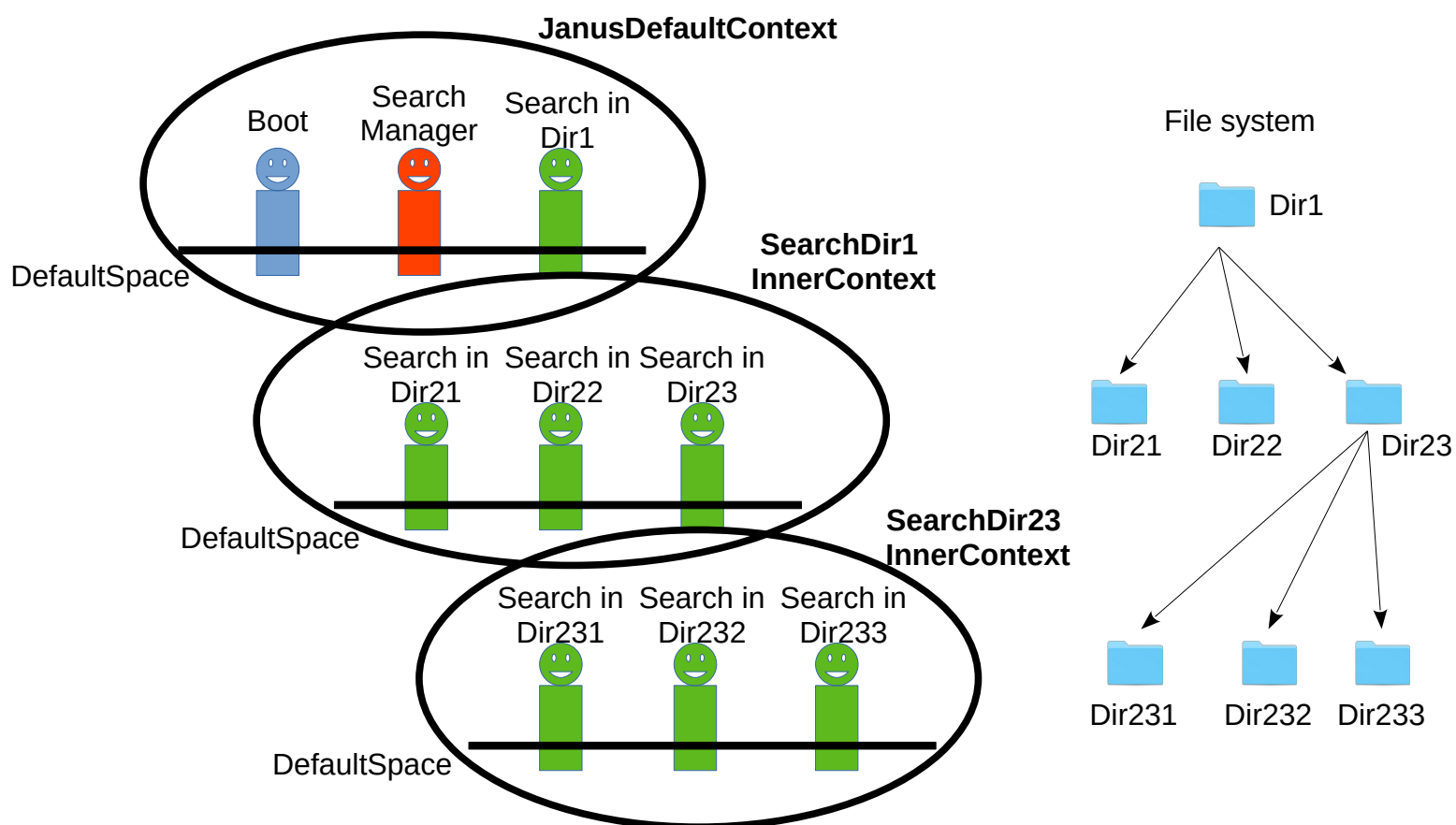


## Holonic Search

### Goal :

Implement in SARL a multi-agent system able to perform dynamically a file search on a given computer, by creating a whole holarchy of agents associated to a given file hierarchy. Each agent will perform the file search according to a specified criteria (i.e. file extension \*.sarl) within its assigned directory and spawn new sub-agents when a new sub-directory is identified. Each sub-agent will behave in the same manner.

### System Architecture:



**Agents Architecture:**

- **Boot Agent:** his only goal is to spawn the SearchManager agent.
- **SearchManager:** in charge of managing the search, starting the search process by sending the very first search request using a *SearchRequest* Event, spawn the first SearchAgent and wait until he joins the defaultSpace to send the *SearchRequest* Event.
- **SearchAgent:** in charge of performing the file search into a given directory specified within the search request he received, and returns the results using *SearchFileFound* Events sent to its spawner, send a *SearchFinished* before dying.

**Events:****SearchRequest :**

Attributes :

1. The path of the directory in which the search should be performed [optionally this path could also be specified when you spawn a sub-agent using its Initialize event]
2. The criteria to find out the searched file, i.e. file extension \*.sarl

**FileFound** : send to its parent/SearchManager to inform him that a file matching the search criteria has been found

Attributes:

1. The path of the file matching the search criteria

**SearchFinished** : inform its parent/SearchManager that the search is over and the emitter will die shortly.

No attributes