Phase 1

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Goals

The Software Laboratory project is comprised by the analysis, design and implementation of an information system to manage cinemas and associated information. Its development is divided into 4 phases, with incremental requirements published before the beginning of each phase.

Domain

- A cinema is characterized by:
 - o a name;
 - the city where it is located;
 - o a set of theaters.
- A theather is associated to one cinema and is characterized by:
 - o a name;
 - o the number of available seats;
 - o the number of rows;
 - o the number of seats per row;
- A movie is characterized by:
 - o a title;
 - o a release year;
 - o a duration.
- A session has a date (which includes the time of day) and is associated with a theater and a movie. Sessions in the same theater cannot overlap temporally.

Management application

On the first phase, the interaction with the information system is done via commands for a console application. Each application execution performs one and only one command, presenting the command result on the standard output.

Each command is defined using the following generic structure

```
{method} {path} {parameters}
```

where

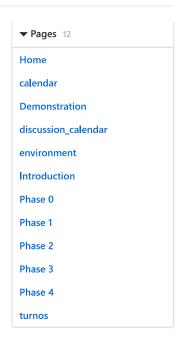
- the method defines the type of action to perform (e.g. GET or POST).
- the path defines the resource on which the command is executed (e.g. /cinemas or /cinemas/123).
- the parameters is a sequence of name=value pairs, separated by & (e.g. name=City+Campo+Pequeno&city=Lisboa).

Example: POST /cinemas name=City+Campo+Pequeno&city=Lisboa

Phase 1 requirements

For phase 1, the management application must support the following commands.

Movie management



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- POST /movies creates a new movie, given the following parameters
 - o title the title name.
 - o releaseYear the movie's release year.
 - o duration the movie's duration (in minutes).

This command returns the movie unique identifier.

- GET /movies returns a list with all movies.
- GET /movies/{mid} returns the detailed information for the movie identified by mid .

Cinema management

- POST /cinemas creates a new cinema, given the following parameters
 - o name the cinema name.
 - o city the city where the cinema is located.

This command returns the cinema unique identifier.

- GET /cinemas returns a list with all cinemas.
- GET /cinemas/{cid} returns the detailed information for the cinema identified by cid.
- POST /cinemas/{cid}/theaters adds a new theater to a cinema, given the following parameters
 - o name theater name.
 - o rows theater number of rows.
 - o seats number of seats per rows.

This command returns the theater unique identifier.

- ullet GET /cinemas/{cid}/theaters returns the list of theaters of the cinema identified by \mbox{cid} .
- GET /cinemas/{cid}/theaters/{tid} returns the detailed information for the theater identified by tid.

Session management

- POST /cinemas/{cid}/theaters/{tid}/sessions creates a new session, given the following parameters
 - o date session date
 - o mid movie identifier
- GET /cinemas/{cid}/theaters/{tid}/sessions returns a list with all the sessions in the theather identified by tid on the cinema identified by cid.
- GET /cinemas/{cid}/sessions returns a list with all sessions in cinema identified by cid.
- GET /cinemas/{cid}/sessions/{sid} returns the detailed information for the session identified by sid.
- GET /cinemas/{cid}/sessions/today returns a list with all sessions for the current day in the cinema identified by cid.
- GET /cinemas/{cid}/theaters/{tid}/sessions/today returns a list with all sessions for the current day in the cinema and theater identified by cid and tid respectively.

Non-functional requirements

The following non-functional requirements will be highly valued.

- Readability.
- Testability, including on machines not belonging to the development team.

Delivery date

The project must be delivery until March 24 (end of week 5), via the creation of a 0.1.0 tag on the GitHub repository.