# SMART SPECS

# ENPRO350

# TECHNICAL OVERVIEW

#### GOALS

Develop a concept

Build "Proof of concept" prototype

Technical Report for future EnPRO

#### GOAL EXECUTION

Used pre-built modules for fast development

Introduced team members to hardware and software

Delegated skill enhancing tasks during downtime

#### ACCOMPLISHMENTS

Designed and built prototype

Completed detailed Technical Report

### PROJECT CHALLENGES

Time and Monetary Constraints

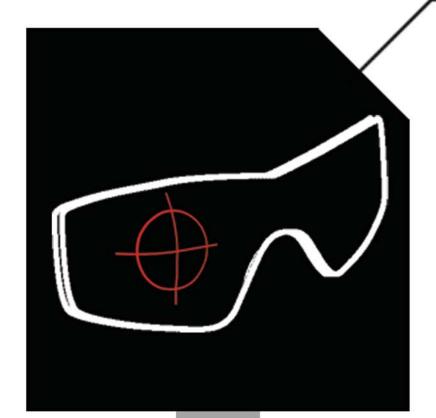
Display technology is still under development

Indoor demonstration

# SYSTEM ARCHITECTURE

Wireless
Communication
allows the device to
"talk" to other Smart
Specs



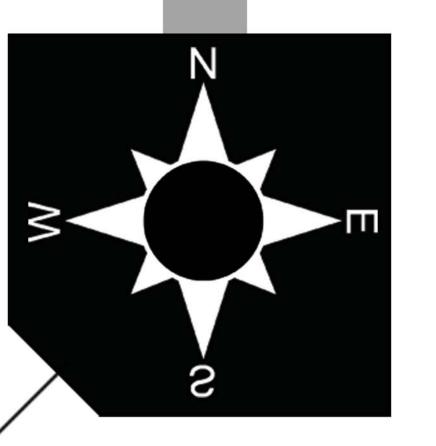


Heads-Up Display (HUD) shows user critical information

# Micro-Controller

Acts as the "brain" of the device. Uses wireless, GPS, and compass data to display on the heads-up display.

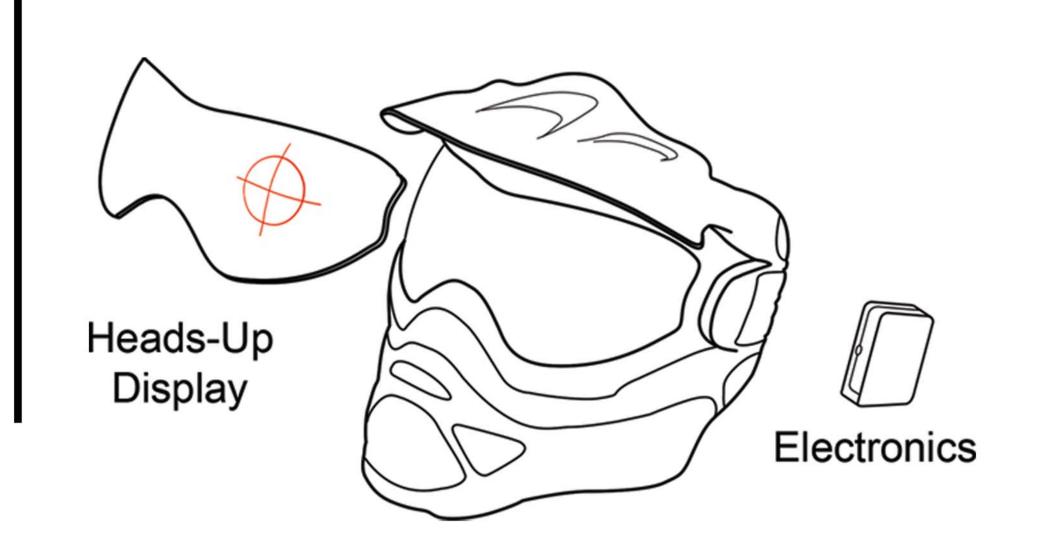
Compass Module gets real-time directional data of the user's head





GPS Module gets real-time location data

### FUTURE CONCEPT



- Heads-Up Display and Electronics retrofitted to the user's paintball mask.
- Runs on a standard 9V battery
- Desired unit cost: under \$200
- Integrated wireless communication,
   GPS, and digital compass
- Real-time display of critical information such as friendly locations
- Low power consumption
- 100 meter wireless communication range
- Programmable by the user

# TECHNICAL PLAN ROADMAP

Fall 2009

Spring 2010

Proof of Concept Prototype Form Study Prototype Visual Prototype

Functional Prototype

Final Product

20% Complete

## RECOMMENDATIONS

### Future Tasks

- Design a refined prototype
- Miniaturize electronics
- Research Local Positioning
   System (LPS)
- Research display systems for HUD