## Powered Exoskeletons

The powered exoskeleton is a suit designed to give the user protection, extra strength, and assistive abilities for the disabled. This suit will allow police officers, entitled Robo-cops, to enter dangerous situations by themselves; where as a normal officer would require a team for back up. It also allows disabled officers use of their legs and arms again, and allows them to get back in the field.

[DIAGRAM OF ROBOCOP]

The exoskeleton can be broken down into 2 major sections: the Armor and the underlying powered exoskeleton.

### The Armor

[SKETCH OF AN ARMOR PIECE, EXPLODED VIEW]

The armor’s main purpose is to protect the Robo-cop. The armor is designed specifically for 1 individual Robo-Cop.

* The armor is made of a titanium alloy; it is roughly 2cm thick to offer adequate protection of the individual adequately.
* The armor ways about 50 pounds, the Robo-cop is unaware of the weight because the powered skeleton carries most of the weight.
* The armor sits 5cm off the Robo-cops body, this allows for more flexibility inside the armor.
* The armor is made of several pieces, these pieces are the chest piece, the head piece, the shoulder pieces, the arm pieces, the hand pieces, and the leg pieces. Each piece is split into 2 independent parts, held together by large metal bolts.
* The back piece is designed to protect the computers as well as over proper support for the Robo-cops back.

### The Powered Exoskeleton

The main purpose of the exoskeleton is to carry the weight of the armor, computer and its battery. Its secondary purpose is to increase the Robo-cops strength significantly.

[SKETCH OF SKELETON]

* The battery can last up to 3 days.
* The exoskeleton is rather flexible and made of plastic.
* The exoskeleton can carry a weight of 150 pounds without the Robo-cop feeling it. The average Robo-cop can carry 350 pounds at the maximum with the exoskeleton.
* It can be modified to provide extra power to legs and arms for disabled officers, this effectively reduces the total carrying weight, but allows disabled officers to walk and function normally.
* The exoskeleton follows the legs and arms with joints where labeled [this is coming in the sketch].
* The exoskeleton uses its onboard computer with the help of the powered joints to help with natural movements. The onboard computer automatically detects motions and adjusts to them as required. [Strength is controlled by the CPU-Brain, so I’m only covering that part in the next section].

This powered exoskeleton will give Robo-cops extra protection and strength giving them a decisive advantage over normal cops. This will allow Robo-cops to be a significant force in the justice system, as well as give disabled cops the ability to return to cleaning the streets of all unlawful behaviors.