

**Brock Butler Class Design Document**  
**CD-MAP03 LOCATE Class**  
**Date Created: 02/26/2013**  
**Version: 1.1**

**Revision History**

Date	Version	Change	Author
02/14/2013	1.0	Initial Draft	Thomas Nelson
02/26/2013	1.1	Revised Draft	Thomas Nelson

**Description**

The LOCATE class is responsible for retrieving the user location. It will be using available wireless access points and the database to estimate which node the user is currently located. This class will be capable of returning the user location as a POSITION type.

**Class Variables**

- **private Position currentLocation;**
  - holds the position of the user
- **private Position previousLocation;**
  - holds the previous position of the user
- **private int[ ] sigStr;**
  - holds top 10 signal strengths
- **private int[ ] freq;**
  - holds top 10 frequencies
- **private String address;**
  - holds top 10 mac addresses

**Constructors**

- **public Locate ( );**
  - creates a new instance with all variables empty
- **public Locate (Position previous);**
  - creates a new instance with the previous position
  - sets all other variables empty

## Methods

- **public Position calcUserLocation ( );**
  - calculate the user location
  - return the user location
- **private void scanWireless ( );**
  - scan the wireless access points to gather location data
- **private Position searchDatabase (int[ ] locationData);**
  - try to match location data to database entry
- **public boolean checkWifi ( );**
  - checks the Wi-Fi status and returns it as a boolean value

## Debugging Methods

- **void printUserLocation ( );**
  - prints all the user location information if available
- **void printPreviousLocation ( );**
  - prints all previous user location information if available
- **void printWAP ( );**
  - prints all current wireless access point information

## Class Responsibility Collaboration Card

Responsibilities	Collaborators
Calculates user location	POSITION
Gathers current wireless information	MAPPING
Gets location info from the database	
Handles all information in terms of a POSITION	
Return wireless state	

## Class Design Sign-off

Name	Approval Status
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