Tony Dimitrov Refactoring Document
Refactor Chosen: Extract Methods

Files Changed: arena.cc, arena.h

Location of changes: In the UpdateEntitiesTimestep function, extracted methods for checking for starvation, updating light sensors, updating food sensors, and handling all of the collisions.

Why I made this change: A function should only handle one task, in my implementation the UpdateEntitiesTimestep function handled far more than that. The function was very convoluted and far too big as it handled updating sensors, setting the game status, and handling collisions. I changed this so that the function only calls helper functions to accomplish those tasks. The program is much more readable now, especially the UpdateEntitiesTimestep function. Furthermore, if a change was wanting to be implemented it would be easier to locate the location of said change. For example, if I wanted to change the way entities collide with the wall I would know to go to the function titled "HandleEntityCollisions". The extract methods are as follows: CheckIfStarving – Loops through all of the robots and checks if their starving time is 0 or below, if so set game status to lost, UpdateLightSensors – Loops through and notifies all light sensors, UpdateFoodSensors – Loops through and notifies all food sensors, HandleAllCollisions – determines behavior of the entities after they register a collision.

*Please note HandleAllCollisions is broken down further into HandleWallCollisions and HandleEntityCollisions which handle the behavior of the entities with the wall and other entities respectively.