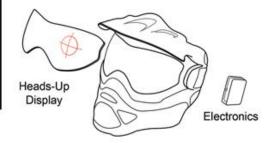
## FUTURE CONCEPT



- 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

## RECOMMENDATIONS

## **Future Tasks**

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

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## SYSTEM ARCHITECTURE

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

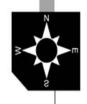
Heads-Up Display (HUD) shows user critical information





# Micro-Controller

Acts as the "brain" of the device. Uses wireless, PGS, 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

#### 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

# SMART SPECS

**ENPRO 350** 



# **Team Members**

Earl Fairall
Purvag Patel
Noah Spitler
Casey Bubert
Dong Hopkins
Sarah Hutchins
John McClusky
Muhammad Pain
Carlos Roa

Jonathan Kobayashi

#### Advisors

Jim Braband Al Glodowski Carolyn Kostelny

## THE PROBLEM

In the hectic crossfire of battle, it can be difficult to distinguish your teammates from your enemies. This often results in friendly fire and casualties.

In the game of paintball, and the reality of war, killing a teammate is the worst of all crisis.



Smart Specs presents new capabilities to the user while eliminating the need for these three separate devices.



Where's the enemy??

## THE SOLUTION

Smart Specs allows the user to track teammates with a tag that marks friendly forces in the heads-up field of view. This digitally displayed information allows the user to identify teammates and enemies.

By identifying teammates, the user avoids friendly fire and eliminates the tragedy of casualties.

#### **ACCOMPLISHMENTS**

Designed and built prototype

Completed detailed Technical Report



There he is!! The tagged enemy and your team mate, both show up on the heads up display built into your paintball mask.

#### MARKET RESEARCH

- Paintball is the number one growing sport in the US according to the National Sporting Goods Association. In the last 5 years it has had an 84% increase with over 9.4 million players in the US currently.
- 28% of these players (1.4 million) play over 15 times a year.
- The paintball market has an average growth rate of 16.8% per year.
- The average household income is \$48,200 for frequent paintball participants.
- In total, players spent over \$720 million dollars on paintball equipment in 2008.
- With projected sales of \$200 for each device, and an expected profit of 25% on each product, if we can reach 3% of the monthly player market over 5-years time, we expect earnings of over 2.1 million dollars in our 5th year.

## RECOMMENDATIONS

#### Future Tasks

- Develop revenue model
- Specifics of distribution and manufacturing

#### Future Markets

- Military
- Airsoft
- Search and rescue
- City police (security)
- Video gaming industry
- Auto industry (wearable GPS systems)

#### Contact us:

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