fallback mechanisms.
Over-reliance on Vendor	Dependency on Zoho's platform.	Ensure flexibility in design to adapt to other platforms if needed.
Adherence to Compliance	Risk of non-compliance with data regulations.	Regular reviews and updates to compliance protocols.

## 7. Updated Project Plan

### 7.1. Detailed Timeline

Phase	Timeline
Design Phase	Completed by Iteration 3
Development Phase	Core development and first iteration by Iteration 3
Testing Phase	Comprehensive testing including user acceptance testing by Iteration 4 and 5
Deployment Phase	Initial rollout followed by full deployment by Iteration 5
Post-Deployment	Ongoing support and iterative improvements

### 7.2. Resource Assignment

Name	Role	Responsibilities
Mamta Jadhav	Project Manager	Track project progress, identify issues, ensure adherence to timelines and objectives.

Vedant Pandey	Business Analyst	Liaise with clients, document project requirements, support planning, translate client needs into technical specifications.
Berkay Mengunogul	Developer	Code the application, develop software as per specifications, ensure timely milestone completion, conduct unit testing.
Shivam Sinha	Developer	Code the application, develop software as per specifications, ensure timely milestone completion, conduct unit testing.
Sakshi Bankar	UI/UX Designer	Design and develop user interfaces, create visually appealing and intuitive UI designs, develop frontend components, conduct unit testing.

## Part 2: Prototype

### Artifacts Showing Work Completed

The search engine implementation demonstrates enhanced data retrieval capabilities. Snapshots show real-time data updates and the integration progress with third-party APIs.

