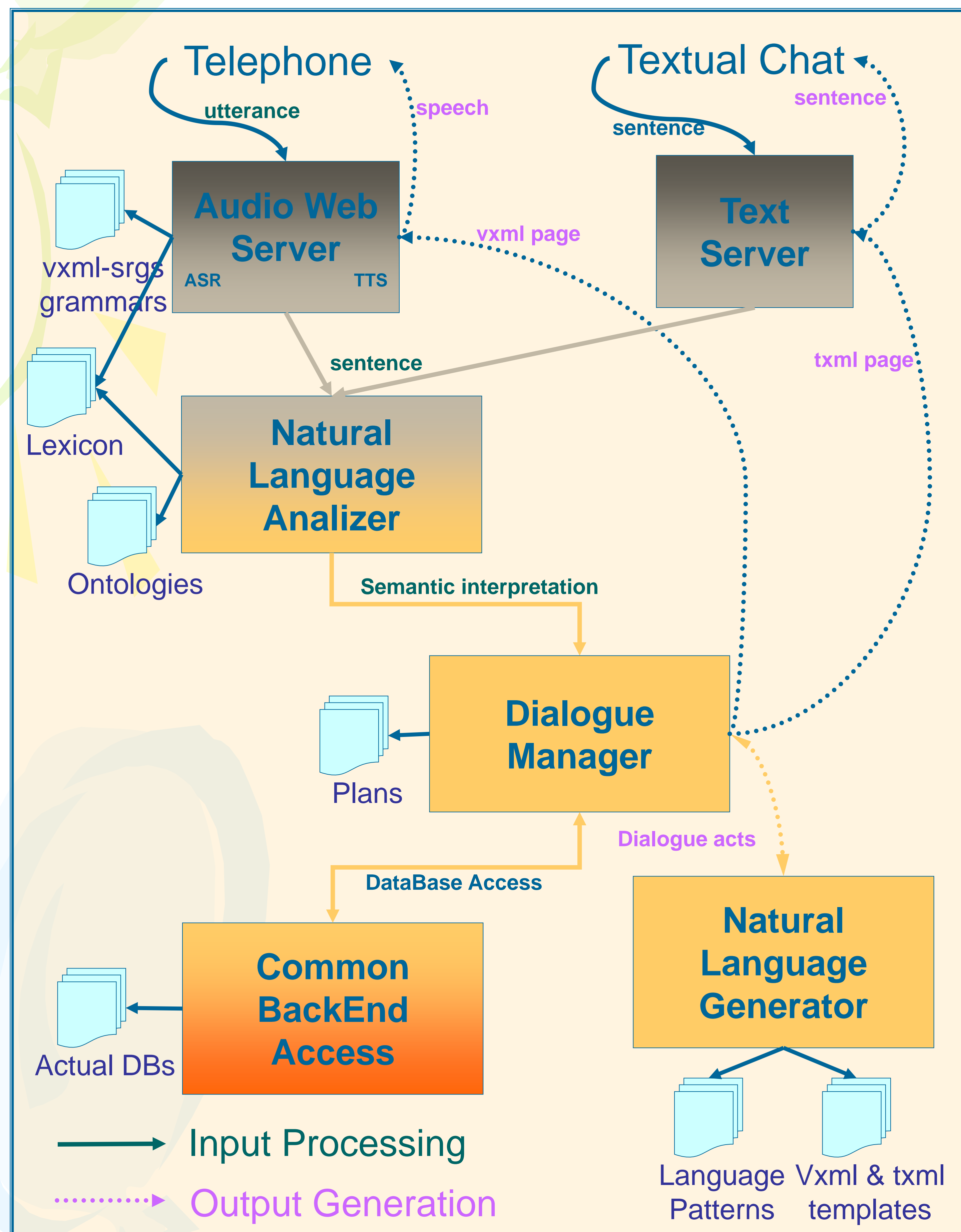


# Discourse Management in Voice Systems for Accessing Web Services

Marta Gatus, Meritxell González  
 Technical University of Catalonia (UPC)

