

How to create an AIAO  
representation of a specific  
project?

## Quick recap of AIAO

Premise: “An **agent** engages in an **activity** that impacts an **environment**.”

**Agent** – any entity with will and who can be held accountable for their actions.

**Activity** – anything being done, whether it’s business as usual (e.g., a vehicle manufacturer operating its plant) or an activity undertaken specifically for the purpose of making an impact in some environment (e.g., a cookstove or a reforestation project).

**Environment** – a specific sphere of interest. Can be defined spatially, geographically, biologically, etc. An activity’s **impact** on an environment is expressed in terms of state changes.

All these things can be subject to **controls**.

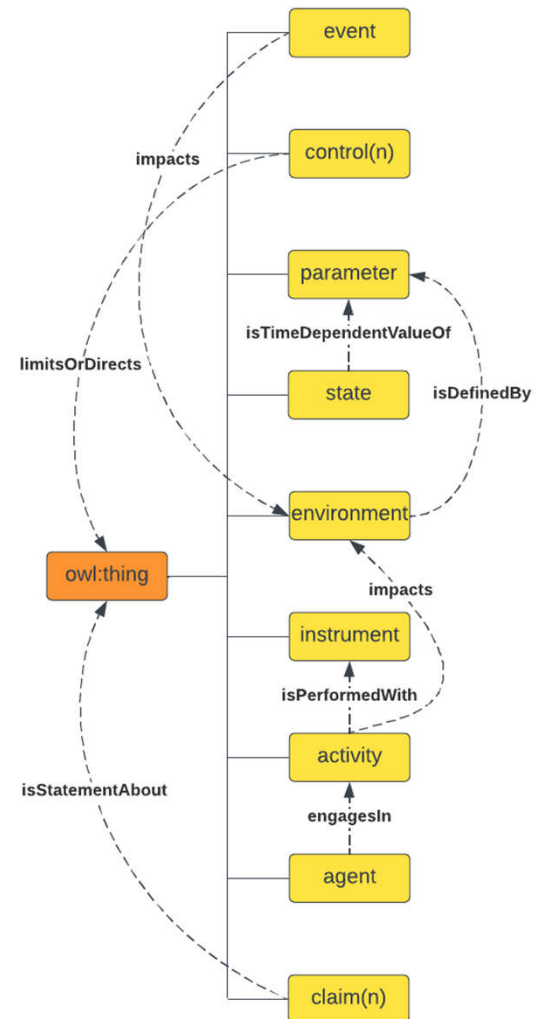
In the context of impact projects, there are typically multiple agents engaging in one or more activities to impact a specific environment.

## Axioms

### Primary

1. An agent engages in an activity.
2. An activity impacts an environment.
3. An environment is defined by (interrelated) parameters.
4. A state is the value of a parameter P at time position t.
5. An activity is performed with an instrument.
6. An activity has at least one thing as input.
7. An activity has at least one thing as output.
8. A claim is a statement about a (some specific) thing.
9. An agent enacts a role.
10. An event impacts an environment.
11. A control limits or directs a thing.

## Top-level classes of AIAO



# How to AIAO

Start by identifying:

- agents
- activities
- instruments
- environments
- controls

## **Agents**

Who are the people / entities involved in the project?

## **Activities**

What is being done? What is the core activity (or activities, in the case of a PoA) of the project?

## **Instruments**

With what is the core activity being performed?

## **Environments**

Where is the core activity performed? Where is the area of impact?

## **Controls**

What rules, conditions, standards etc. are the agents and activities subject to?

# Case study: West Bakr Wind Farm Project

(<https://registry.goldstandard.org/projects/details/2584>)

## Agents

Who are the people / entities involved in the project?

For each agent, create an aiao:Agent class instance in your implementation language of choice, e.g.:

```
aiao:Agent {
    identifier = "ab33cd44";
    type = LEGAL_PERSON;
    repeated classifications =NULL;
    repeated agents = {};
    ---
    full_legal_name = "Lekela Egypt Wind Power BOO (S.A.E.)";
}
```

```
aiao:Agent {
    identifier = "bb22cd11";
    type = NATURAL_PERSON;
    repeated classifications =NULL;
    repeated agents = {};
    ---
    full_legal_name = "Mamdouh Higazy";
    salutation = "Mr."
}
```

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## Activities

What is being done? What is the core activity of the project?

For each core activity, create an aiao:Activity class instance in your implementation language of choice, e.g.:

```
aiao:Activity {
  id = "a1b2c3d4e5";
  description = "Generat[ion of] a clean form of electricity..."
  repeated agents = {
    aiao:AgentRole {
      id = "ab33cd44";
      roles = {PROJECT_PROPOSER, PROJECT_OWNER, PROJECT_DEVELOPER};
    },...
  };
  modality = REAL;
  location = {Ras Ghareb city, Red Sea Governorate state, Egypt};
  period = {17/09/2019-...};
  repeated classifications = {};
  repeated controls = {Gold Standard for the Global Goals, ACM0002};
  repeated instruments = {wind turbines};
  repeated inputs = NULL;
  repeated outputs = {electricity};
  repeated activities = NULL;
}
```

# Case study: West Bakr Wind Farm Project

## Instruments

With what is the core activity being performed?

For each wind turbine create an instance of aiao:Instrument class.

```
aiao:Instrument {  
    id = "f84dfe3";  
    label = "WT#34";  
    description = "wind turbine";  
    repeated classifications = ;  
    make = ;  
    model = ;  
    date_manufactured = ;  
    ...  
}
```

# Case study: West Bakr Wind Farm Project

## Controls

1. Agent controls
2. Activity controls

Starting with agent controls, create an instance of `aiao:AgentRole` for each of the agents involved in the activity, e.g.:

```
aiao:AgentRole {  
    id = "ab33cd44";  
    roles = {PROJECT_PROPOSER, PROJECT_OWNER, PROJECT_DEVELOPER};  
}
```