Appendix A: The Halo AI as Layered Statecharts

Given in this appendix is the full Halo AI recreated as a layered statechart-based AI. The full description of the AI, module listing and description, and key features are outlined in Chap. 5. Verification and corrections from Chap. 8 have been performed and are shown here.

A.1 Sensors

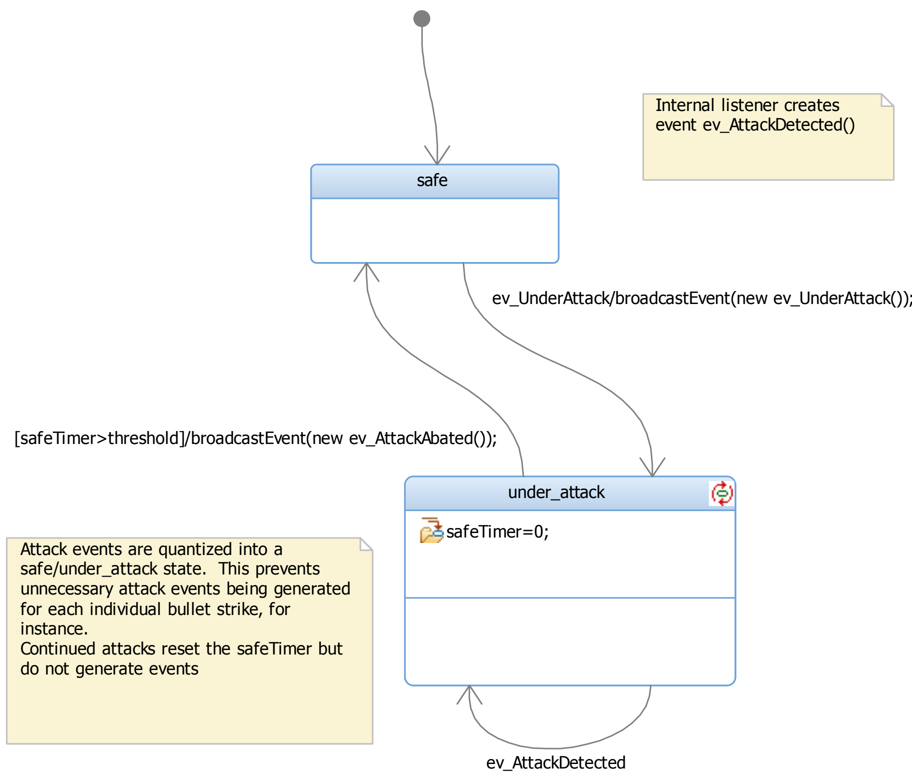

Figure A–1: The *AttackSensor*.

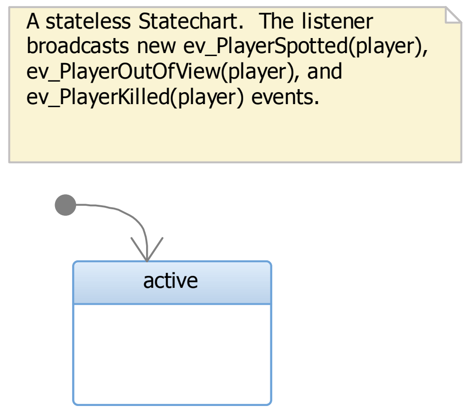

Figure A–2: The *CharacterSensor*.

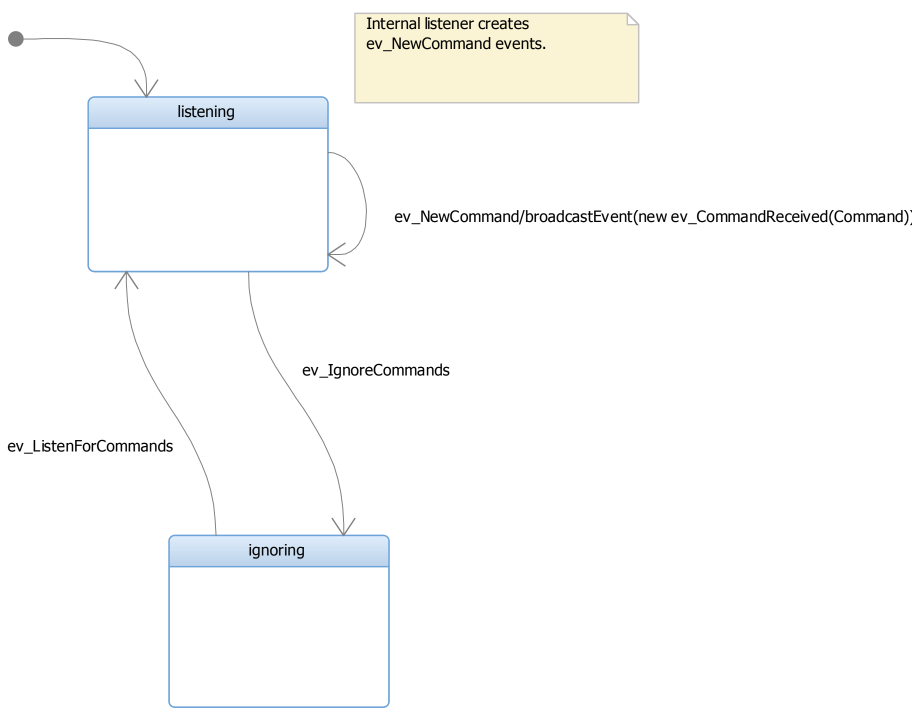

Figure A–3: The *CommandSensor*.

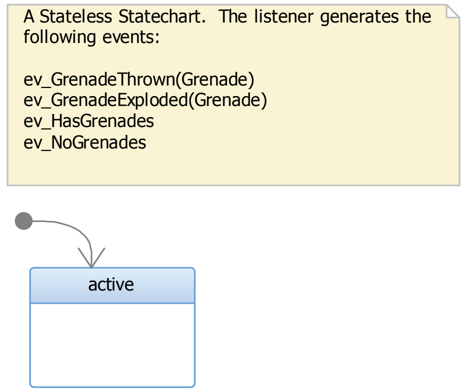

Figure A–4: The *GrenadeSensor*.

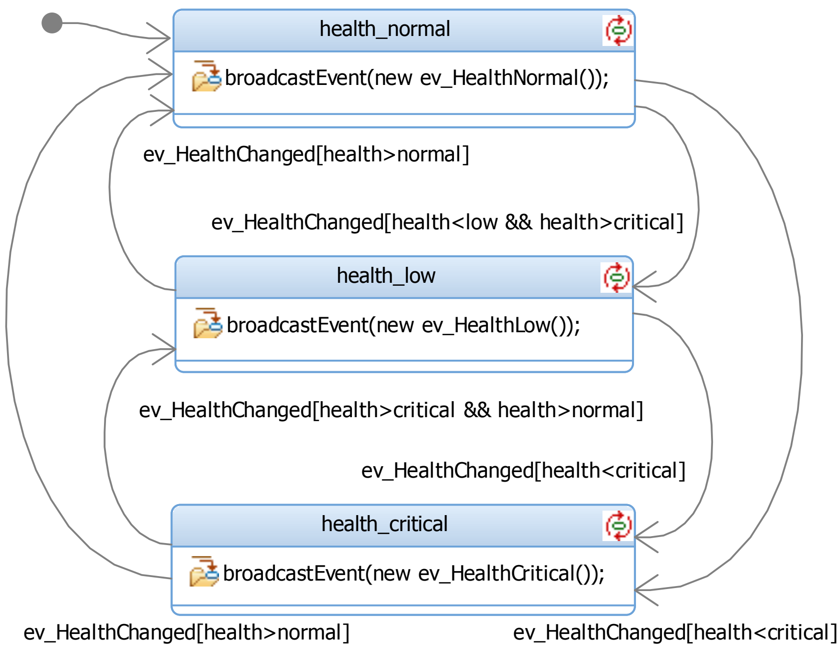

Figure A–5: The *HealthSensor*.

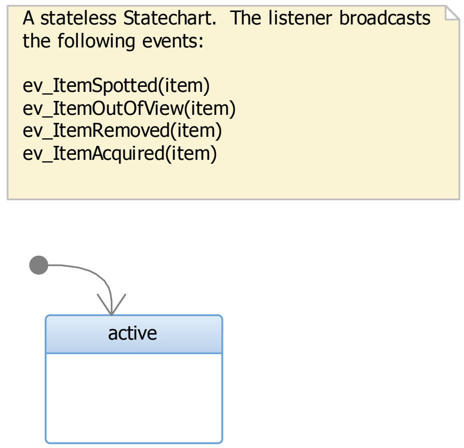

Figure A–6: The *ItemSensor*.

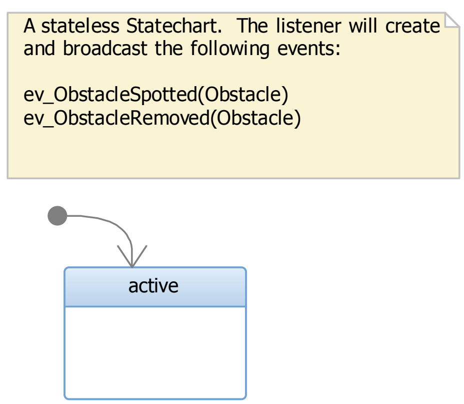

Figure A–7: The *ObstacleSensor*.

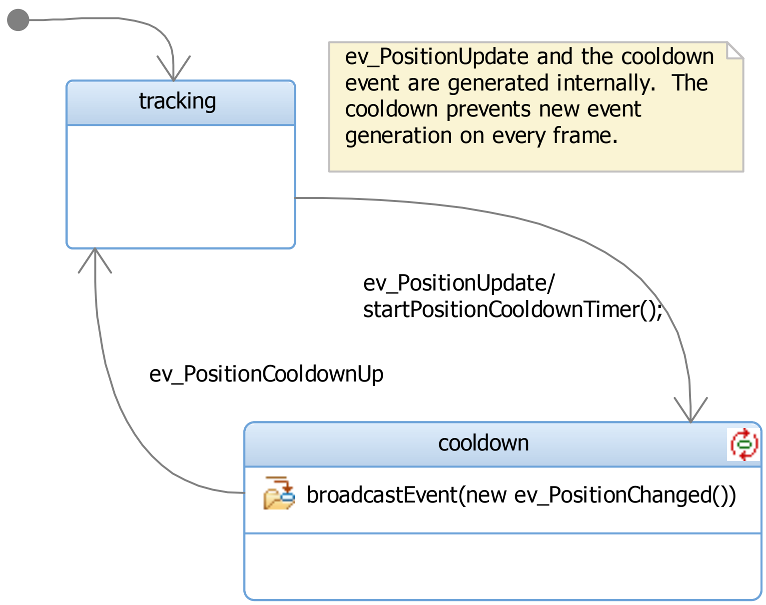

Figure A–8: The *PositionSensor*.

