

Main Ideas

Objects and closures seem closely related
 Closure is an important concept in
 Functional Programming
 SOLID principles lead to a style of design
 that makes Functional Programming quite
 attractive.

SOLID

Single Responsibility (SRP)

Open/closed (OCP)

Liskov substitution (LSP)

Interface segregation (ISP)

Dependency inversion (DIP)

SOLID (ext)

SRP a class should have only a single
 responsibility

OCP "software entities ... should be open
 for extension, but closed for modifi-
 cation."

LSP "objects in a program should be
 replaceable with instances of their
 subtypes without altering the correc-
 tness of that program."

ISP "many client-specific interfaces are
 better than one general-purpose
 interface."

DIP one should "depend upon abstra-
 ctions, [not] concretions."

Object (Data with behaviour)

```
public class FileStore :
    IMessageQuery
{
    private readonly
    DirectoryInfo workingDirectory;

    public FileStore(Di-
    rectoryInfo workingDirectory)
    {
        this.workingDirectory = workingDirectory;
    }

    public string Read(int
    id)
    {
        var path =
        Path.Combine(
            this.workingDirectory.FullName,
            id +
            ".txt");
        return File.ReadAllText(path);
    }
}
```

Closure (Behaviour with data)

```
var workingDirectory = new
DirectoryInfo(Environment.CurrentDirectory);
Func<int, string> read = id =>
{
    var path = Path.Combine(
        workingDirectory.FullName, id +
        ".txt");
    return File.ReadAllText(path);
};
```