**Project Status Report: Week 1 - Data Sourcing and Strategy**

**Project:** Oil and Gas Data Analysis **Reporting Date:** October 25, 2024 **Team Manager:** Nisarg Shah
**Period Covered:** October 22, 2024 – October 25, 2024 (Initial Assignment Phase)

**1. Executive Summary**

The project was officially assigned on October 22nd. This initial period, concluding on October 25th, focused entirely on the first milestone: **Data Scraping Website Exploration and Selection**. The entire team collaborated effectively to identify potential oil and gas data sources, assess their feasibility, and finalize the target for the required 20,000 rows of data. We are currently on schedule to begin the actual data acquisition phase next week.

**2. Milestone 1: Website Exploration (Complete)**

| Task | Responsible Team Members | Status | Details and Outcome |
|---|---|---|---|
| **Website Discovery** | Nisarg Shah, Nithin, Praveen | Complete | Explored high-reliability data sources for oil and gas well data, focusing on government or industry portals (e.g., BSEE, relevant state regulatory sites). |
| **Data Requirements Analysis** | Nithin & Praveen (EDA Leads) | Complete | Identified critical fields required for subsequent EDA, Visualization, and Mining, including well depth, status, location, and drilling characteristics. |
| **Feasibility & Selection** | Nisarg Shah (Team Manager) | Complete | A primary website has been selected, providing access to the necessary data in a structured format suitable for scraping. This site is capable of yielding the required 20,000+ data points. |
| **Analysis Planning** | Omkar (Viz), Parva (Mining) | Complete | Omkar and Parva reviewed the proposed data fields to ensure they align with their specialized requirements for visualization metrics and potential data mining algorithms. |

**3. Team Member Involvement and Accomplishments**

- **Nisarg Shah (Team Manager/Scraping):** Led the feasibility study, conducted initial connection tests, and finalized the selection of the target website for data acquisition.

- **Nithin & Praveen (EDA):** Provided crucial input on the data structure and quality requirements, ensuring the selected website's data would be analytically rich and complete for the EDA phase.

- **Omkar (Data Visualization):** Reviewed potential data columns (e.g., coordinates, categorical types) to ensure they are suitable for geographic and statistical visualization tools.

- **Parva (Data Mining):** Verified the availability of key numerical and categorical features in the chosen data source necessary for training predictive or clustering models in the final phase.

**4. Next Steps & Schedule**

The focus now shifts to the critical data acquisition phase.

- **Next Milestone:** Data Scraping from Selected Website (My Nisarg Shah only).

- **Target Completion:** By November 1st.

- **Action:** Nisarg Shah will dedicate the upcoming week to developing the final scraper, executing the script, and storing the complete 20,000 rows of oil and gas data.

The team has demonstrated excellent synergy and commitment in the initial phase. We are confident in meeting our final project completion date of November 8th.

**Nisarg Shah** *Team Manager*

**Project Status Report: Week 2 - Data Acquisition and Analytical Handover**

**Project:** Oil and Gas Data Analysis **Reporting Date:** November 1, 2024 **Team Manager:** Nisarg Shah
**Period Covered:** October 26, 2024 – November 1, 2024 (Data Scraping Phase)

**1. Executive Summary**

This week focused on the critical task of **Data Scraping**, successfully executed by myself (Nisarg Shah). I am pleased to report that the target of **20,000+ rows of oil and gas well data** has been acquired, cleaned, and formatted. The data is now officially handed over and ready for the analytical and discovery phases (EDA, Visualization, and Mining). We are perfectly on schedule for our final completion date of November 8th.

**2. Milestone 2: Data Scraping (Complete)**

| Task | Responsible Team Member | Status | Outcome |
|---|---|---|---|
| **Scraper Development & Execution** | **Nisarg Shah** | Complete | Developed and ran the final scraper, successfully collecting the minimum 20,000 rows of oil and gas data from the selected website. |
| **Data Cleaning and Export** | **Nisarg Shah** | Complete | Performed essential data cleaning, type conversions, and standardization, delivering a high-quality dataset ready for analysis. |
| **Data Handoff & Quality Check** | Nithin & Praveen (EDA Leads) | Complete | Nithin and Praveen confirmed receipt of the dataset and performed initial structural checks to ensure completeness and format quality. |
| **Analytical Preparation** | Omkar (Viz) & Parva (Mining) | Complete | Omkar and Parva reviewed the final data structure, updated their scripts, and set up environments in preparation for the upcoming analysis week. |

**3. Team Member Involvement and Accomplishments**

- **Nisarg Shah (Team Manager/Scraping):** Successfully executed the primary data collection task, acquiring **20,000 rows of high-quality oil and gas data** on time, completing his main project deliverable.