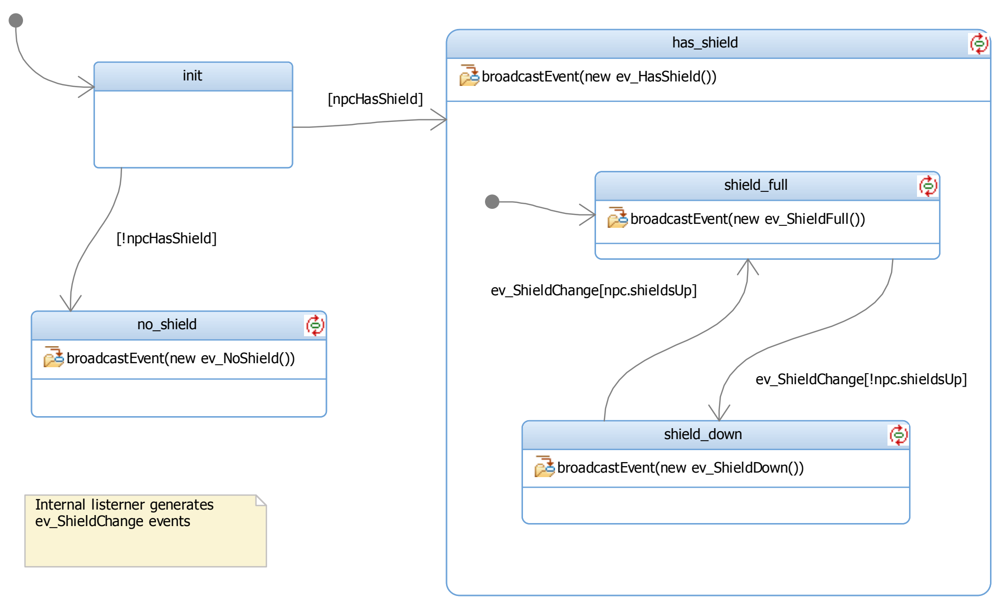

Figure A–9: The *ShieldSensor*.

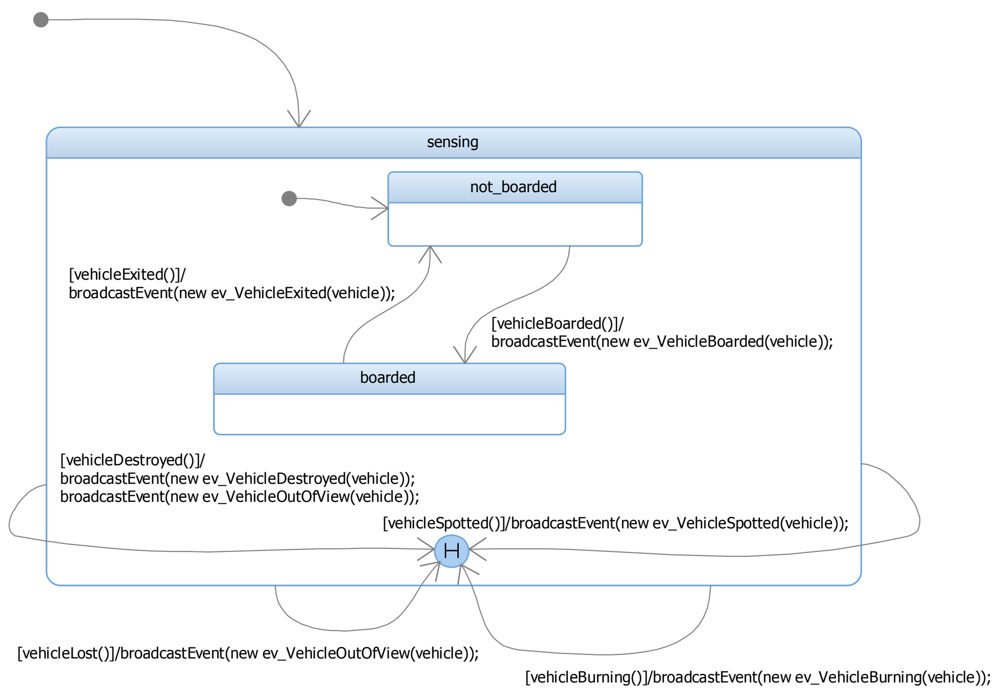

Figure A–10: The *VehicleSensor*.

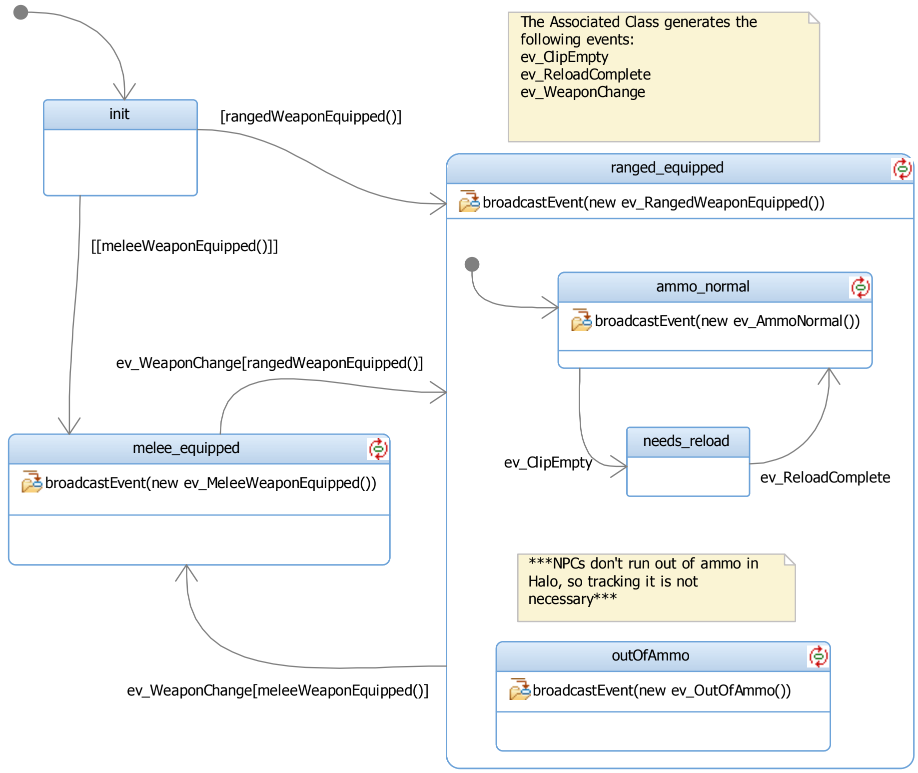

Figure A–11: The *WeaponSensor*.

A.2 Analyzers

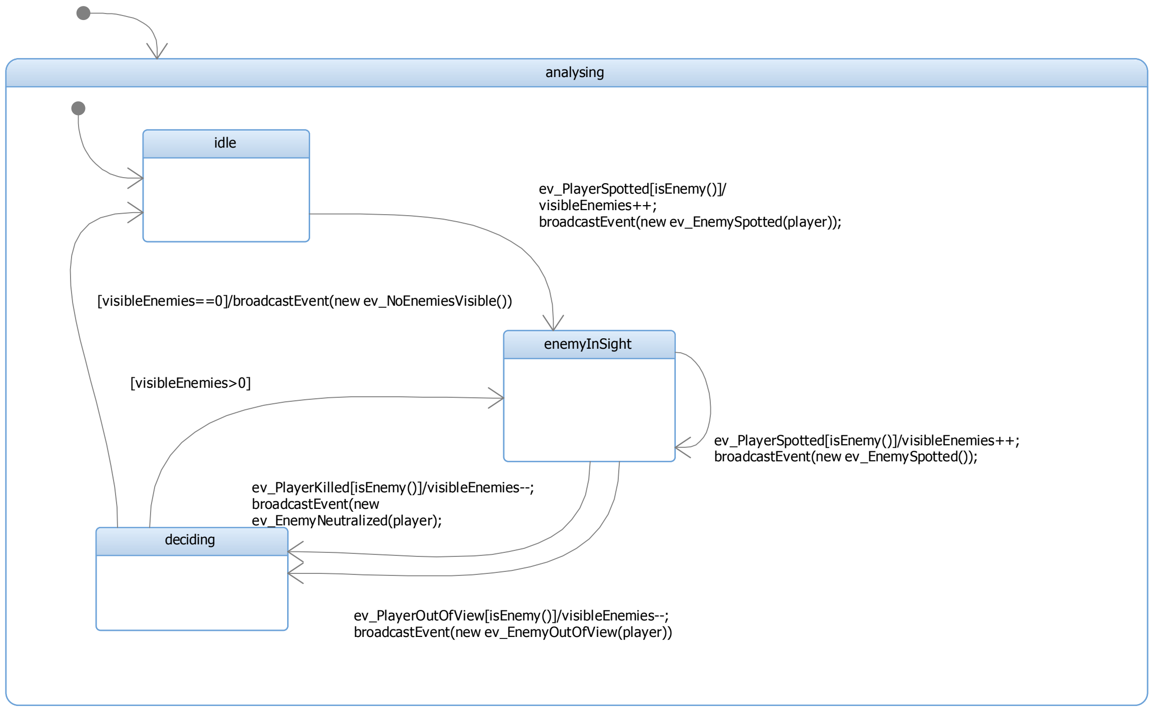

Figure A–12: The *EnemyAnalyzer*.

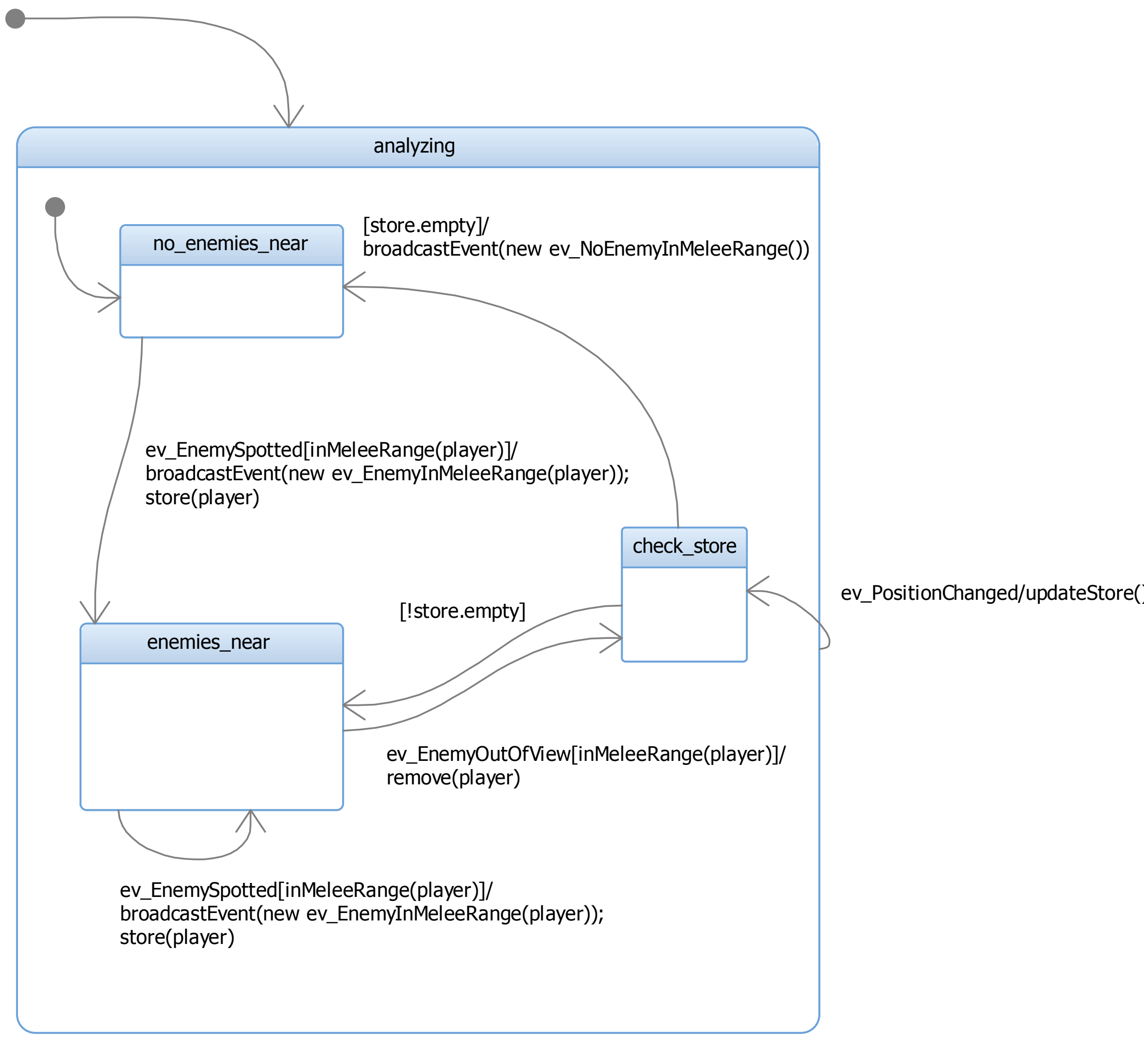

Figure A–13: The *EnemyProximityAnalyzer*.

