Project Charter

Project title: Data tagging by transportation services UW-Madison

Description: This project aims to develop a centralized tagging system that associates flexible, descriptive tags with specific dates. By integrating these tags into existing datasets, the system will provide the missing context necessary for accurate analysis, forecasting, and planning. The tagging interface will be user-friendly, leveraging calendar-based functionality to ensure that Transportation Services staff can maintain and update it without technical expertise. Ultimately, the solution will enhance reporting capabilities, improve operational decision-making, and provide a sustainable framework for long-term use.

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Team members and roles:

Zhongchao Pan: *Analyst*

Zyue Li: *Analyst*

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Rohini Ramesh: *Analyst*

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Background: Madison's Transportation Services manages large datasets on campus operations such as parking, permits, citations, and intercom calls. While these datasets are vital for planning and decision-making, analyzing them is limited by the lack of context about specific dates (e.g., events, weather, academic milestones).

To solve this, our team will develop a centralized tagging system that lets staff associate flexible tags with dates — such as exams, breaks, construction, sports events, holidays, severe weather, or transit changes. The dataset will join seamlessly with existing data through the date field and support reporting in Tableau.

The system will be intuitive, requiring no technical expertise, and designed with a visual calendar interface (drag-and-drop, recurrence). It will leverage existing UW–Madison platforms (Microsoft 365 or Google Workspace) and include documentation and workflows to ensure long-term sustainability and ease of maintenance.

SMART Goals:

Specific: Build a tagging dataset with a calendar-like interface that non-technical TS staff can update easily and join with existing data.

Measurable: Deliver a working prototype with at least 80% of major tags populated, Tableau integration verified, and 2 staff job aids completed.

Achievable: Use existing TS infrastructure and public data sources to build and host the system.

Relevant: Provide an intuitive, no-code tagging solution that enriches TS reporting, improves forecasting, and reduces manual effort.

Time-bound

- **Weeks 1–3:** Requirements + data collection

- **Weeks 4–7:** Database + preliminary dataset build

- **Weeks 8–10:** Interface development + Tableau integration

- **Weeks 11–12:** Testing, documentation, staff training

Deliverables:

1. Centralized tagging dataset (MySQL).

2. Calendar-style user interface (drag/drop, recurrence).

3. Tableau integration with tagging dataset.

4. Preliminary dataset from public sources (2+ years).

5. A user manual for non-technical users and a technical documentation for engineers, detailing the interface's design, architecture, and functionality.

6. Final demo and staff training session.

Acceptance Criteria:

1. Dataset joins seamlessly to TS data with ≥80% coverage of major tags.

2. Non-technical staff can update tags without coding.

3. Tags function as filters in Tableau dashboards with 100% accuracy.

4. Historical dataset matches source records with ≥95% accuracy.

5. At least 2 clear job aids provided; staff demonstrate independent use.

6. Stakeholders approve system after end-to-end demo.

Project Timeline & Milestones:

Phase 1: Requirements + Data Collection

(Weeks 1–3: 9/11 to 9/25)

Week	Date	Milestone	Details / Goals
Week 1	9/11	Project Kickoff + Initial Planning	Meet with TS team, define team roles, and understand full project scope.
Week 2	9/18	Requirements Gathering + Data Source Research	Identify required tags (academic, weather, events, etc.). Research public datasets and internal sources.
Week 3	9/25	Finalize Requirements + Access Setup	Confirm required datasets with TS, gain access to Box, and finalize tag structure.

Phase 2: Database + Preliminary Dataset Build

(Weeks 4–7: 10/2 to 10/23)

Week	Date	Milestone	Details / Goals
Week 4	10/2	Design database schema	Design schema to store tags and associate them with dates (recurrence, metadata, etc.).
Week 5	10/9	Begin dataset build	Start building preliminary dataset using public sources like NOAA, UW calendars, etc.
Week 6	10/16	Backend tagging logic	Develop backend logic for applying tags to dates and storing relationships.
Week7	10/23	Dataset Backend review	Complete initial dataset and backend logic. Review progress with Transportation Services for feedback

Phase 3: Interface Development + Tableau Integration

(Weeks 8–10: 10/30 to 11/13)

Week	Date	Milestone	Details / Goals

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Week 8	10/30	Interface Design Finalization	Finalize calendar UI/UX; begin building tagging interface (e.g., drag/drop, recurrence).
Week 9	11/6	Calendar + Tableau Integration	Connect interface to backend; test Tableau reports pulling from tagged data.
Week 10	11/13	Mid-Project Demo + Feedback	Conduct demo with TS staff. Gather and incorporate feedback for refinement.

Phase 4: Testing, Documentation, & Handoff

(Weeks 11–12: 11/20 to 11/27)

Week	Date	Milestone	Details / Goals
Week 11	11/20	Testing + Documentation	Conduct user testing with TS staff. Finalize technical and user documentation, including job aids and workflows.
Week 12	11/27	Final Handoff Preparation	Package deliverables (code, docs, data). Ensure system usability and support future maintenance by TS staff.

Constraints:

Limited semester timeframe: The limited historical data available makes it impossible to obtain a regular model.

Staff availability for feedback: It may take a long time to obtain the users' feedback on the use of the graphical interface.

Reliance on external data sources (public calendars, weather APIs): The external data may have access restrictions, preventing access to more distant historical data or the entire dataset.

Risks:

Technical complexity of integrating tags into existing MySQL & Tableau workflows;

Usability challenges if interface is not intuitive for non-technical staff;

Potential delays in receiving construction data;

Communication Plan :

Team Meetings: Weekly internal team meetings online/in-person

Progress Reports: Shared via Google Docs

When it is necessary to contact the partner, the PM will first contact him. After receiving the information, it will be shared among the team members through Teams.

Within the team, communication and coordination will be carried out through Teams, and the progress of each member will be shared.

Team members will also communicate and transfer documents with each other through email.