

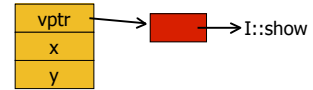
Multiple Inheritance & Java

CSCI 334

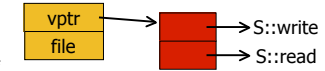
Stephen Freund

Multiple Inheritance

```
class Image {
    int x,y;
    virtual void show();
};
```



```
class Serializable {
    string file;
    virtual void read();
    virtual void write();
};
```



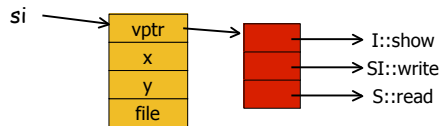
```
class SerialImage: public Image, public Serializable {
    virtual void write();
};
```

Multiple Inheritance

```
SerialImage *si = new SerialImage();
si -> show();
si -> write();
si -> read();
```

```
Image *i = si;
i -> show();
```

```
Serial *s = si;
s -> write();
s -> read();
```

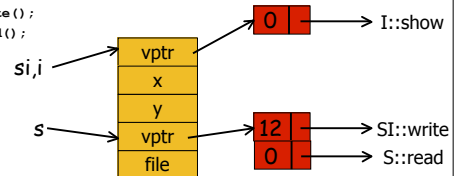


Multiple Inheritance

```
SerialImage *si = new SerialImage();
si -> show();
si -> write();
si -> read();
```

```
Image *i = si;
i -> show();
```

```
Serial *s = si;
s -> write();
s -> read();
```



Gates Saw Java as Real Threat

Publicly, Microsoft chief Bill Gates was nearly dismissive when he talked in 1996 about Sun Microsystems' Java programming language. But in internal company discussions, he wrote to staff members that Java and the threat the cross-platform technology posed to his company's Windows operating systems "scares the hell out of me."

[Wired News Report](#)
8:09 a.m.
22.Oct.98.PDT (material
from '98 trial)

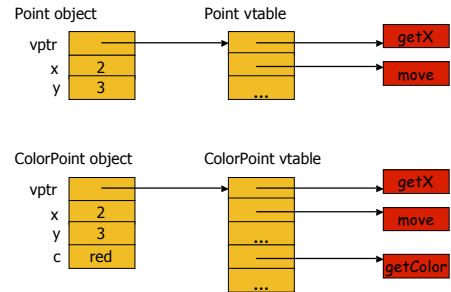
Java Class

```
class Point {
    private int x,y;
    public Point(int xv, int yv) {
        x = xv; y = yv;
    }
    public int getX() {
        return x;
    }
    public int getY() {
        return y;
    }
    public void move(int dx, int dy) {
        setLocation(x+dx, y+dy);
    }
    protected void setLocation(int xv, int yv) {
        this.x = xv; y = yv;
    }
}
```

Java Derived Class

```
class ColorPoint extends Point {  
    private int c;  
    public ColorPoint(int xv, int yv, int cv) {  
        super(xv, yv);  
        c = cv;  
    }  
    public int getColor() {  
        return c;  
    }  
    public void move(int dx, int dy) {  
        super.move(dx, dy);  
        darken(1);  
    }  
    public void darken(int tint) { ... }  
}
```

Java Run-Time Representation (more later...)



Java (2)

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