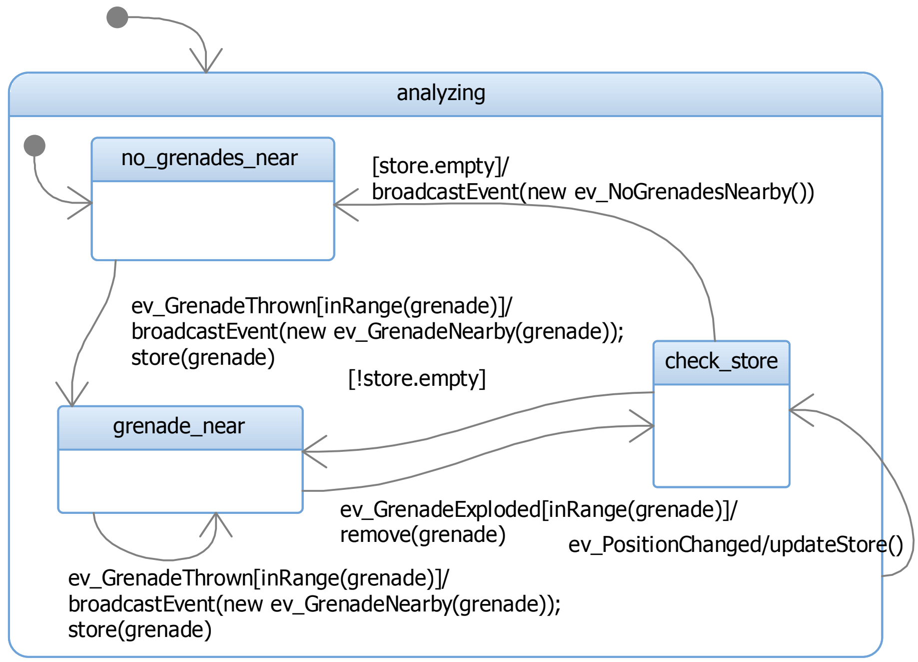

Figure A–14: The *GrenadeProximityAnalyzer*.

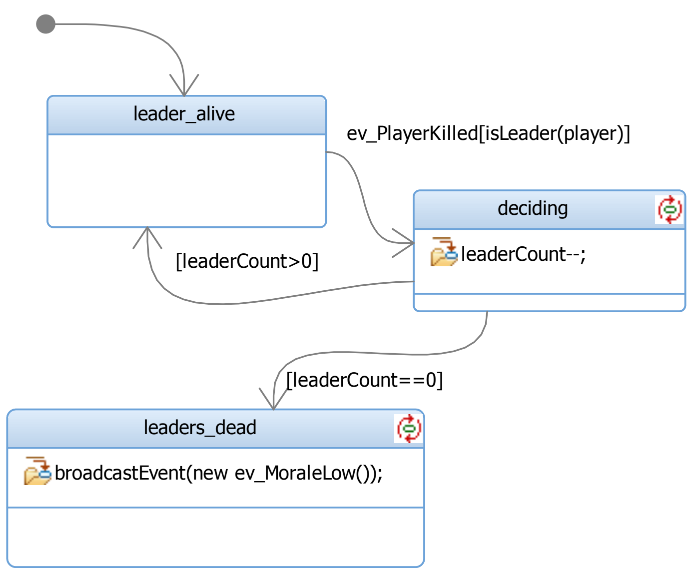

Figure A–15: The *LowMoraleAnalyzer*.

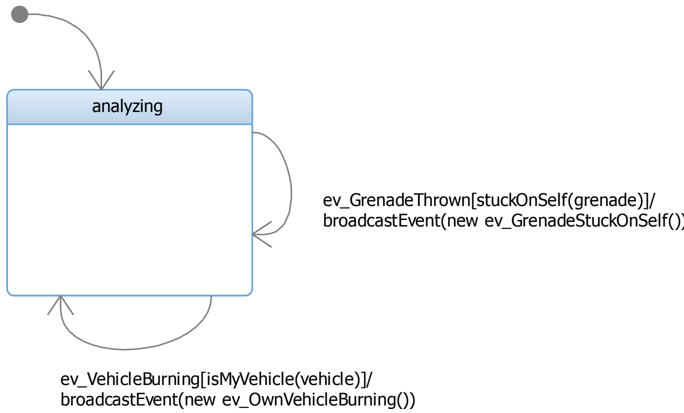

Figure A–16: The *SpecialEventAnalyzer*.

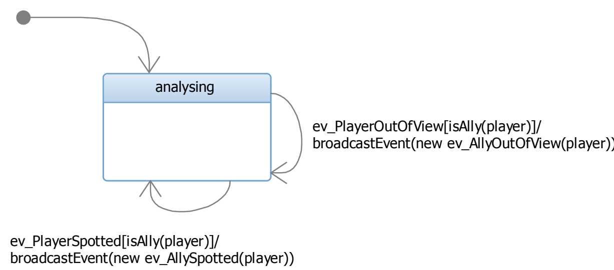

Figure A–17: The *SquadAnalyzer*.

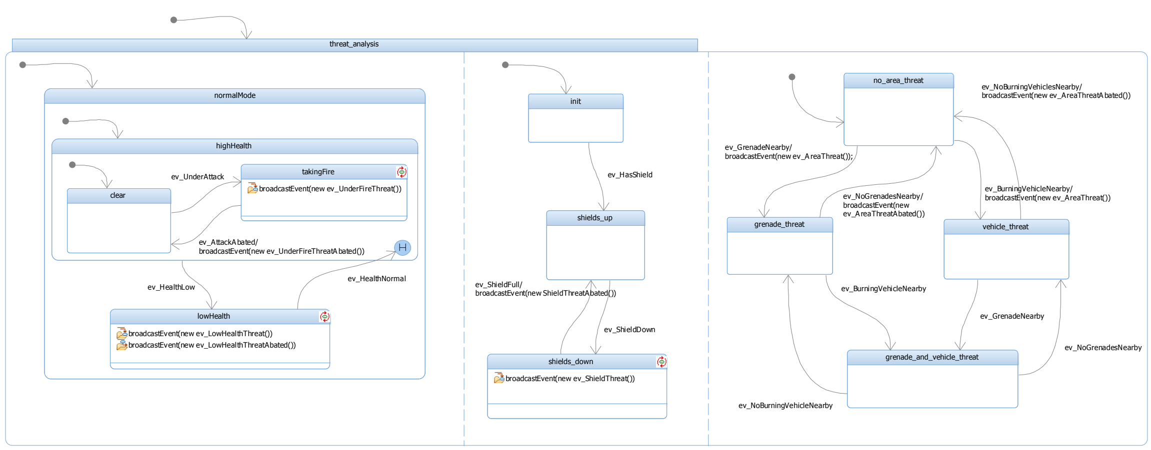

Figure A–18: The *ThreatAnalyzer*.

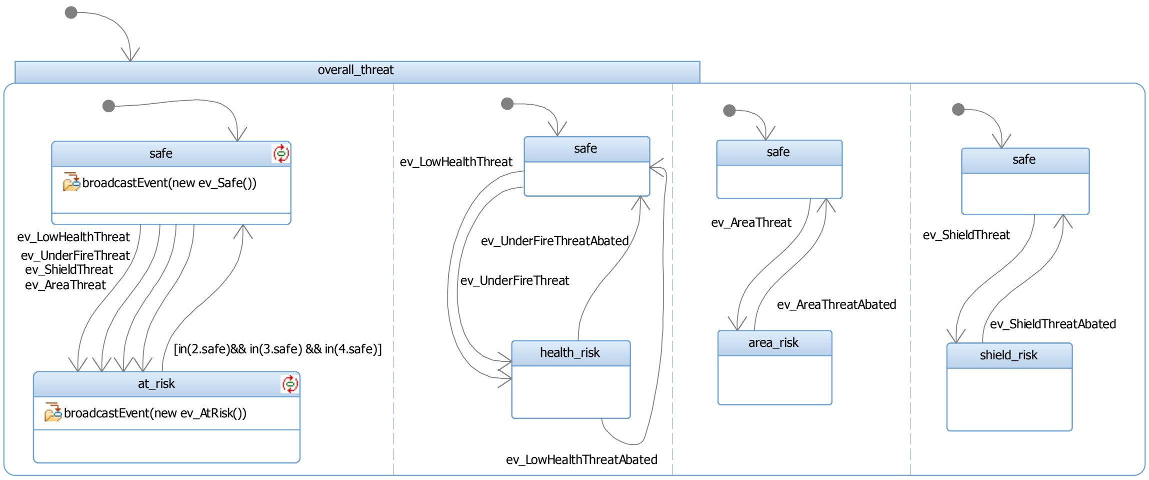

Figure A–19: The *ThreatCompilerAnalyzer*.

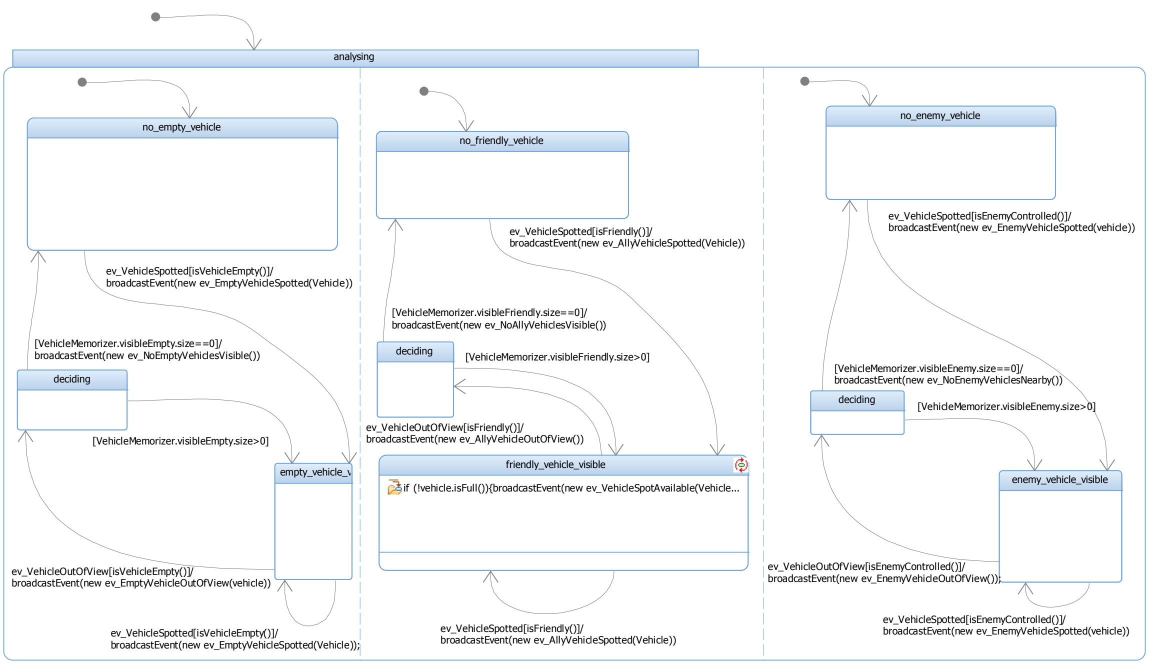

Figure A–20: The *VehicleAnalyzer*.

