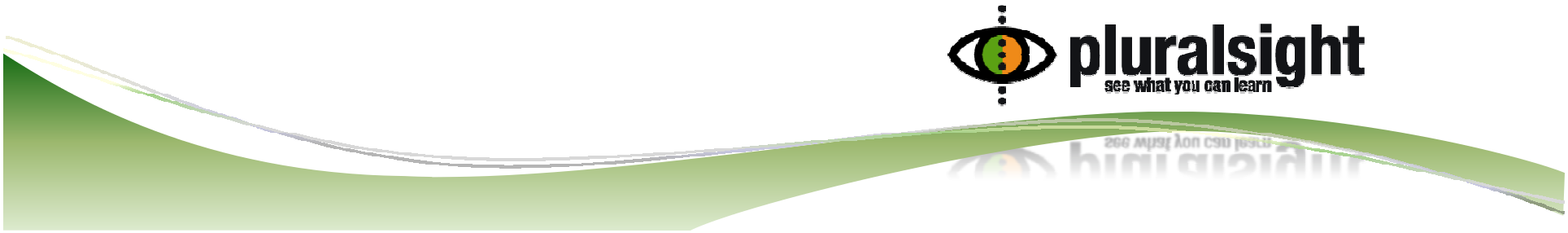
.NET Framework Tutorial

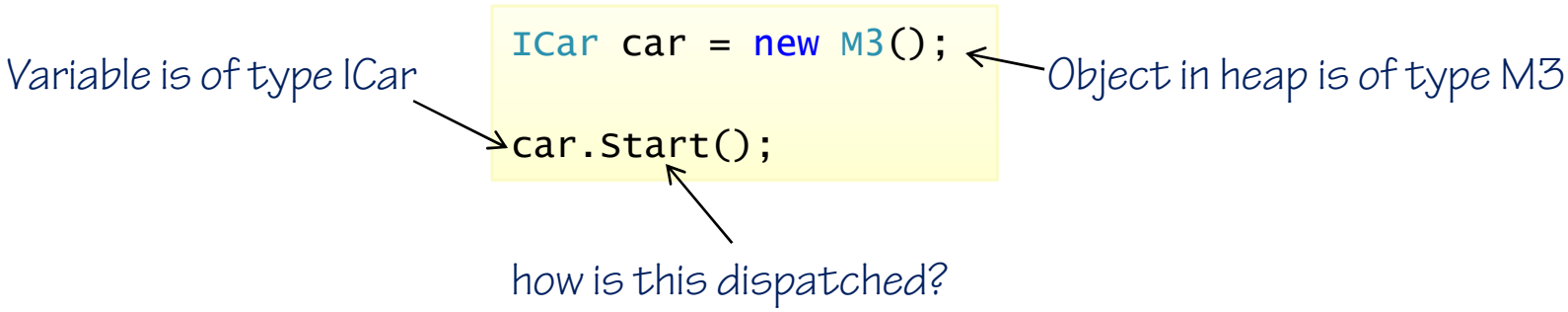
Part 2: Abstractions



Abstraction mechanisms

- **The .NET Framework has support for many types of abstractions**
- **Core abstraction mechanisms include**
  - Interfaces
  - Inheritance
  - Delegates and Events

How late binding works in the .NET Framework



- **Objects (technically *reference types*) have a object header**
  - Current implementation requires 8 bytes
- **Header contains bookkeeping info for the CLR**
  - Type handle
  - Sync handle
  - Bit flags for the garbage collector, etc.
- **The type handle tells the CLR the type of the object**

Value types

- **Int32 and Double are examples of value types**
- **They do not have an object header**
- **If used like an object, they will be copied and wrapped into the heap**
  - This is known as “boxing” and “unboxing”
- **In C#, use the struct keyword to create a value type**
  - This is a performance optimization
  - Helpful where large arrays of these values are used
  - Cannot use inheritance