

**Brock Butler Class Design Document**  
**CD-MAP01 POSITION Class**  
**Date Created: 02/12/2013**  
**Version: 1.1**

**Revision History**

Date	Version	Change	Author
02/12/2013	1.0	Initial Draft	Thomas Nelson
02/26/2013	1.1	Revised Draft	Thomas Nelson

**Description**

The POSITION class is designed to be used as a new type for other classes. It will hold a positions (x,y) coordinates as well as the location name and number. A POSITION will be used to return user position and navigation routes to the user interface. Finally this class will be capable of comparing itself to other positions.

**Class Variables**

- **int x;**
  - holds the positions x coordinate
- **int y;**
  - holds the positions y coordinate
- **int nodeNumber;**
  - holds the position number for comparison and database searching
- **string nodeName;**
  - holds the position name for return to the user interface
  - will be either a block letter or class code

**Constructors**

- **public Position ( );**
  - creates a new position with all variables empty
- **public Position (int inputX, int inputY);**
  - creates a new position with x and y coordinates
  - sets all other variables empty
- **public Position (int inputNumber);**
  - creates a new position with a node number

- sets all other variables empty

## **Methods**

- **void setCoordinates (int inputX, int inputY);**
  - set x and y coordinates of the current position
- **void setNumber (int inputNumber);**
  - set the node number of the current position
- **void setName (string inputName);**
  - set the node name of the current position
- **int getX ( );**
  - return the x coordinate of the current position
- **int getY ( );**
  - return the y coordinate of the current position
- **int getNumber ( );**
  - return the node number of the current position
- **int getName ( );**
  - return the node name of the current position
- **bool compare (Position node);**
  - compares this position to another
  - returns Boolean value

## **Debugging Methods**

- **void printCoordinates ( );**
  - prints the x and y coordinates to the log for testing
- **void printNumber ( );**
  - prints position number to the log for testing
- **void printName ( );**
  - prints position name to the log for the testing

## **Class Responsibility Collaboration Card**

<b>Responsibilities</b>	<b>Collaborators</b>
Holds x and y position	LOCATE
Holds position name	ROUTE
Holds position number	MAPPING
Compares two positions	
Returnable type to be used by other classes	

## Class Design Sign-off

Name	Approval Status
Matthew Menonkariyll	
James Grisdale	
Taras Mychaskiw	