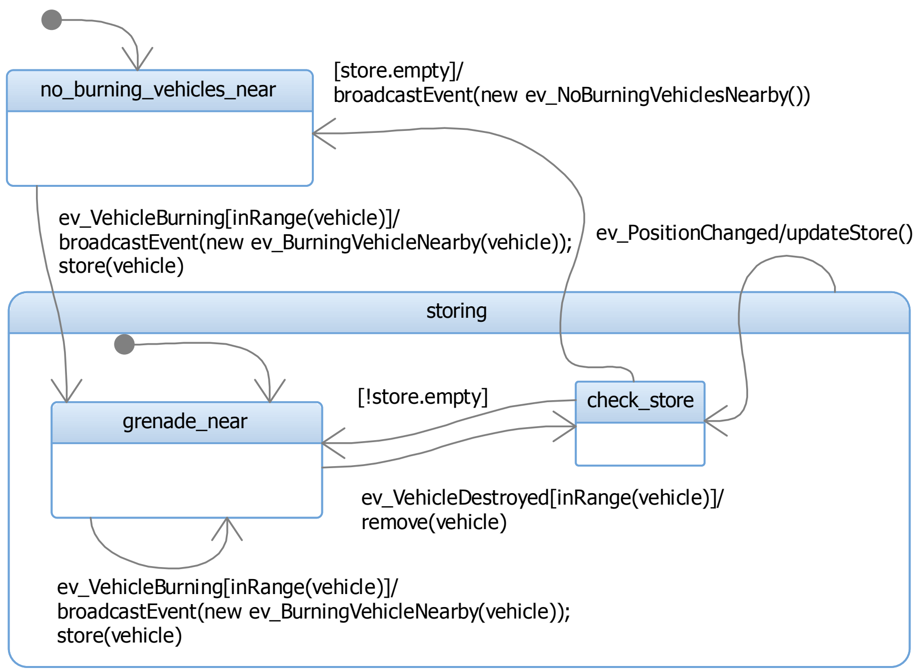

Figure A–21: The *VehicleProximityAnalyzer*.

A.3 Memorizers

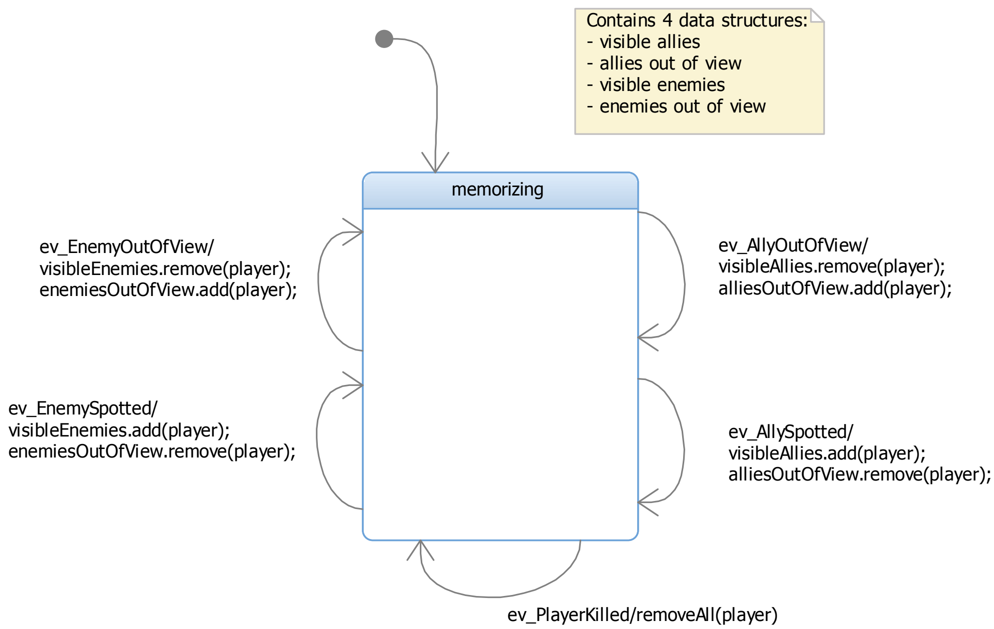

Figure A–22: The *CharacterMemorizer*.

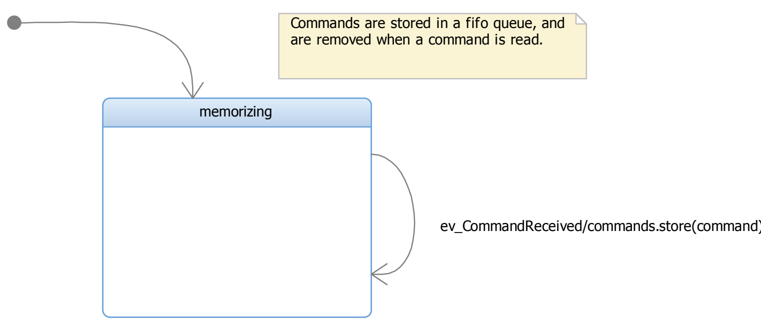

Figure A–23: The *CommandMemorizer*.

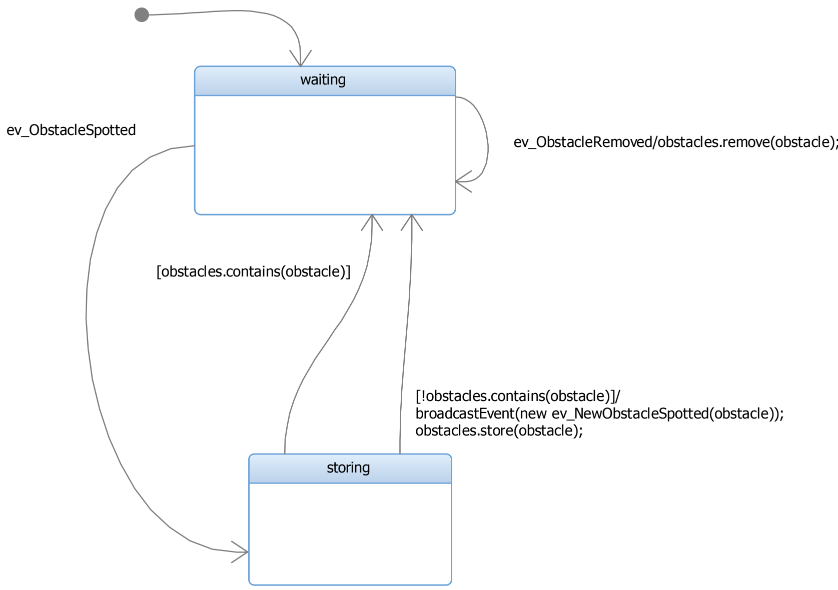

Figure A–24: The *ObstacleMemorizer*.

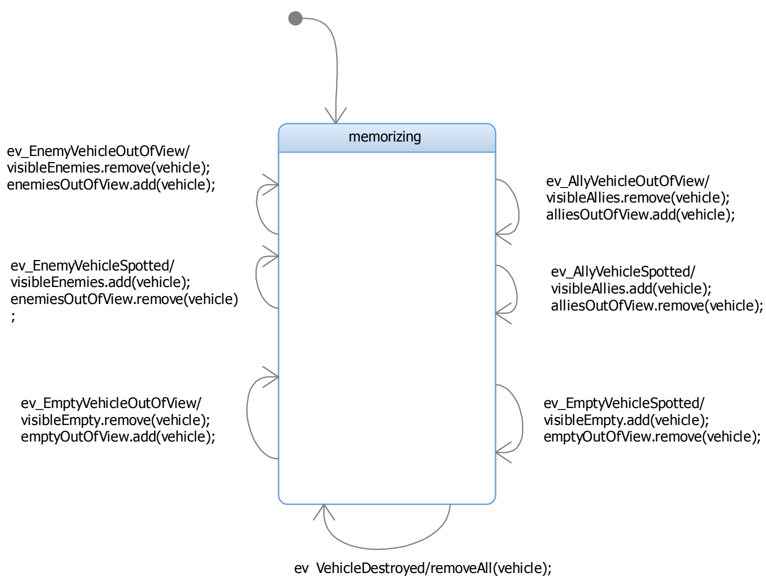

Figure A–25: The *VehicleMemorizer*.

A.4 Strategizer

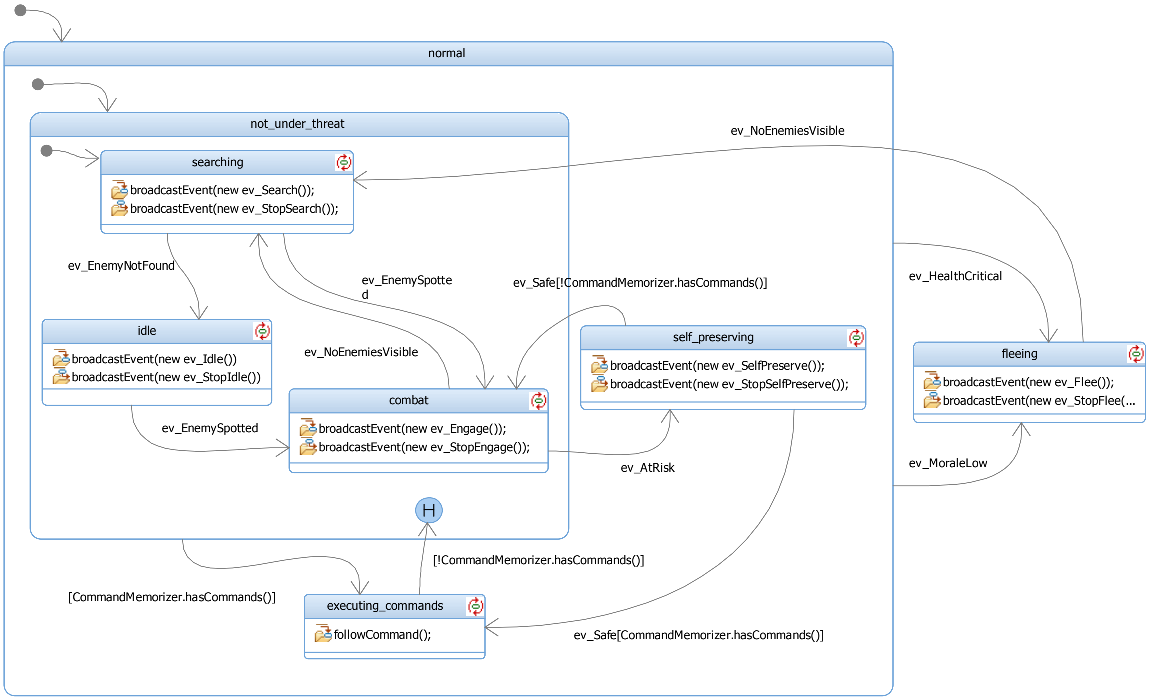

Figure A–26: The *Brain*.

