

# AI-Powered Impact Prediction and Visualization System

# Planning and Setup

Goal: Define scope, align team, set technical foundations

- Tools & tech stack selected (Python, Scikit-learn, Plotly, Wix Velo, etc.)
- GitHub repository initialized
- Data sources list finalized (World Bank, UN, Internal records)

# Data Collection & Preprocessing

Goal: Acquire, clean, and structure reliable datasets

- Download external datasets (poverty rates, demographics)
- Collect internal distribution data (e.g., from Google Sheets)
- Process geographic data (GeoJSON for mapping regions)
- Clean data for missing values, format consistency
- Create Composite Need Index (formula combining poverty, population, etc.)
- Cleaned, versioned datasets stored in a folder
- Code pipelines in data acquisition and data cleaning file
- Documented assumptions on how need is measured

# Model Development & Forecasting

Goal: Build machine learning models for predictions

- Train time-series or regression models for socioeconomic forecasting
- Build coverage prediction model (e.g., linear regression, XGBoost)
- Validate models with sample scenarios
- Automate “what if” simulations for different scaling plans
- Trained models saved in a folder
- Scripts in a models and forecasting file

# Visualization & Mapping

Goal: Create interactive, clear data visuals

- Develop static heatmaps showing underserved regions (Plotly, Bokeh)
- Build interactive coverage dashboards
- Visualize predictive scenarios (future distribution coverage)
- Test maps with real geographic boundaries
- Store Visualization functions in a file
- Exported visuals ready for web integration

# Web Integration

Goal: Embed visualizations into the T4T Wix website

- Use Wix Velo to create space for interactive dashboards
- Integrate via iFrames or JS embeds
- Connect live data sources (Google Sheets/Firebase) for updates
- Test responsiveness and mobile compatibility
- Integrated website section with visuals
- Refreshed data pipeline connecting backend to frontend
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# Testing & Deployment

Goal: Validate system and finalize launch

- Internal testing for functionality, data accuracy, and display
- Accessibility checks (ADA compliance, mobile testing)
- User testing
- Final system deployment and handoff
- Stable, functioning AI-powered dashboard live on Wix
- Documentation for maintenance and future improvements
- Project report summarizing impact