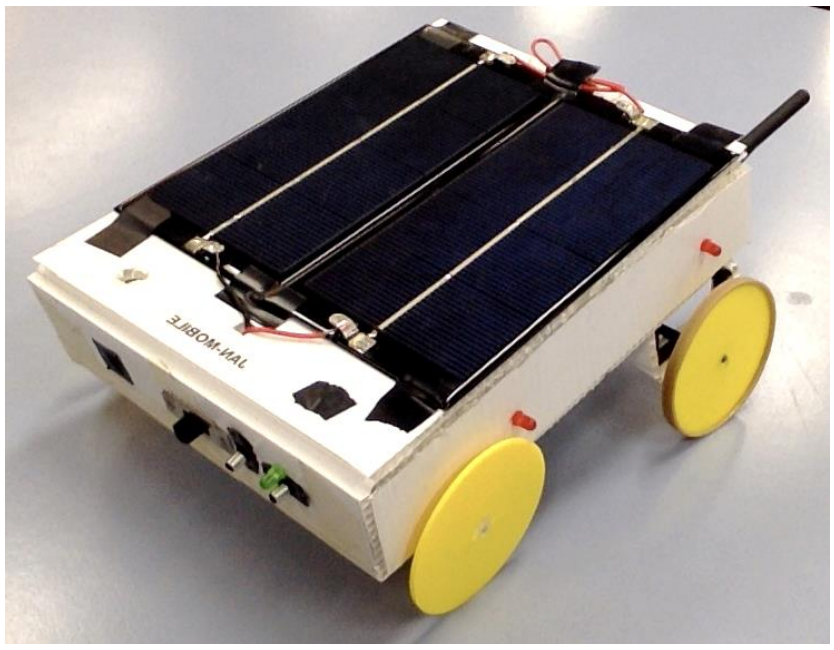
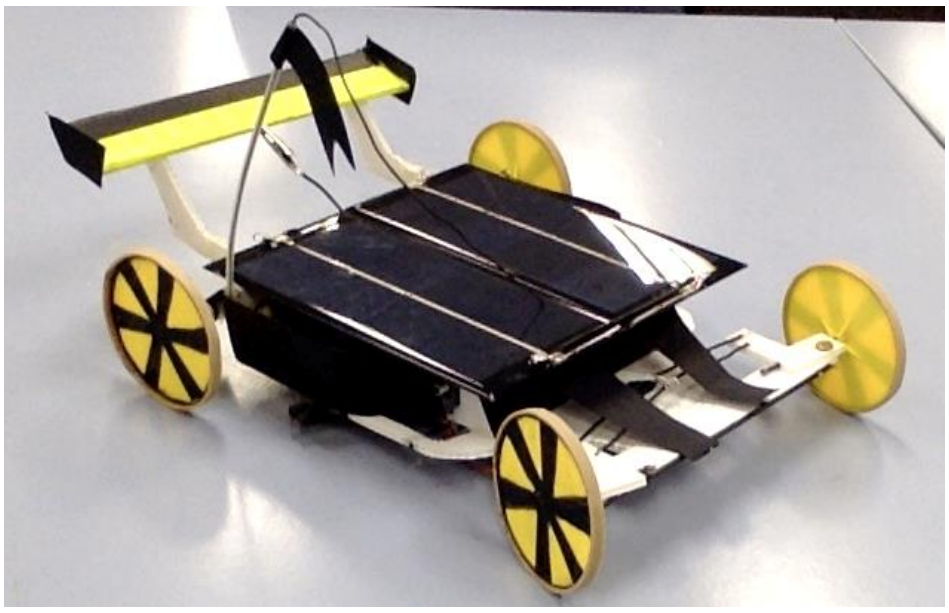
SOLAR VEHICLE MODIFICATION Engineering Project (Motion Module) – Yr 10 iSTEM course

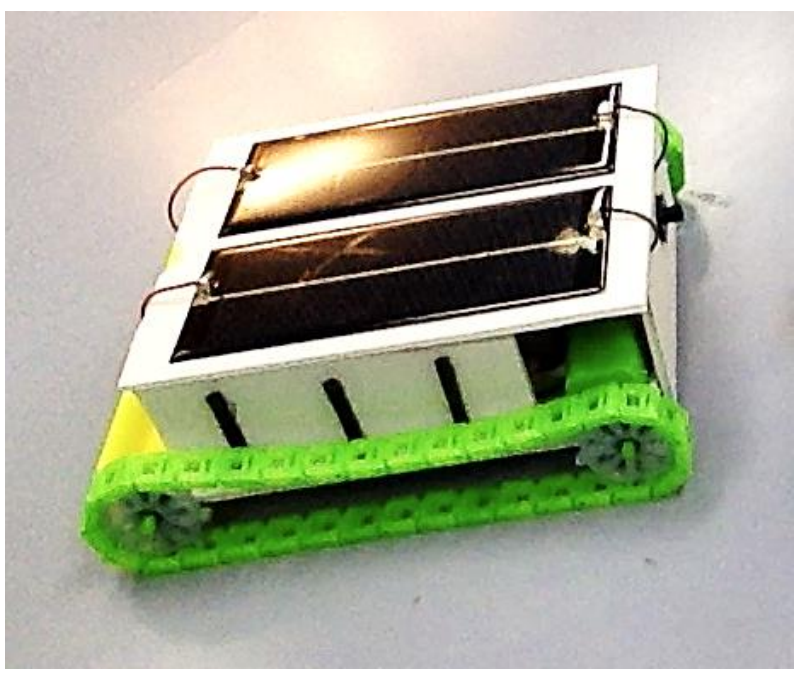
Description of task: Students are issued a basic solar car kit containing 2 photovoltaic panels, a small motor, 4 wheels, 2 axles, and a sheet of white plastic corflute. They quickly assemble this, and then determine how they could engineer additional <u>functionality</u> to it. *(Photo's below of some of the 2015 Year 10 iSTEM class's projects.)*