A.5 Deciders

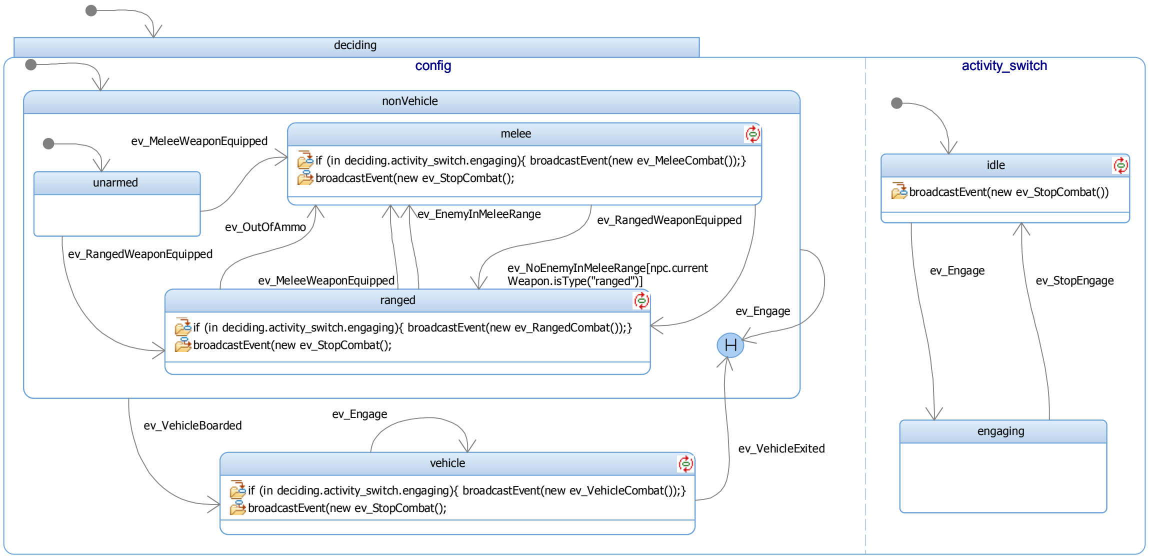

Figure A–27: The *CombatDecider*.

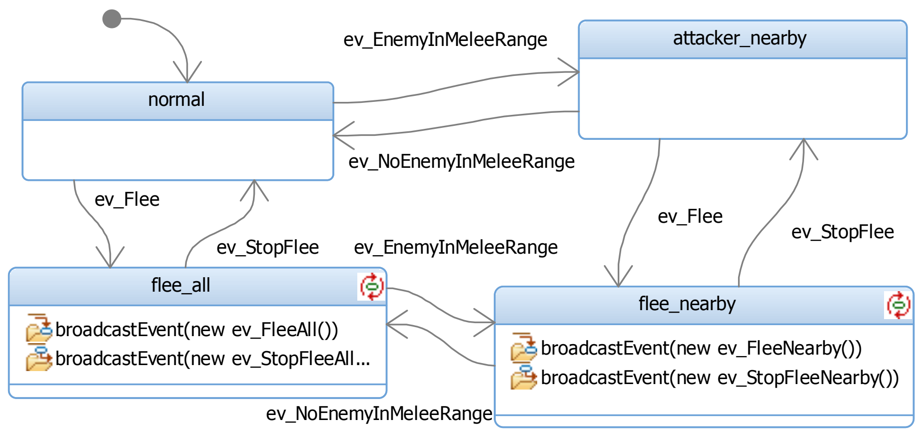

Figure A–28: The *FleeDecider*.

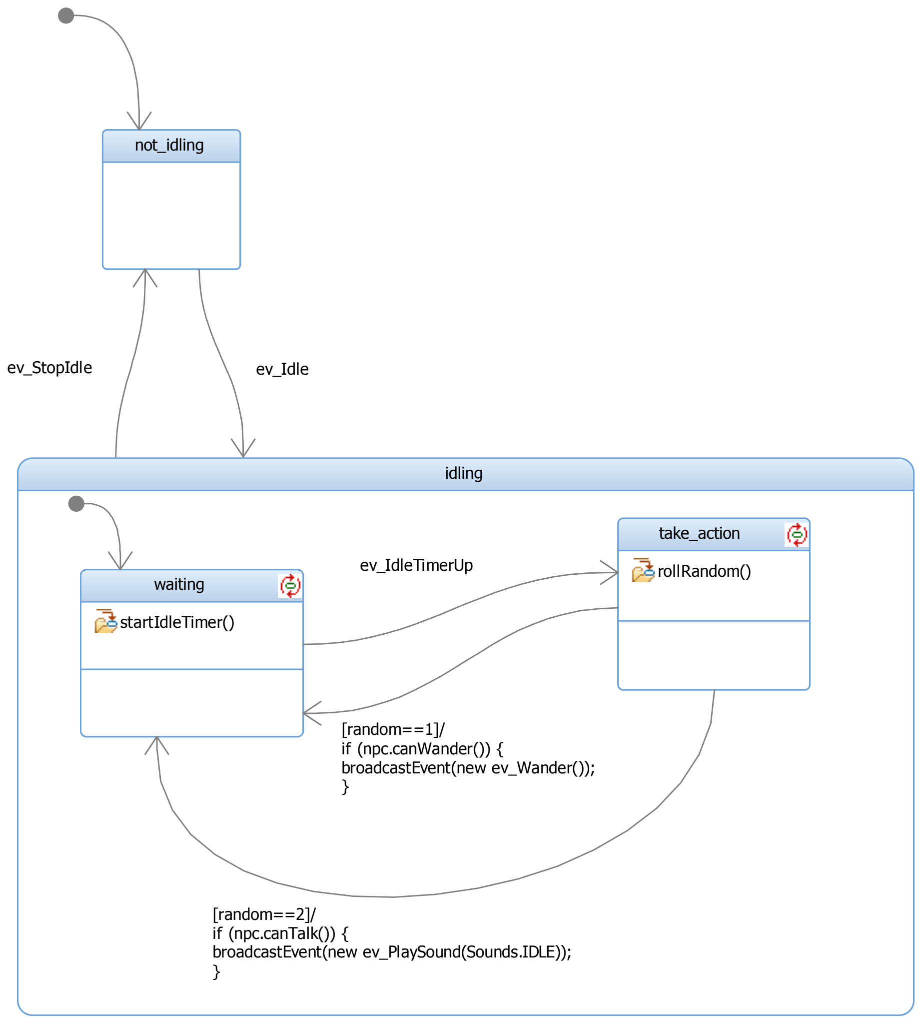

Figure A–29: The *IdleDecider*.

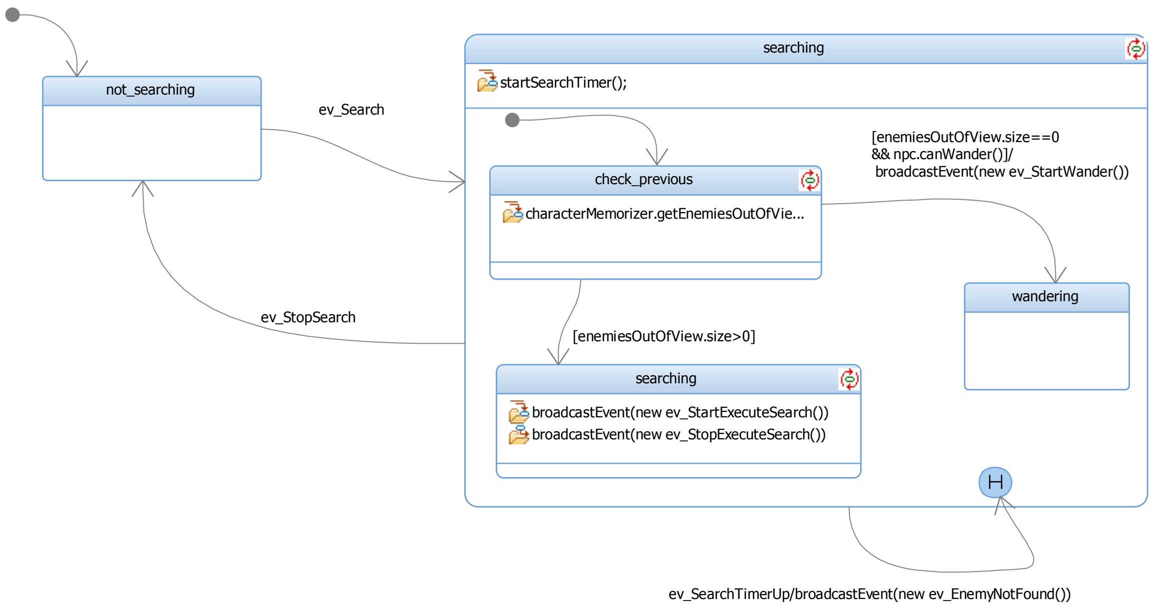

Figure A–30: The *SearchDecider*.

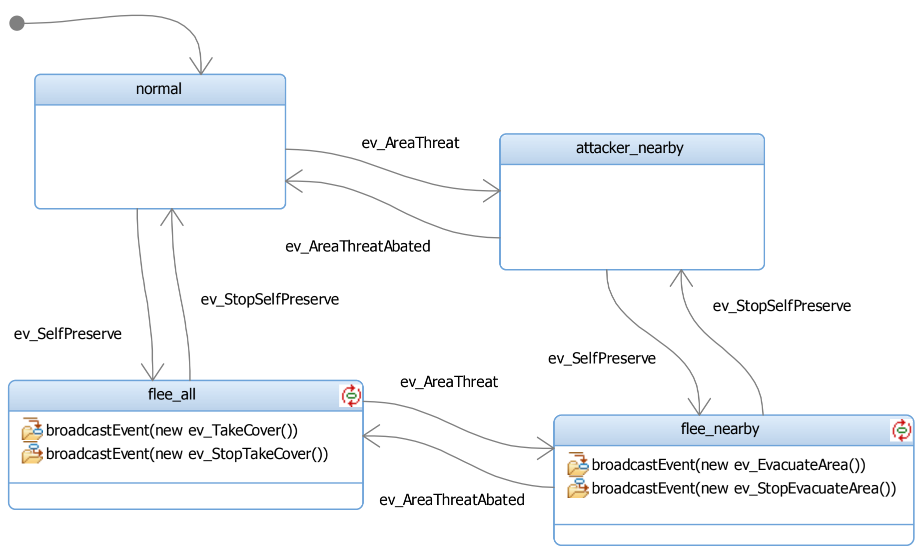

Figure A–31: The *SelfPreservationDecider*.

A.6 Executors

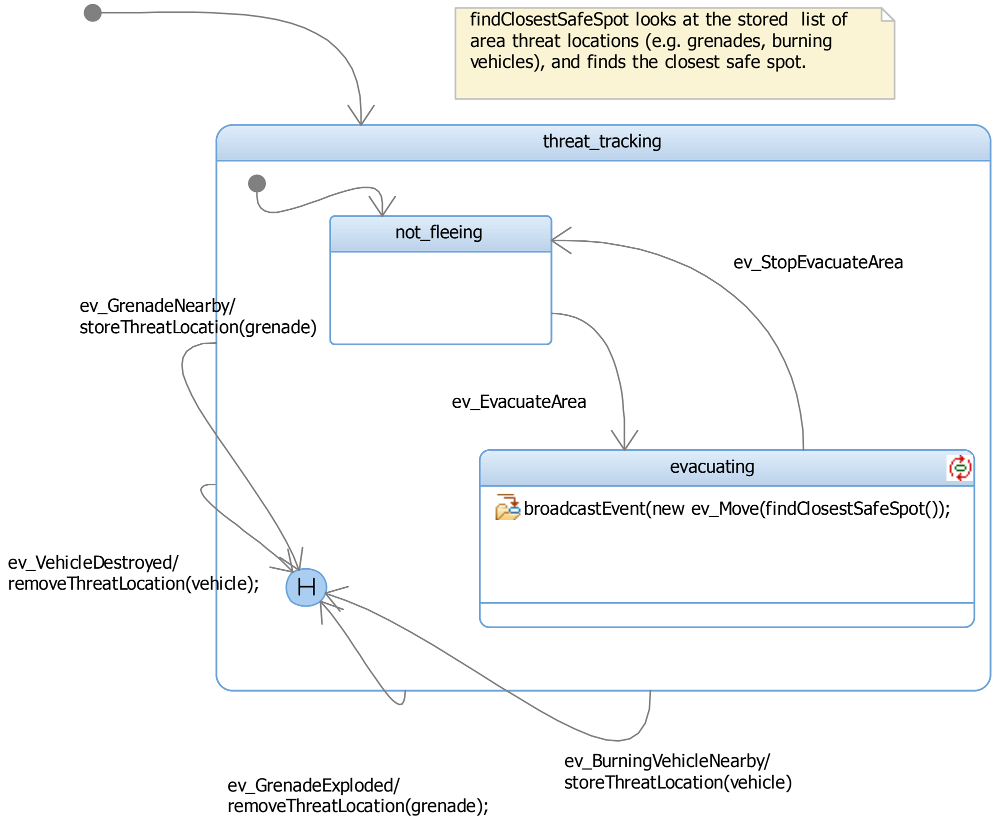

Figure A–32: The *ClearAreaExecutor*.

