# INTERFACE

**Program gives library**

* An array of doubles of length [Number of Resources]

The array index corresponds to a resource number. The value is how long I

have that resource for.

* A 2D array of doubles of length [Number of Resources][Number of Areas]

The array indexes give an area and a resource and the value in that

possition says how effective the resource is there i.e. 1 for no penalty,

0 for this resource is useless in this area e.g. a boat in the middle of

s desert, or something between 1 and zero for how much the feature sof the

area prevent mobility or vision in the area.

There could be some other book keeping (eg number of areas, number of

resources).

**Library provides program with**

Access to three iterators.

ActiveAreaIterator - steps through those areas that have a resource. It returns the index of the current area when asked.

AreaIterator - takes a resource and steps through all areas that resource is used in. Returns an area (the index number) and the time the specified resource is there for when asked.

ResourceIterator - Takes an area and steps though all resources allocated to that area. Returns a resource and the time the resource is in the specified area for when asked.

**How to use the library:**

Use: To plot all resources on the map

Walk through ActiveAreaIterator and at each step walk through ResourceIterator (for this area).

Use: To show where a resource is used

Provide the resource number to AreaIterator and walk though it

Use: To show what is assigned to an Area in this sortie

Provide an Area number to Resource iterator and walk through it

# The User View

## Active Areas

An active area is one that has at least one resource assigned to it.

Active Areas List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Area: 4 | Area: 5 | Area: 8 Current | Area: 22 | Area: 102 | Area: 106 | Area: 122 | Area:  -1 |

**ActiveAreaIterator**

- Current

+ Get get: returns current

+ Next next: move to next active area

## Area Assignment

An area assignment (for a resource) is an area the resource is to and for how long

Resource 7’s Area Assignment List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Area: 4  Time: 6 | Area: 5  Time: 4 | Area: 22  Time: 7 Current | Area: 106  Time: 2 | Area: 122  Time: 1 | Area: -1  Time: 0 |  |  |

**AreaIterator**

- Current

+ Get get: returns current

+ Next next: move to next area assignment

## Resource Assignment

An Resource assignment (for an area) is a resource assigned to the area and for how long

Area 4’s Resource Assignment List

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Res: 42  Time: 16 | Res: 15  Time: 40 | Res: 7  Time: 6 Current | Res: 16  Time: 12 | Res: 12  Time: 13 | Res: -1  Time: 0 |  |  |

**AreaIterator**

- Current

+ Get get: returns current

+ Next next: move to next resource assignment