- **Nithin & Praveen (EDA):** Conducted a preliminary inspection of the delivered data, confirming completeness and consistency, and finalized their EDA outlines and segmentation strategies.

- **Omkar (Data Visualization):** Loaded the raw data and prepared initial templates for key plots (e.g., geographic maps of well locations, distribution charts), ensuring variable mapping is correct.

- **Parva (Data Mining):** Began work on feature engineering plans, outlining the transformation of categorical and numerical variables necessary to feed into machine learning models.

**4. Next Steps & Schedule**

The final, high-intensity phase of the project is now underway, with all analytical team members fully engaged.

- **Next Milestone:** EDA, Data Visualization, and Data Mining.

- **Target Completion:** By November 8th (Final Project Deadline).

- **Action:** Nithin and Praveen will focus on deep statistical EDA, Omkar will produce the final visualizations, and Parva will develop the data mining insights. We will synchronize on November 7th to compile the final findings for the submission video.

Exceptional work by the team so far. We are on track for a successful and timely project submission.

**Nisarg Shah** *Team Manager*

**Project Status Report: Final Completion - Analysis, Visualization, and Mining**

**Project:** Oil and Gas Data Analysis **Reporting Date:** November 8, 2024 **Team Manager:** Nisarg Shah
**Period Covered:** November 2, 2024 – November 8, 2024 (Analysis & Finalization Phase)

**1. Executive Summary**

I am extremely pleased to report that the entire project is **100% complete** and was finished on November 8th, **well ahead of our internal submission deadlines**. All assigned tasks—Exploratory Data Analysis (EDA), Data Visualization, and Data Mining—were executed flawlessly and on time by the respective team members. We now have a comprehensive set of insights derived from the 20,000+ scraped rows of oil and gas data. The entire team performed admirably, demonstrating dedication and exceptional collaboration.

**2. Milestone 3: Analysis and Synthesis (Complete)**

| Task | Responsible Team Members | Status | Outcome and Deliverable |
|---|---|---|---|
| **Exploratory Data Analysis (EDA)** | Nithin & Praveen | Complete | Comprehensive statistical report generated, covering data distribution, anomaly detection, and correlation analysis between key features (e.g., well depth vs. drilling type). The data is now fully understood. |
| **Data Visualization** | Omkar | Complete | Produced high-impact, professional visualizations including geographical plots, heatmaps, and custom charts (e.g., distribution of well status by operator) that clearly communicate the EDA findings. |
| **Data Mining** | Parva | Complete | Successful execution of the data mining objective, yielding actionable insights. This included clustering of wells based on their operational metrics and identifying key predictors of well longevity. |
| **Final Report & Video Scripting** | Nisarg Shah, All Team Members | Complete | Synthesis of all analytical results into a coherent narrative. The presentation structure for the video submission is finalized. |

**3. Detailed Team Accomplishments and Review**

Every team member performed *exceptionally* and completed their assigned work not only on time but to a high standard of quality.

- **Nisarg Shah (Team Manager/Scraping):** Successfully delivered the foundation of the project by acquiring and cleaning the 20,000+ data rows, enabling the subsequent phases to proceed smoothly without delays.

- **Nithin & Praveen (EDA):** Their collaborative effort ensured a thorough and fast-paced analysis. They identified several critical data trends and cleaned residual inconsistencies, providing a robust dataset for the final analysis.

- **Omkar (Data Visualization):** Omkar delivered stunning, professional-grade visualizations that effectively translated complex data findings into easily understandable graphics. His work is essential for the final video submission's visual appeal.

- **Parva (Data Mining):** Parva's advanced analytical skills led to highly valuable conclusions from the data mining phase, specifically providing insights into operational patterns that can be directly applied to decision-making.

## 4. Project Conclusion and Next Steps

The entire project lifecycle, from assignment (Oct 22) to final analysis completion (Nov 8), has been a resounding success. We delivered a complex data science workflow—from scraping to mining—in just three weeks.

- **Next Action:** We are now focused on finalizing the **video submission** over the next two days.

- **Final Timeline:** Project is complete and ready for presentation.

I commend Nithin, Praveen, Omkar, and Parva for their incredible dedication, teamwork, and high-quality output. This was an excellent example of efficient project execution.

**Nisarg Shah** *Team Manager*