# COSC 380 INTERNSHIP
## WITH *Q-FREE OPEN ROADS*

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# INTELLIGENT TRANSPORTATION SYSTEMS

- "Intelligent Transport Systems (ITS) are advanced applications which without embodying intelligence as such aim to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated and 'smarter' use of transport networks."

- Apply technology to better plan, design, operate, maintain and manage transport systems.

- Easily identifiable examples:

    - Electronic Toll Collection, like EZPass (you're welcome)

    - Highway Advisory Radio and 511 travel information

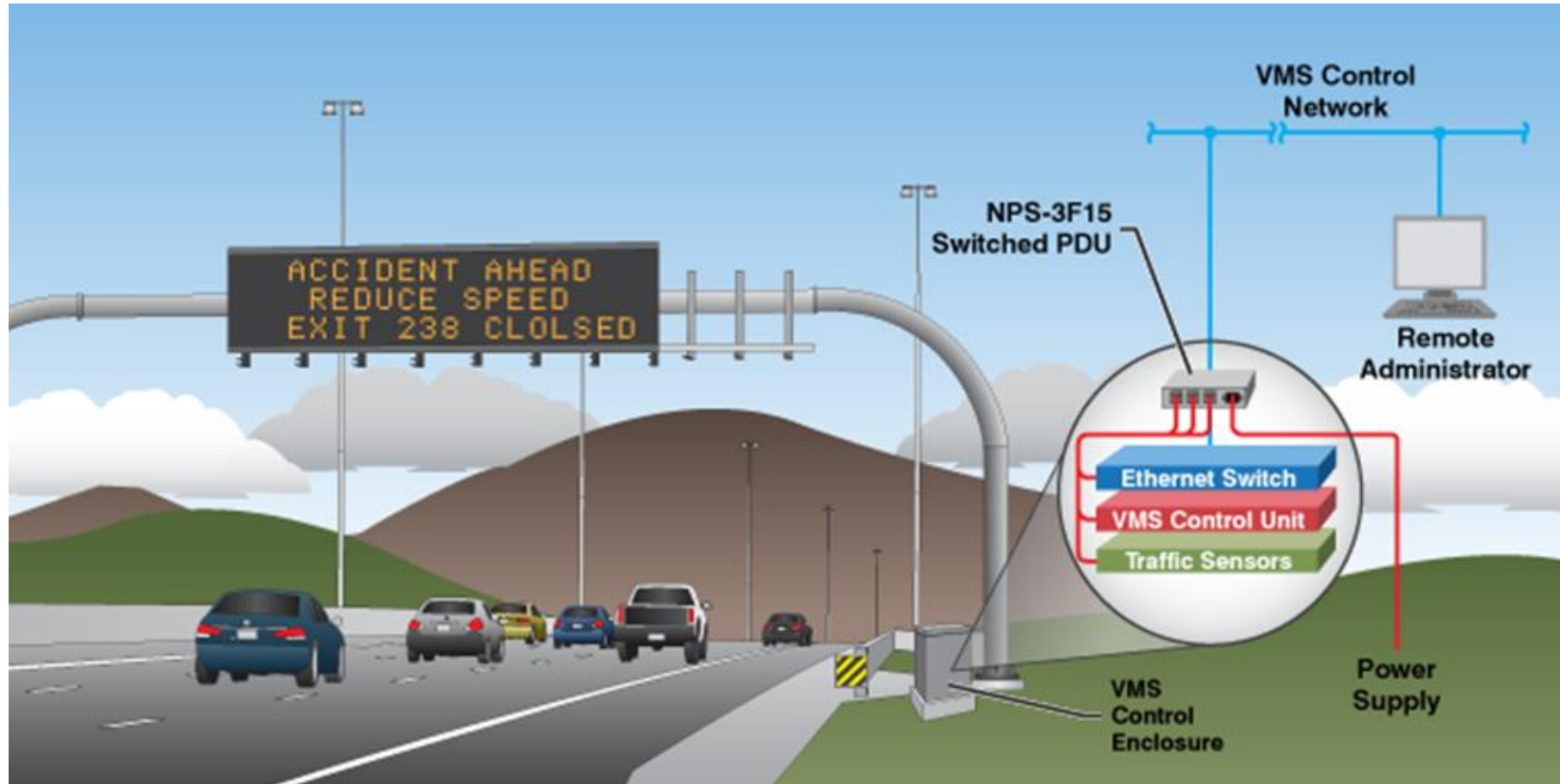    - Intelligent Parking Management

    - Variable Message Signs

# ITS INTEGRATED CITY

# INTELLIGENT PARKING GARAGE

# VARIABLE MESSAGE SIGNS

# TRAFFIC OPERATIONS CENTER

# Q-FREE

- Leading global supplier of products and solutions within the global Intelligent Transportation Systems market.

- Provide class-leading Tolling, Parking, Traffic Management and Connected ITS/Connected Vehicle solutions.

- Began in 1984 as a small group of engineers in Norway developing electronic toll collection systems. Deployed the world's first full-speed non-stop Electronic Toll Collection system in 1988, and played active roll in the emerging tolling markets in Europe, Australia, and South America. Since the mid 2000's they have expanded their scope in the ITS industry to include Automatic License Plate Recognition, Advanced Traffic Management Systems, and Road User Charging.

**"queue" free**

# OPEN ROADS CONSULTING



- Privately owned company established in 2000 in Chesapeake, VA.  The company now has about 80 employees and operates mission critical traffic deployments and video based surveillance of critical assets in 30 states in the US.

- Specializing in ATMS, featured products OpenTMS, LCAMS, VICADS.

- Acquired by Q-Free in September 2014.

- Began with ATMS software, and have since expanded into security, tolling, and LPR fields.

# MY RESPONSIBILITIES AND TASKS

- QA Team Member

  - Software Testing

  - Internal and External Company Documentation

- Database Management

  - Requirement Fulfillment Tracking

  - Integration of Requirements and Bug Fixes

- SCRUM Team participation

# CHALLENGES FACED

- Unfamiliarity with test scripting

- Large and complex products

- Challenging workplace environment?

- Undertasking?

# HOW CLASSROOM EXPERIENCE HELPED

- Database

- Computer Graphics

- Teacher-Student Relationship Dynamic

- Conflict Analysis & Dispute Resolution Courses

# TAKEAWAYS

- Importance of developer/QA and leader/member relationships in a thriving workplace

- Career opportunities in the world of software development

- Workplace culture of a small software development business

- Implementation of Agile SDLC

- Importance of effective internal documentation

THANK YOU

JOHN CENA