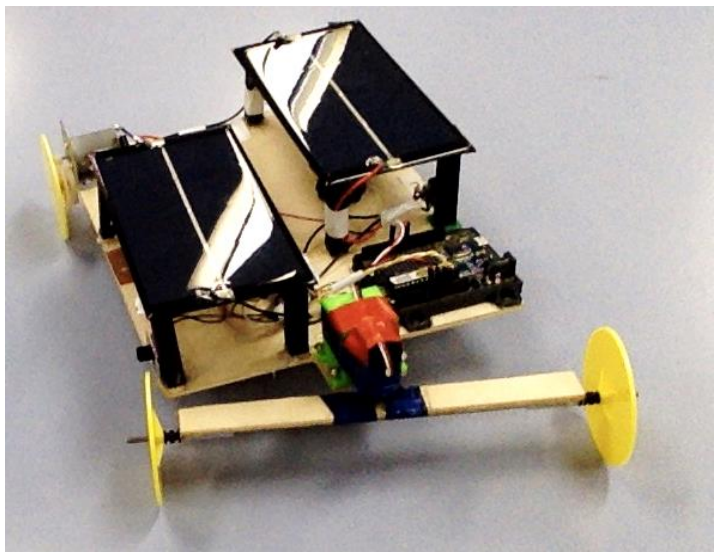
Additional Engineered Functionality:
- ***Remote Control (RF)***
- ***Servo-powered steering linkage***
- ***Battery back-up power source***
- ***Speed control***
- ***Arduino microprocessor/controller***
- ***LED indicator lights***



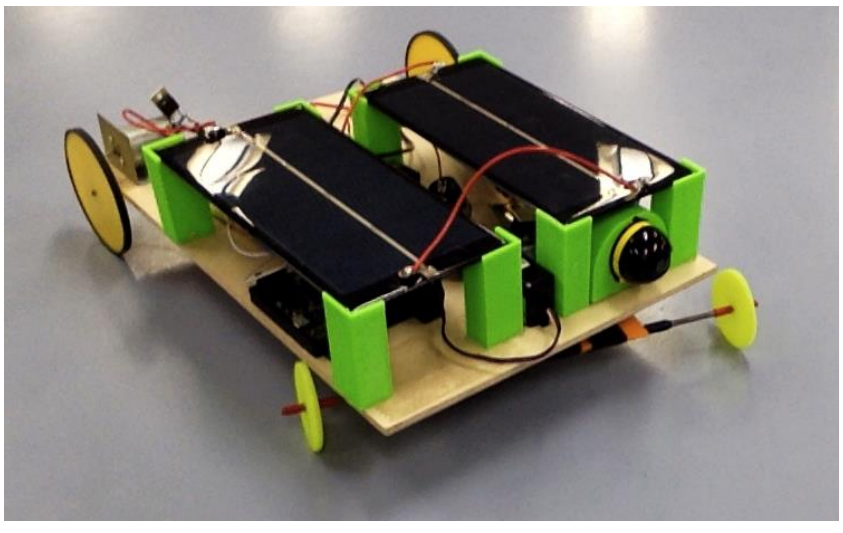
Additional Engineered Functionality:
- ***Remote Control (RF)***
- ***Servo-powered steering linkage***
- ***Battery back-up power source***
- ***Speed control***
- ***Aerodynamic Spoiler at rear***
- ***Arduino microprocessor/controller***



Additional Engineered Functionality:
- ***Remote Control (RF)***
- ***All terrain tank tread & sprocket drive (3D printed)***
- ***Battery back-up power source***
- ***Dual drive motors for steering (3D printed engine mounts)***
- ***Arduino microprocessor/controller***



Additional Engineered Functionality:
- ***Remote Control (RF)***
- ***Servo-powered steering linkage***
- ***Battery back-up power source***
- ***Speed control***
- ***Arduino microprocessor/controller***
- ***3D printed solar cell mounts***



Additional Engineered Functionality:
- ***Remote Control (RF)***
- ***Servo-powered steering linkage***
- ***Battery back-up power source***
- ***Speed control***
- ***Arduino microprocessor/controller***
- ***3D printed solar cell mounts***
- ***WiFi video camera***