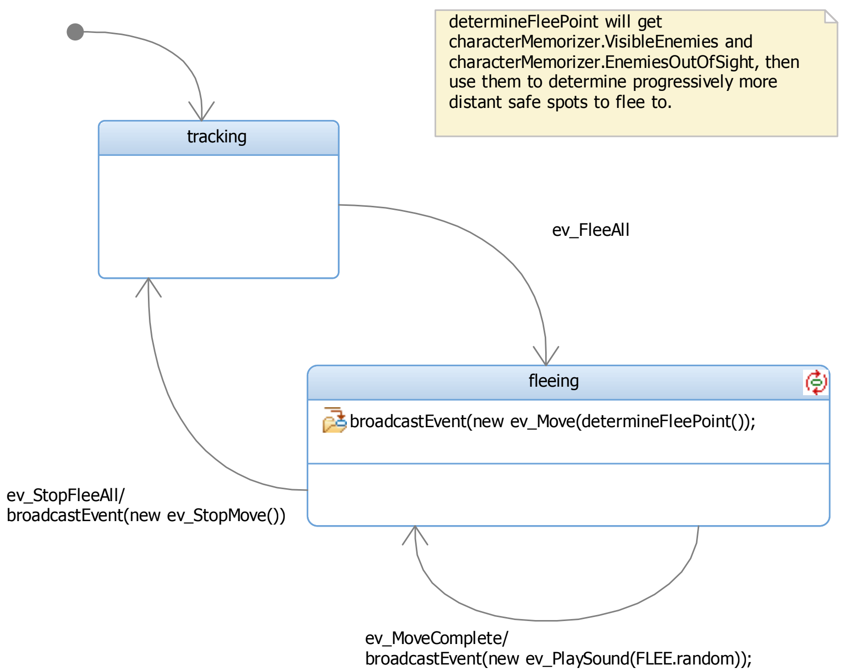

Figure A–33: The *FleeAllExecutor*.

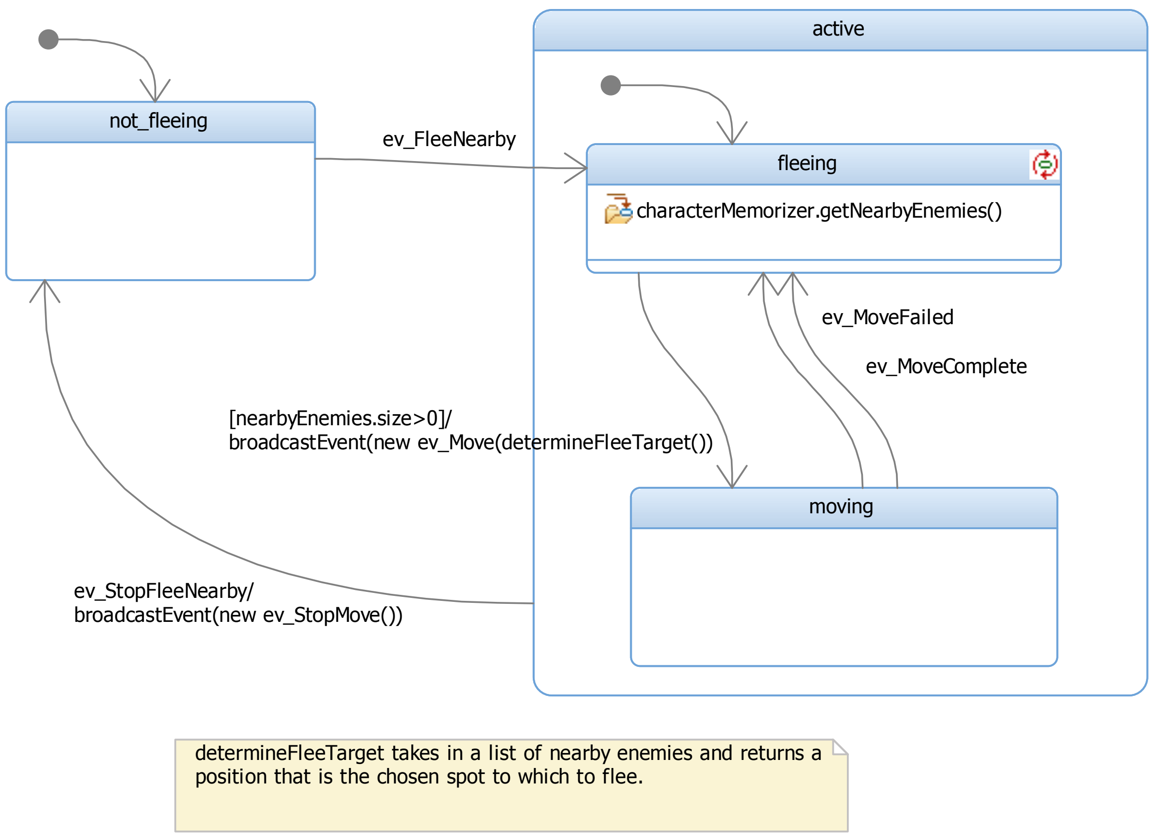

Figure A–34: The *FleeNearbyExecutor*.

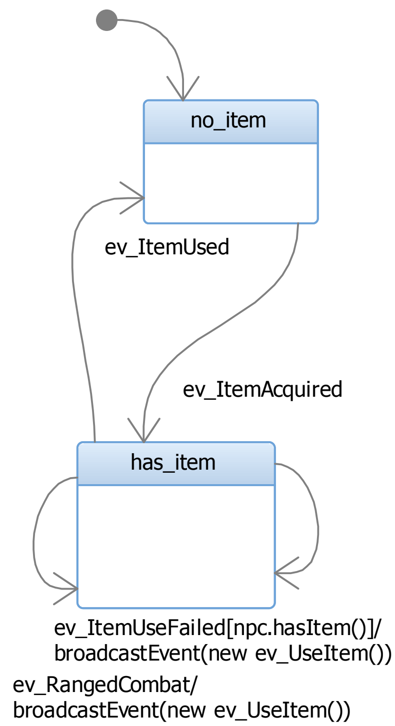

Figure A–35: The *ItemExecutor*.

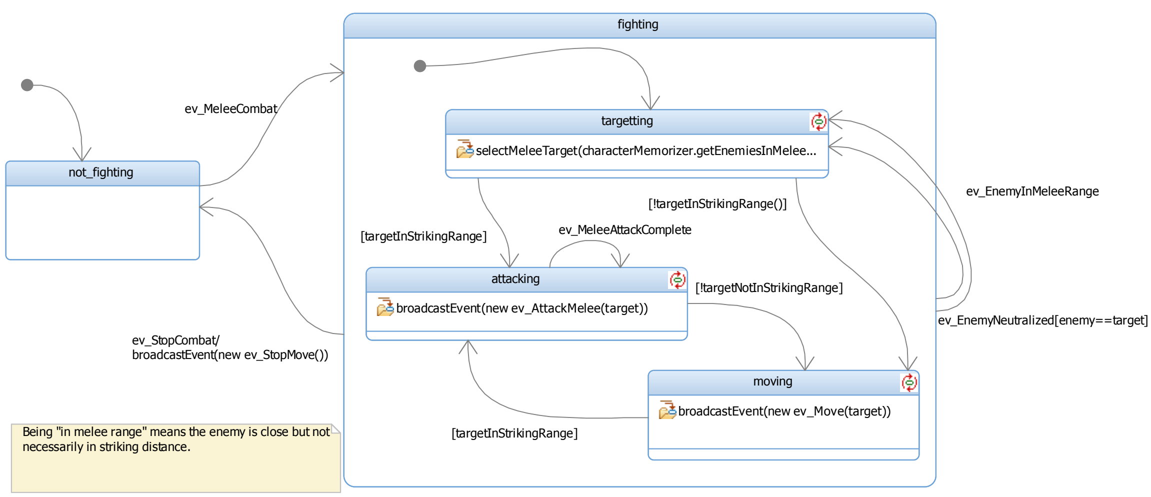

Figure A–36: The *MeleeCombatExecutor*.

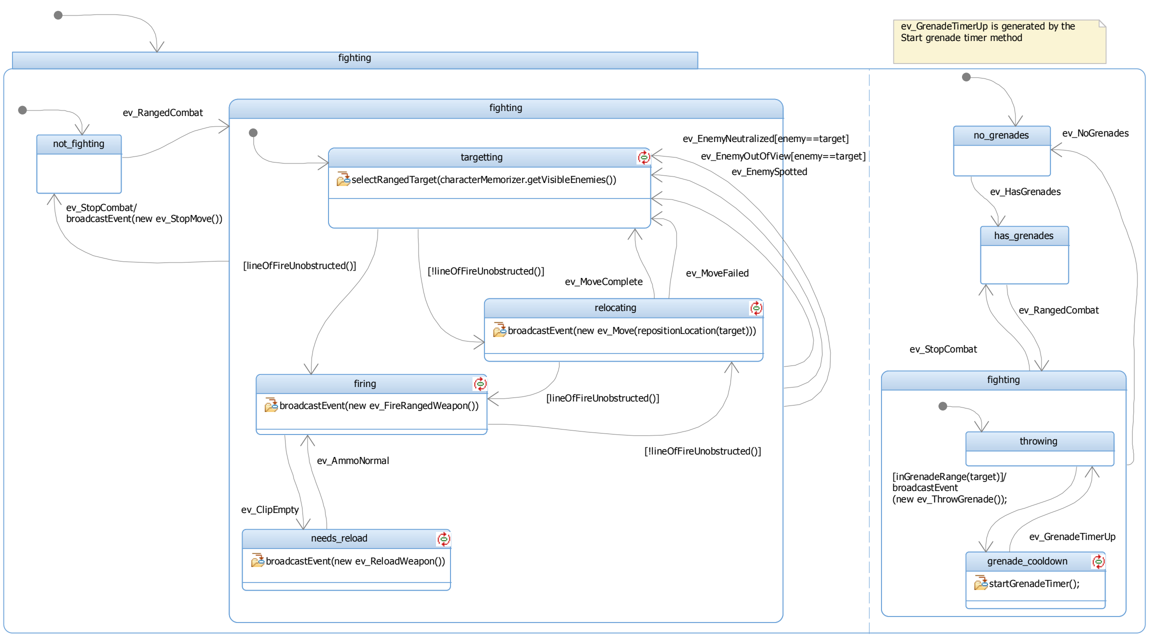

Figure A–37: The *RangedCombatExecutor*.