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Berkay

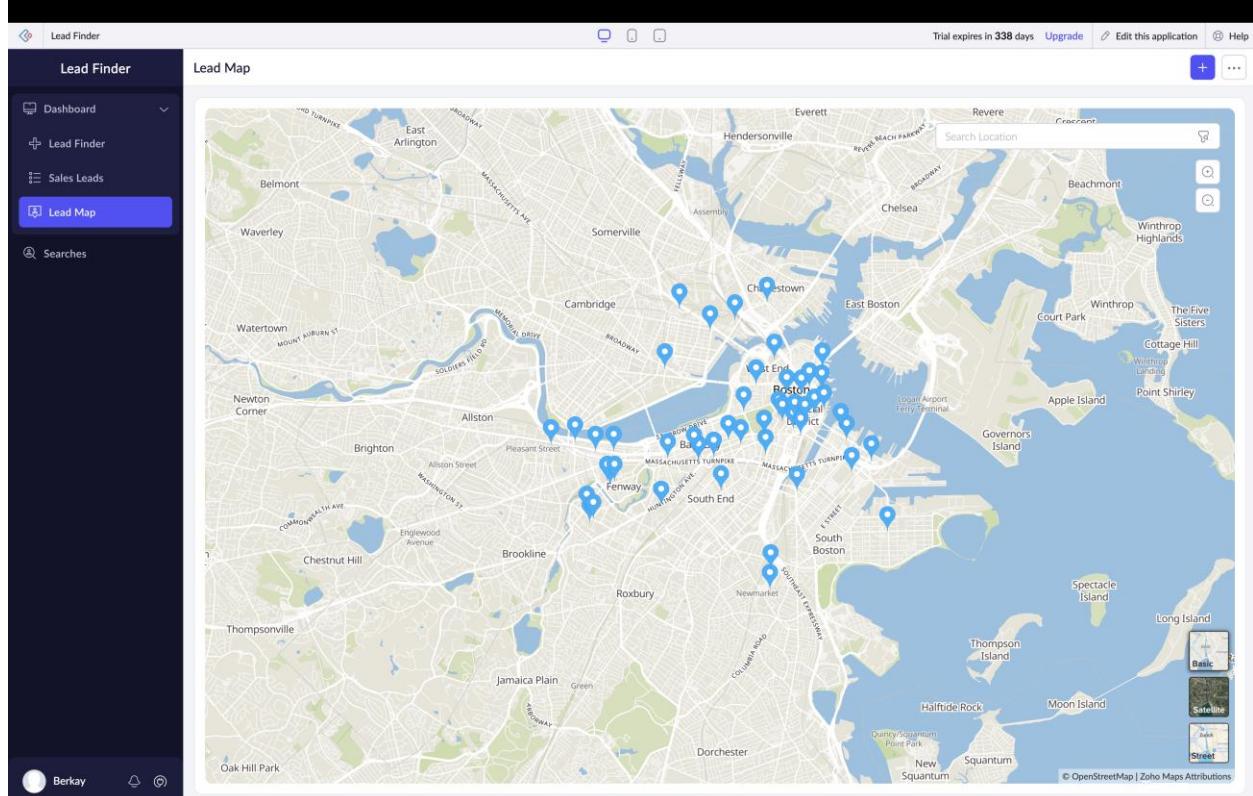
Lead Finder

Sales Leads

Company Address Review Count Rating Price

Company	Address	Review Count	Rating	Price
Starbucks	874 Commonwealth Ave, Boston, MA, 02215, US	25	3.3	\$
Starbucks	749 E Broadway, South Boston, MA, 02127, US	20	2.4	\$\$
Starbucks	14 McGrath Hwy, Somerville, MA, 02143, US	4	2.3	
Starbucks	775 Commonwealth Ave, Campus Dining Services, Boston, MA, 02215, US	9	3.2	\$
Starbucks	1 Thompson St, Charlestown, MA, 02129, US	27	3.2	\$
Starbucks	300 Longwood Ave, Boston, MA, 02115, US	5	4.4	\$\$
Starbucks	364 Brookline Ave, Boston, MA, 02215, US	28	3.2	
Starbucks	283 Longwood Ave, Boston, MA, 02115, US	61	2.4	\$\$
Starbucks	450 Water St, Cambridge, MA, 02141, US	3	3.7	
STARBUCKS COFFEE	700 Commonwealth Ave, Boston, MA, 02215, US	20	1.8	\$
Starbucks	606 Congress St, Boston, MA, 02210, US	16	2.8	\$
Starbucks	36 District Ave, Dorchester, MA, 02125, US	34	2.2	
Starbucks	11 First St, Cambridge, MA, 02141, US	6	3.5	
Starbucks	142-148 Brookline Ave, Trilogy, Boston, MA, 02215, US	51	3.5	\$\$
Starbucks	33 Kilmarnock St, Boston, MA, 02215, US	4	2.3	\$
Starbucks	2 Atlantic Ave, The Pilot House, Boston, MA, 02110, US	64	3.1	\$\$
STARBUCKS	1341 Boylston St, Boston, MA, 02215, US	10	1.5	\$
Starbucks	595 Commonwealth Ave, Campus Dining Services/Starbucks Coffee, Boston, MA, 02215, US	13	3.5	\$
Starbucks	425 Summer St, Boston, MA, 02210, US	38	2.5	\$\$
Starbucks	120 Broadway, Cambridge, MA, 02142, US	70	3.1	\$\$
Starbucks	7 Allstate Rd, Boston, MA, 02125, US	23	2.2	\$\$
Starbucks	103 Seaport Blvd, Boston, MA, 02210, US	25	2.0	\$\$
Starbucks	296 State St, Boston, MA, 02109, US	9	2.9	\$

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## Artifacts Identifying Work in Progress

Advanced filtering options are being developed, with screenshots showing industry-specific filters and geographic radius searches. Performance optimization documentation includes load testing results and planned enhancements for query efficiency. User acceptance testing (UAT) images show the UAT process, feedback forms, and responses indicating areas for improvement.

## Potential Risks

Emerging risks include integration challenges with external APIs for real-time updates, which are being mitigated by rigorous testing and fallback mechanisms. Scalability concerns are being addressed through continuous monitoring and scalability testing. Retired risks include initial data handling issues resolved through comprehensive Deluge scripting and testing, and UI/UX design delays mitigated by additional resources and streamlined design approval process.

## Updated Project Plan

### Detailed Timeline

The design phase was completed by Iteration 3. The development phase is ongoing, with significant components already completed. Comprehensive testing, including user acceptance testing, is scheduled for Iterations 4 and 5. The initial rollout followed by full deployment is planned for Iteration 5. Ongoing support and iterative improvements will continue post-deployment.

Resource assignments remain consistent, with the project manager, business analyst, developers, and UI/UX designer each fulfilling their respective roles. The development phase is extended to accommodate additional functionalities and ensure thorough testing. The testing phase is adjusted to allow more time for user feedback and iterative improvements. The deployment phase has minor adjustments to align with extended development and testing phases.

This update provides a comprehensive overview of the project's progress, including completed and in-progress work, emerging and retired risks, and an updated project plan. The artifacts demonstrate significant advancements, and the revised timeline ensures the project remains on track for successful delivery.