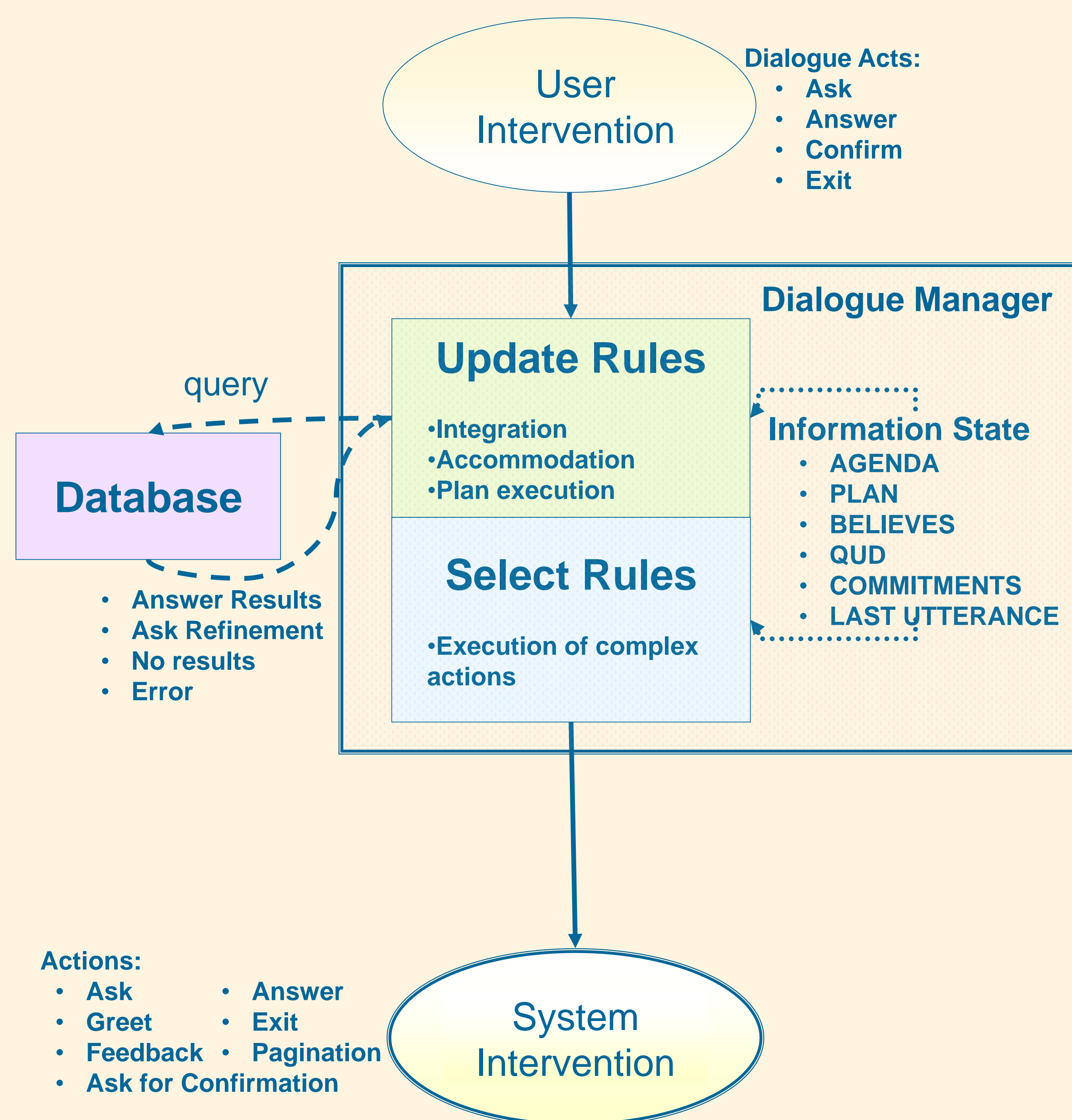


## The Dialogue System



## The Dialogue Manager: Implementation

- Following the **Information State Theory**
- Adaptation and extension of the Rules defined by (Larsson, 2002)



## The Dialogue Manager: Functionalities

- System-initiative
  - ✓ For unexperienced users
  - ✓ When there are recognition problems
- Mixed-initiative
  - ✓ For experienced users
  - ✓ For some type of services (i.e. informational)
- FeedBack
  - ✓ Improve communication
- Implicit & explicit confirmation
- List of results and refinement
  - ✓ Channel-dependent Window
  - ✓ Refinement by most discriminant

## The Generation of Plans

- The plans are generated statically when a new service is incorporated
  - ✓ Each service task is represented as a plan.
  - ✓ A plan can be decomposed in subplans.
- We have defined general plans for two different types of web services:
  - ✓ **Transactional:** to perform a specific transaction and communicate the status.
  - ✓ **Informational:** For giving information depending on query parameters and values.
- Operators (actions)
  - ✓ **Simple:** dialogue acts
  - ✓ **Complex:** compound of simple actions
- Features associated to the dialogue acts:
  - ✓ Conditions
  - ✓ Default values
  - ✓ Attribute Name and Tipology

## Example of Dialogue

**S1:** Welcome to the automatic platform of Barcelona. May I help you?  
**U1:** I'm searching for events in the Filmoteca.  
 \*\*\* **<database consultation>**

**S2:** Let's see. Understood. The place is Filmoteca De Catalunya. I apologize there are no available events with those characteristics. Do you want to do another search?  
**U2:** yes  
**S3:** Wait a moment, please. Can you tell me some data about the event or events you are looking for?  
**U3:** I want to go to the cinema today  
 \*\*\* **<database consultation>**

**S4:** I see. The event type is cinema. The date is May 25th 2007. I've found a total of 20 events, please choose one saying the corresponding number.  
 1: Cinema a la fresca,  
 2: Digital BCN Film Festival al Naumon and  
 3: Digital BCN Film Festival a Cinemes Alexandra - Sala 1.  
 Say MORE to search for more events or EXIT to change the search criteria.  
**U4:** 1  
 \*\*\* **<database consultation>**

**S5:** Ok. Cinema a la fresca begins at 22.00. The tickets for Cinema a la fresca cost 0. The title of the event is Cinema a la fresca. Would you like to do another search?

## Contact

{gatus, mgonzalez}@lsi.upc.edu