

@startuml

title AI-Enhanced Bug Tracking System - Sequence Diagram

actor Admin

actor Tester

actor Developer

actor "Project Manager" as PM

participant "AI Bug Tracking System" as System

participant "AI Engine" as AI

== Admin Operations ==

Admin -> System: Login

System --> Admin: Dashboard displayed

Admin -> System: Create Project

System --> Admin: Project Created

Admin -> System: Retrain ML Model

System -> AI: Send Training Data

AI --> System: Model Retrained Confirmation

System --> Admin: ML Model Updated

== Tester Workflow ==

Tester -> System: Login

System --> Tester: Dashboard displayed

Tester -> System: Report Bug

System -> AI: Run Auto-Triage on Bug

AI --> System: Predicted Priority + Suggested Developer

System -> PM: Notify for Review

System --> Tester: Bug Logged Successfully

== PM Workflow ==

PM -> System: Login

System --> PM: Dashboard displayed

PM -> System: Review AI Suggestion

PM -> System: Assign Bug to Developer

System --> PM: Bug Assignment Confirmed

PM -> System: Generate Reports

System --> PM: Report Generated

== Developer Workflow ==

Developer -> System: Login

System --> Developer: Task List Displayed

Developer -> System: Update Bug Status

System --> Developer: Status Updated

Developer -> System: View ML Insights

System --> Developer: Display Analytics

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