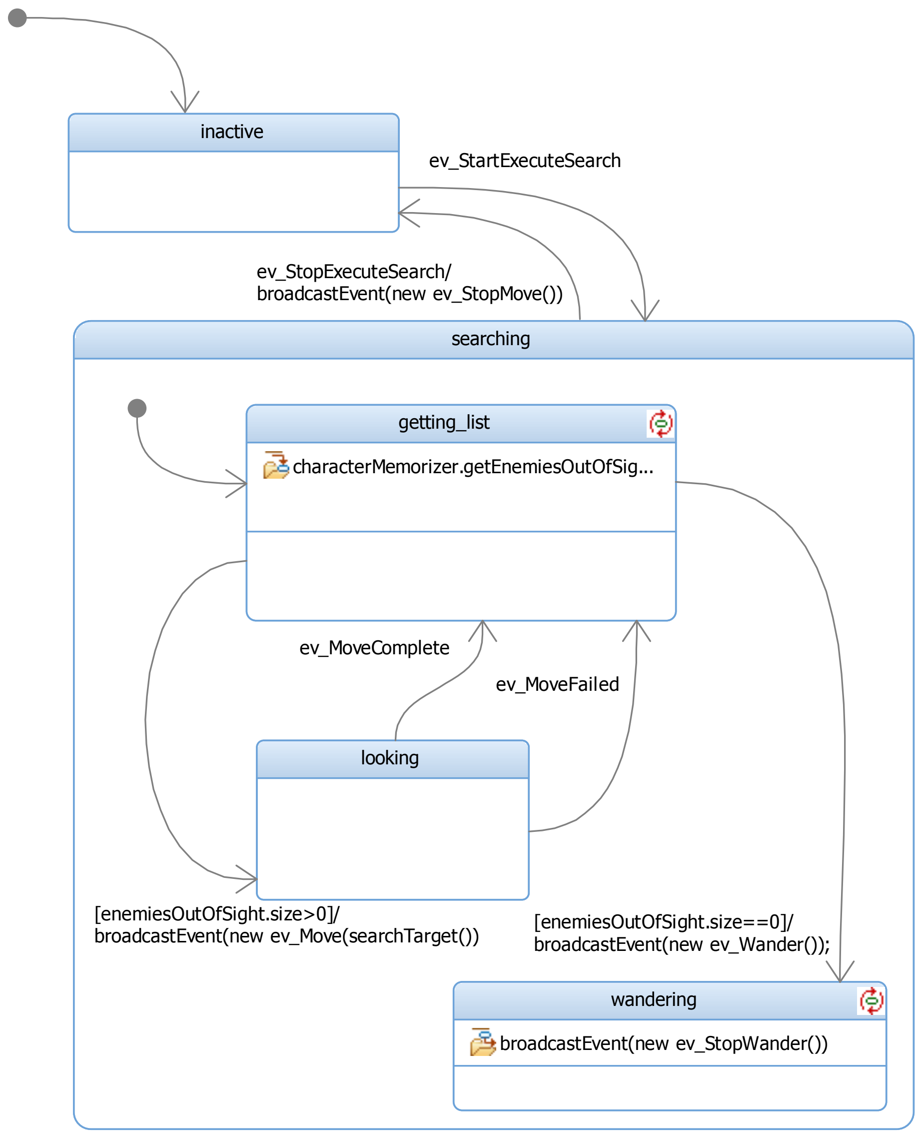

Figure A–38: The *SearchExecutor*.

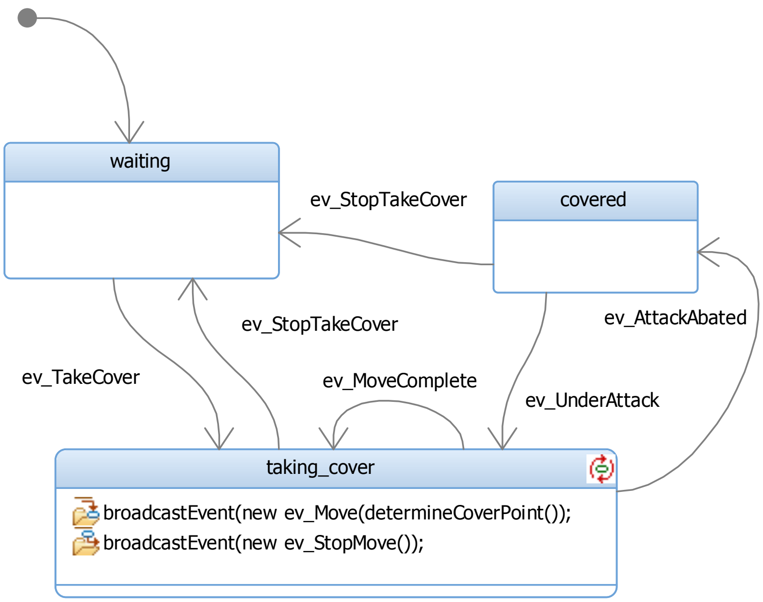

Figure A–39: The *TakeCoverExecutor*.

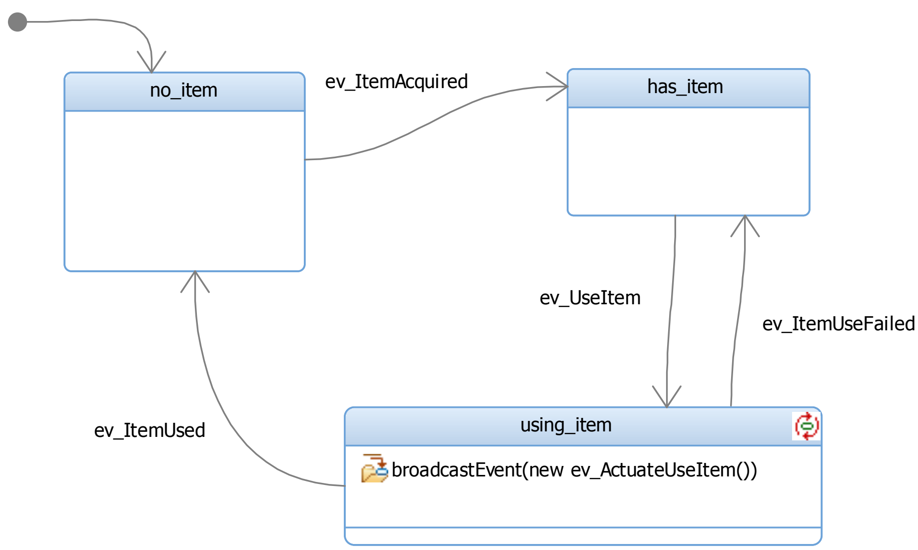

Figure A–40: The *UseItemExecutor*.

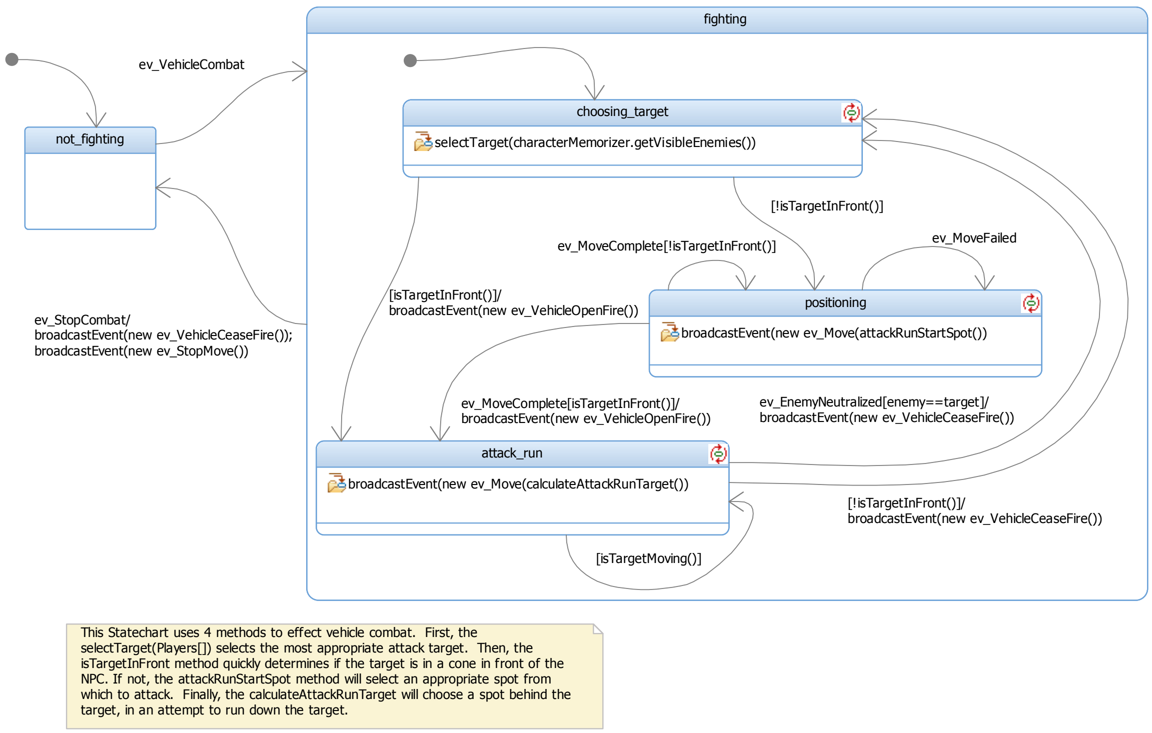

Figure A–41: The *VehicleCombatExecutor*.

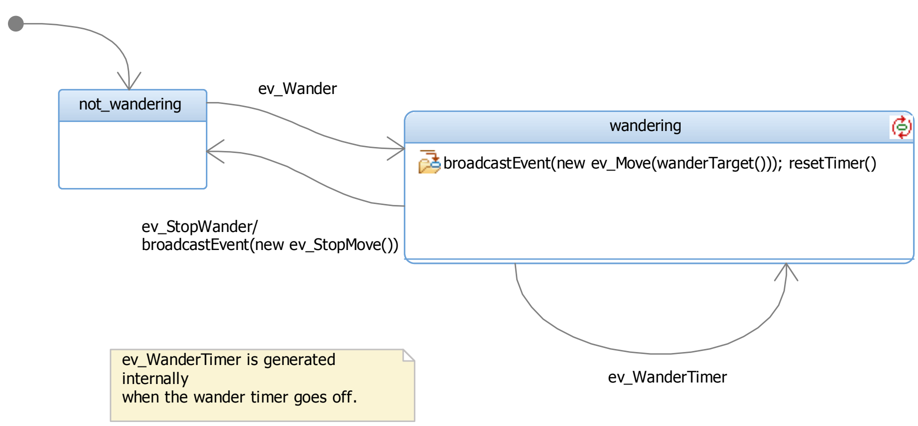

Figure A–42: The *WanderExecutor*.

