In an aerial rescue involving a fire truck ladder, timing is critical. Traditionally, the task is handled by an operator using three joysticks to navigate a ladder to a point of rescue. Even for an experienced firefighter, ladders can delay a rescue due to human error, since the distance from the tip of the ladder to the target is extremely hard to judge, this could increase risk of ladder-building collisions. Even though this is a problem, modern ladders do not incorporate sensors for preventing this type of collision, but this is where our system comes into play.

Our solution is simplifying and partially automating the control of the ladder on a fire truck aerial apparatus. FTLAGS reimagines the ladder deployment process. The user designates the ladder’s target using a “point and shoot” interface. The microcontroller in the Handset in conjunction with linear actuators on the Joystick Integration Module then uses the truck’s existing controls to place the ladder at the target. This product decreases the possibility of human error, and the time and cost of training human operators.