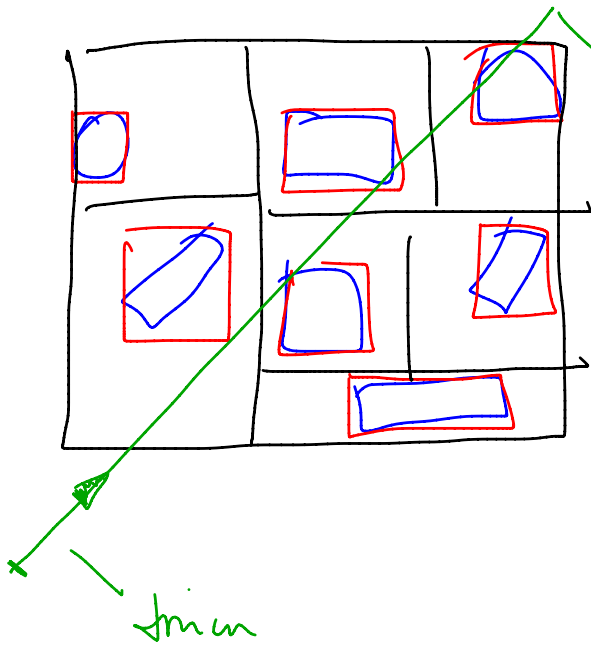


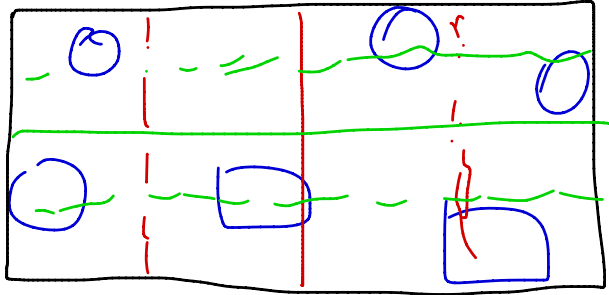
# Axis-aligned BBoxes



Vlastimil Havran  
kd Tree

```
interface IIntersectableObjectSet  
{  
    int ObjectCount();  
    Box3d ObjectBBox(int index);  
    bool ObjectIntersectsBox(  
        int index, Box3d box);  
    bool ObjectsIntersectsRay(  
        int index, Ray3d ray,  
        double tmin, double tmax,  
        ref HitInfo info  
    );  
}
```

+ Param,  $\vec{v}$  3d hitPoint  
u v = coords



BBox

$$\text{Cost}_L \sim \log(\text{count}_L)$$

$$\text{Cost}_R \sim \log(\text{count}_R)$$

$p \sim$  Oberfläche (BBox)

z.B.  
(10, 20)

$\text{Count} < \text{Threshold}$

$$\text{Cost}_L \sim \text{count}_L$$

$$\text{Cost}_R \sim \text{count}_R$$

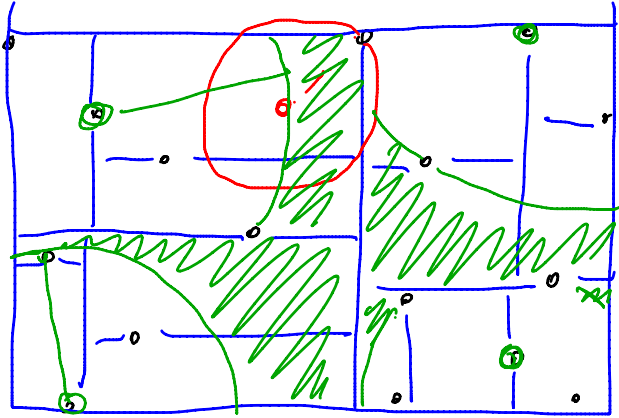
$$\text{Cost} = P_{\text{Left}} \cdot \text{Cost}_L$$

$$+ P_{\text{right}} \cdot \text{cost}_R$$

$$+ P_{\text{both}} \cdot (\text{Cost}_L + \text{cost}_R) \cdot \text{penalty}$$

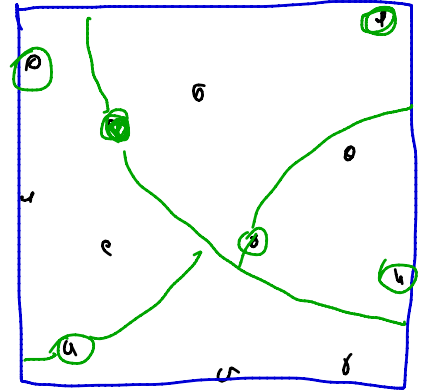
penalty  $> 1$

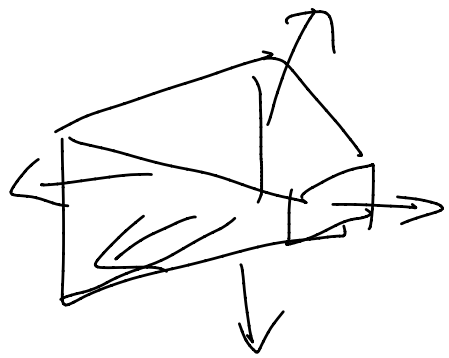
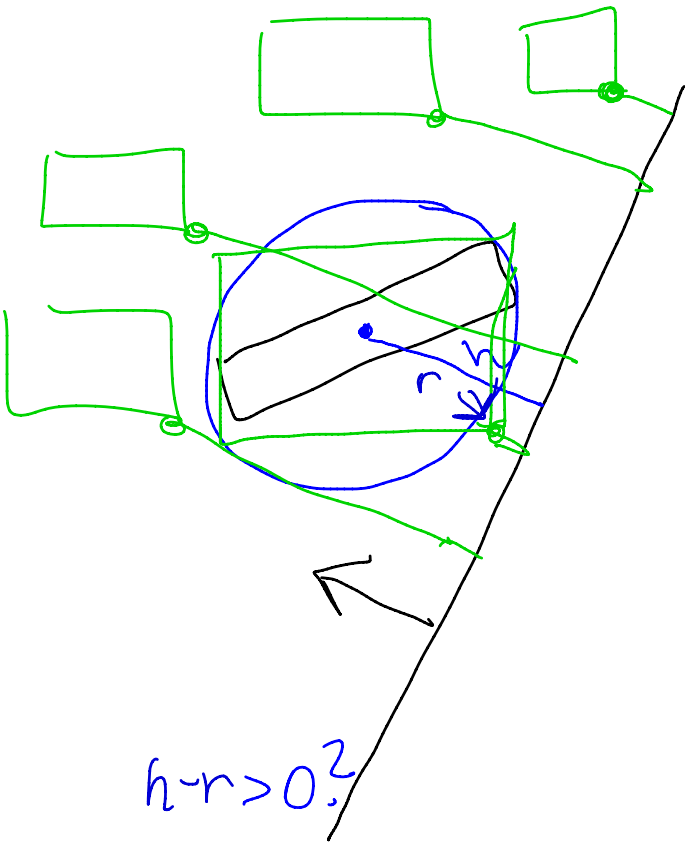
# Pointkd Tree



rkd-Tree

# Vantage Point Tree





ISerializable

```

{
  WriteToDisk (...)
  ReadFromDisk (...)
}

```

ICodeable

```

{
  Code (Coder coder)
}

```

↓  
reading/  
writing

Coder

```

{
  CodeByte (ref byte data)
            int      int
}

```

IFieldCodeable

```

{
  GetFieldCoders
}

```

Nr		
0	"radiusArray"	Func
1	"centerArray"	Func
2		
3		

Per Object Versioning!