A.7 Coordinators

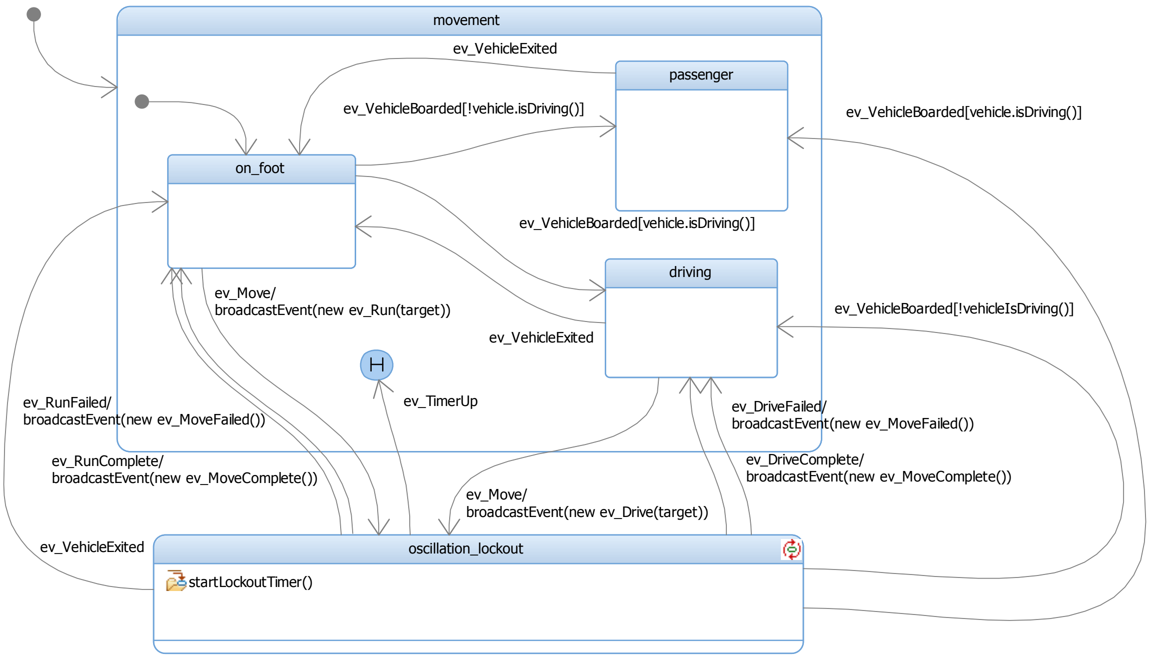

Figure A–43: The *MovementCoordinator*.

A.8 Actuators

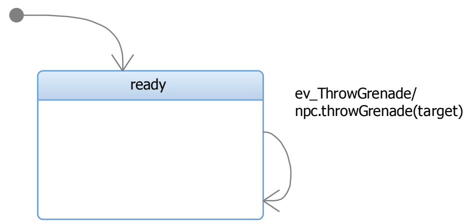

Figure A–44: The *GrenadeActuator*.

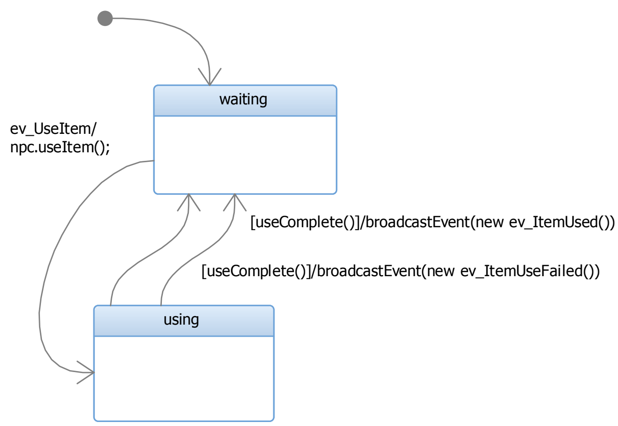

Figure A–45: The *ItemActuator*.

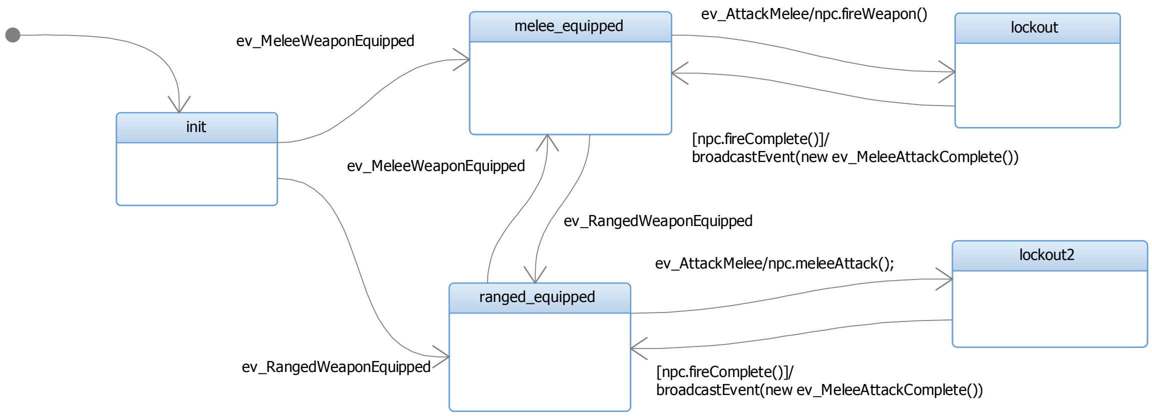

Figure A–46: The *MeleeActuator*.

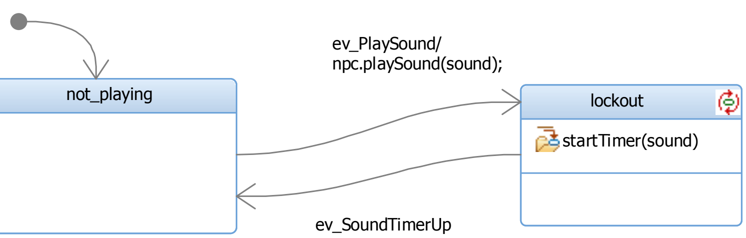

Figure A–47: The *SoundActuator*.

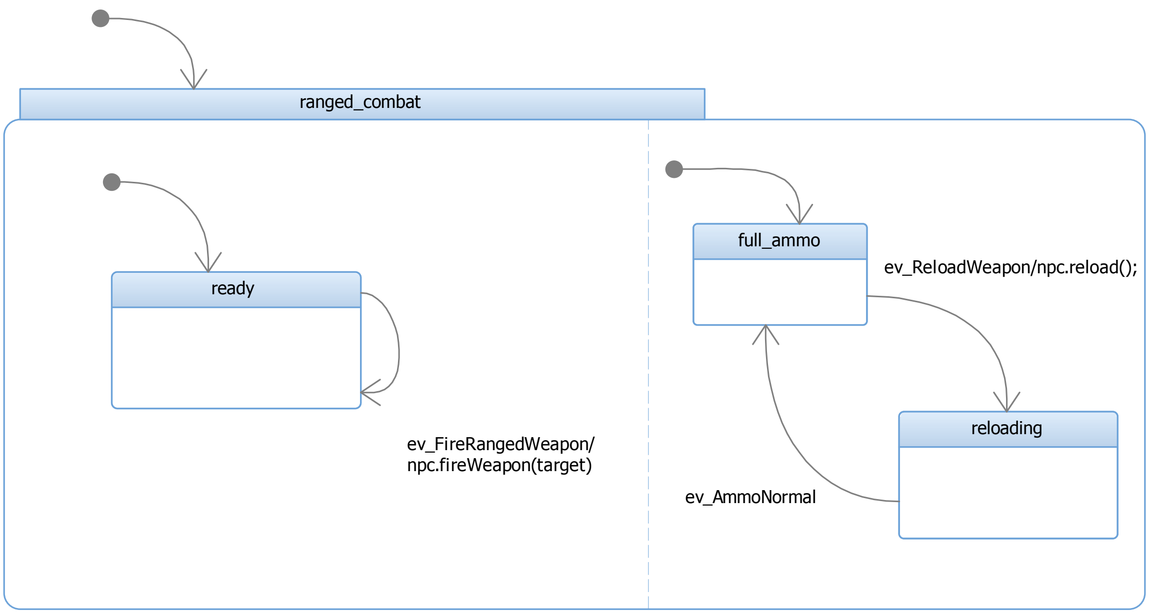

Figure A–48: The *RangedCombatActuator*.

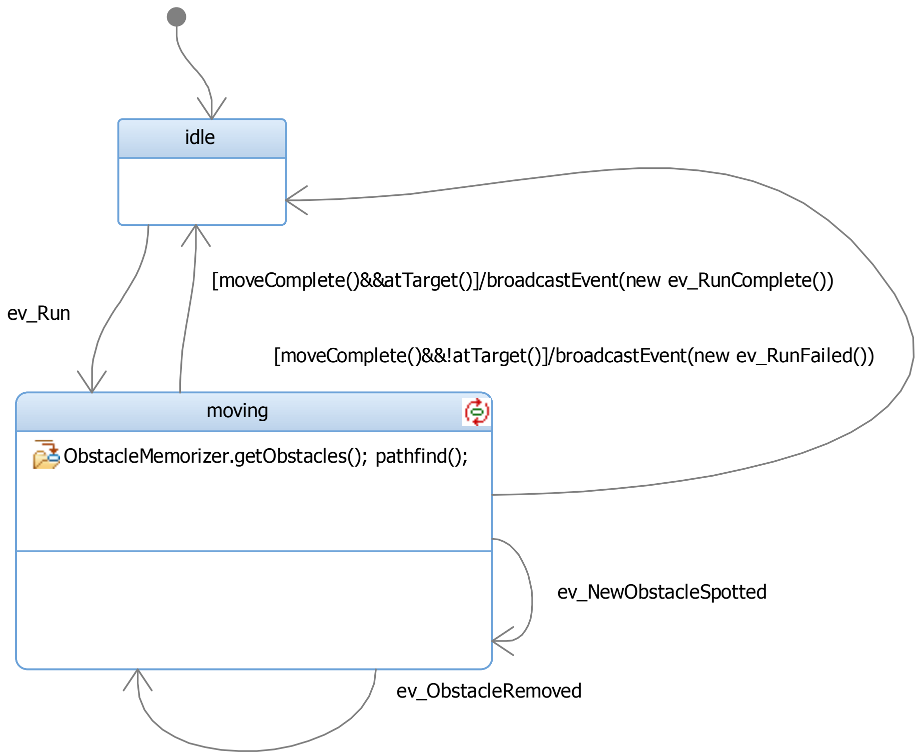

Figure A–49: The *RunActuator*.

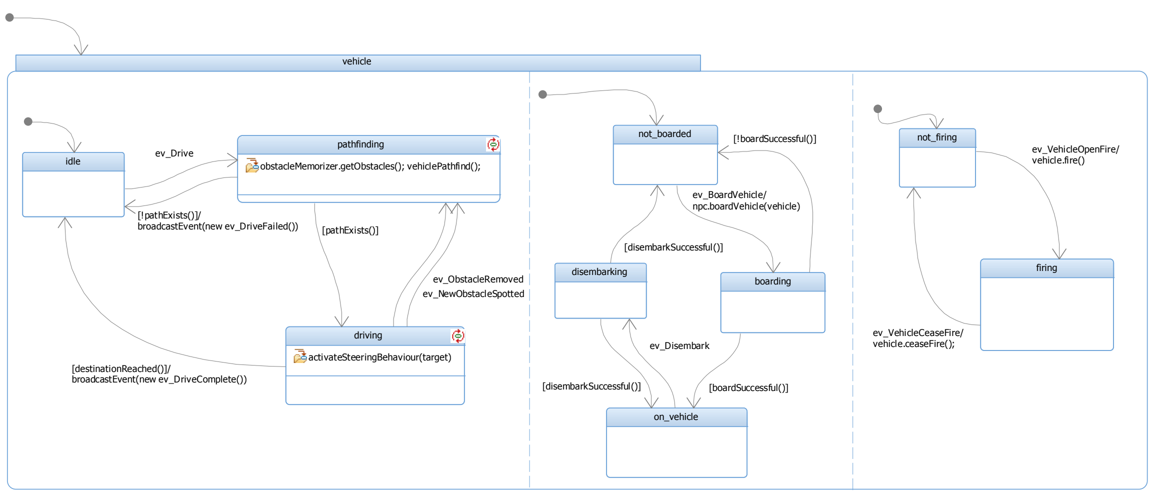

Figure A–50: The *VehicleActuator*.