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[illegible]

Feature: MiniAT has ports to return the X and Y distance from the helicopter to the nearest victim. The X distance is the distance between the front of the helicopter and the left side of the victim. The Y distance is the distance between the top of the helicopter and the helicopter and the bottom of the nearest victim.

[illegible]

Name: Building Distance Sensor

Constraints: Buildings must be in front of or currently in line with the helicopter; ground and ceiling sensors are separate entities.

[illegible]

Name: Lose Screen

Constraints: Lose screen must only pop up when the player loses all lives, indicating that they have lost the game; restart starts the simulation from the beginning of the level and score/lives reset.

- Score:
 - Increase for each victim rescued
 - Increase for each distance checkpoint
 - The farther the checkpoint, the more it's worth
 - The faster the level is completed, the more points awarded
 - Decrease for each victim killed
- Collision:
 - Helicopter collides with obstacle: lose a life
 - Helicopter collides with a victim: if hit with helicopter, victim is killed
 - Helicopter collides with ceiling/floor of window: no problem as long as no obstacle is there
 - If collision with non-window-border environment occurs, no lives lost.
 - If collision with buildings happens at 0 lives → "You Lose" end screen plays.
- Obstacles:
 - Obstacles are part of the level, levels are premade

- Rescuing Victims:
 - The helicopter drops a rope to reach the victim
 - The victim has to 'climb' the rope
 - While the victim is climbing the rope they are vulnerable to other obstacles
- Helicopter Physics:
 - The helicopter follows a set of physics rules (inertia/momentum), so it won't start or stop moving instantly
- Helicopter Movement:
 - The helicopter will have a x and y velocity, which will be affected by thrust
 - The helicopter can move anywhere on the screen
 - Cannot move backwards through the level - Super Mario Bros level progression
 - The helicopter can touch each edge of the screen and not crash, as long as an object isn't there
- MiniAT Movement:
 - Peripherals to apply horizontal and vertical thrust, range [-100, 100]
 - Peripherals to return the helicopter's x and y position (in exact pixels)
- MiniAT Sensors:
 - Life sensor
 - Peripheral to return the number of lives the player has left
 - Victim sensor
 - Peripheral to return the horizontal distance to the nearest victim
 - Peripheral to return the vertical distance to the nearest victim
 - Object sensor
 - Peripheral to return the horizontal distance to the nearest object
 - Peripheral to return the vertical distance to the top of the nearest object

SCREENS:

- Title Screen
 - Shows the name of the game, buildings, and has buttons to start or quit
- Pause Screen
 - Darkens the current play screen
 - Displays pause message
 - Has buttons for continue or quit
- End Screen
 - Has buttons for restart or quit
 - Shows credits for authors of program (Our names)
- Lose Screen
 - Displays message indicating that you lost the game.
 - Has buttons to restart game or quit.

- Has background image of cityscape.