**UCO Parking Management System for People with Disabilities**

# Introduction

Finding a parking place is always a big challenge for everyone working/studying at Central. This is particularly true if a person has disability. It will be very helpful if we can know the available parking space on campus. In this semester, we will design and implement a UCO parking management system that students/faculty/staff with disabilities voluntarily use.

# Project Requirements

1. The architecture of the system will be Client/Server. The client side can be smart phones, tablet PCs, or web browsers. The server side keeps all the data and business logics.
2. Your client application should enable users to
   1. look up the campus parking map
   2. identify reserved parking spots for people with disabilities
   3. search for a parking lot
   4. search for available reserved parking space
   5. get directions to a particular parking lot
   6. navigate to the available reserved parking space
   7. update the status of the parking space (as hold/available/unavailable)
3. You can choose one of the following solutions to implement the client system
   1. Mobile (e.g., Android or iOS) or
   2. Web

If you prefer to use other solutions rather than any of the above, please come discuss with me first.

1. **Some questions for you to think**
2. What if some people forget to update the status of the parking space as available/unavailable? If this situation happens all the time, your system will become unusable.
3. What should you do after finding an available parking space? Make reservation and then drive toward it?
4. What if the parking space is occupied while you are heading to it?
5. You are encouraged to put your system in the cloud or use service oriented architecture (SOA) to provide necessary services to the clients. Possible cloud computing platforms are as follows:
   1. Microsoft Windows Azure
   2. Google App Engine
   3. Amazon EC2
   4. Or a traditional Web server

You can choose other cloud computing platforms. Please come discuss with me first.

# Tools to Use for Design and Development

1. You must use some UML CASE tools to make your analysis and design, such as IBM Rational Software Architect, Rational Rose, Microsoft Visio, etc.
2. You must use Microsoft Project to work out your workplan and use MS Project to keep track of the progress of your project.
3. You may use Microsoft Visio to draw Entity-Relation diagrams (ERDs), and data flow diagrams (DFDs).
4. You must use some Unit Test tools (e.g., JUnit, CppUnit, etc.) to perform automated unit testing.
5. You must use some version control system to maintain the consistency of your code. Possible choices are GitHub, subversion, CVS, Microsoft Visual Source Safe, etc.