

Integrated Timeline, Milestones, and Deliverables

Wildlife Warning System - Final Presentation: December 11

December 1 - 5 (Foundations + API Design)

Milestones:

- Dataset collection and feature extraction
- Baseline Decision Tree model trained.
- Inference API finalized and documented.
- PIR system + camera capture operational.

Deliverables:

- Baseline Decision Tree model files
- API specification document.
- Sample captured images from PIR triggers.

December 6 - 8 (Model Training + Integration)

Milestones:

- Random Forest model trained and evaluated.
- Real inference API implemented (load_model + infer).
- Full pipeline operational: PIR --->Capture --->Infer --->Beacon.

Deliverables:

- Random Forest model files + evaluation metrics.
- Working integrated Python system.
- Initial demo footage captured.

December 8 - 9 (Night Mode + Stabilization)

Milestones:

- Night/IR augmentation applied to model.
- Logging system implemented.
- Nighttime detection tested.

Deliverables:

- Updated model with night/IR robustness.
- Logged detection events (local JSON).
- Night-mode demo video footage.

December 10 (Final Integration + Presentation Prep)

Milestones:

- Model finalized and inference API frozen.
- Python system finalized (state machine + beacon logic).
- Full end-to-end demo assembled.

Deliverables:

- Final slide deck (ML + Python + integration).
- Complete system demo video.
- Updated diagrams (integration + Gantt).

Presentation Day - December 11

Milestones:

- Full presentation delivered with live or recorded demo.

Deliverables:

- Final reports for PROG5155 and PROG5120.
- Consolidated future work summary (MQTT, cloud analytics, deployment network).