

# Is the UML appropriate for Interaction Design?

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Future Standards for Model Based User Interfaces

# MDE: some examples

- ▶ OOH, OOH4RIA: Object Oriented Hypermedia
- ▶ WebML
- ▶ UWE: UML Web Engineering
- ▶ UMLi

# UML-IDEA: UML for Interaction Design Approach

1. Focus on interaction first: state machines
2. Focus on details that affect usability: for conceptual model of the UI but also for the concrete UI
3. Provide more detailed models as needed: domain, code fragments, presentation models, platform-dependent refined models
4. Focus on usability: platform for wireframes
5. Automatic generation of prototypes
6. Focus on accessibility: at the PSM level(s); eg. ARIA widgets
7. Automatic identification of usability anti-patterns
8. Automatic generation of functional test scripts
9. Analysis of interaction graph

# Case study: Task Manager

## Task manager

Tasks

Reports

Contacts

Connected as

[Exit](#)

Usuario1

### FOLDERS

- All tasks
- Pending tasks
- Ended tasks
- Task out of date
- ddd
- ddd
- gb\_tasks
- Mis Tareas
- xx

### TASK DETAIL

Task title	Begin date	End date		
Tarea 1	01/01/2009	01/10/2009		
Parent folder	Assigned user	Telephone	Priority	% ended
<a href="#">Mis Tareas</a>	Usuario1		Medium	75

description

Esta Descripción es de prueba

#### COMMENTS:

#### ASSOCIATED FILES:



JISBD

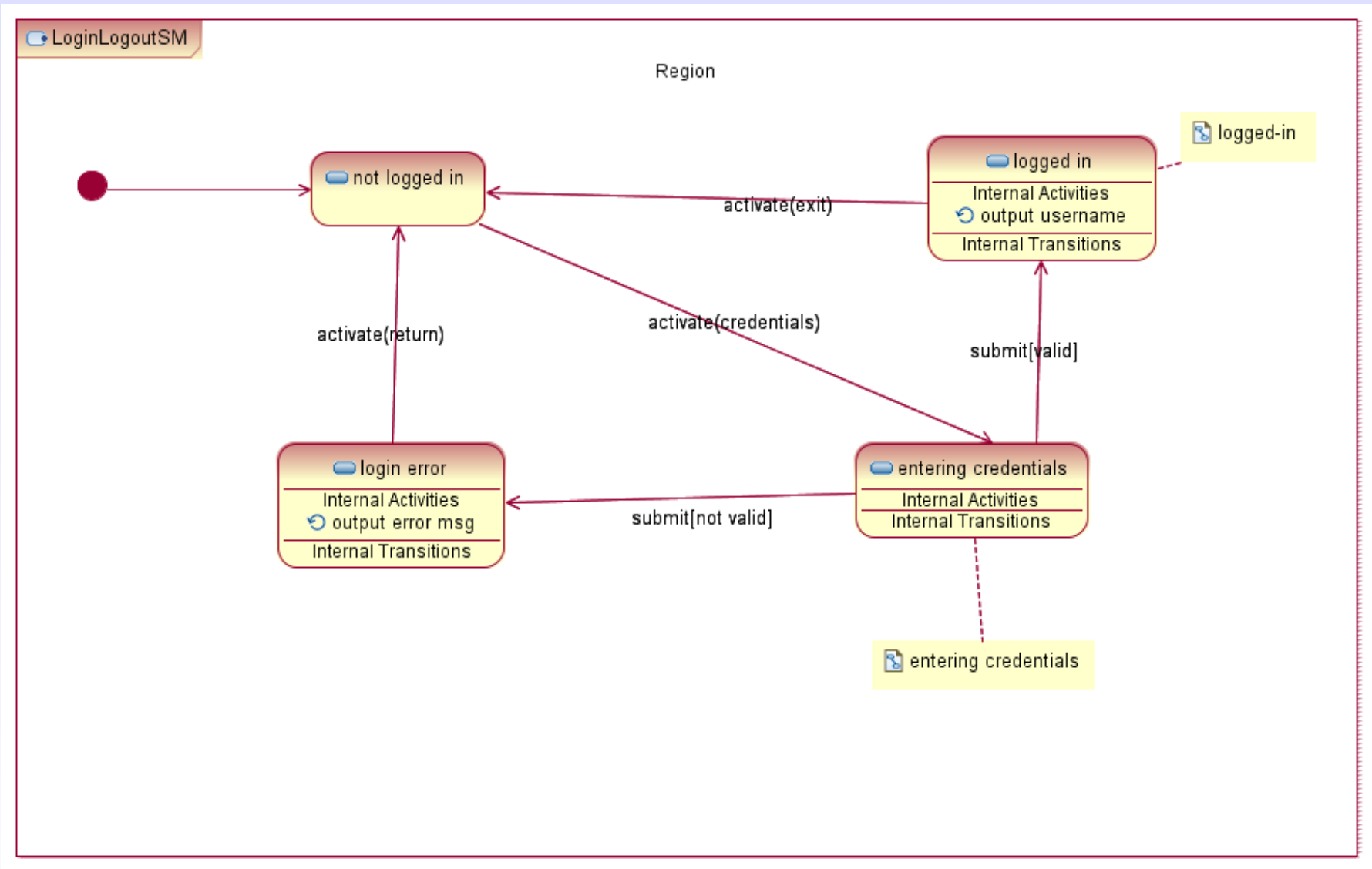
Hacer Logo Jisbd

#### AVAILABLE OPERATIONS:

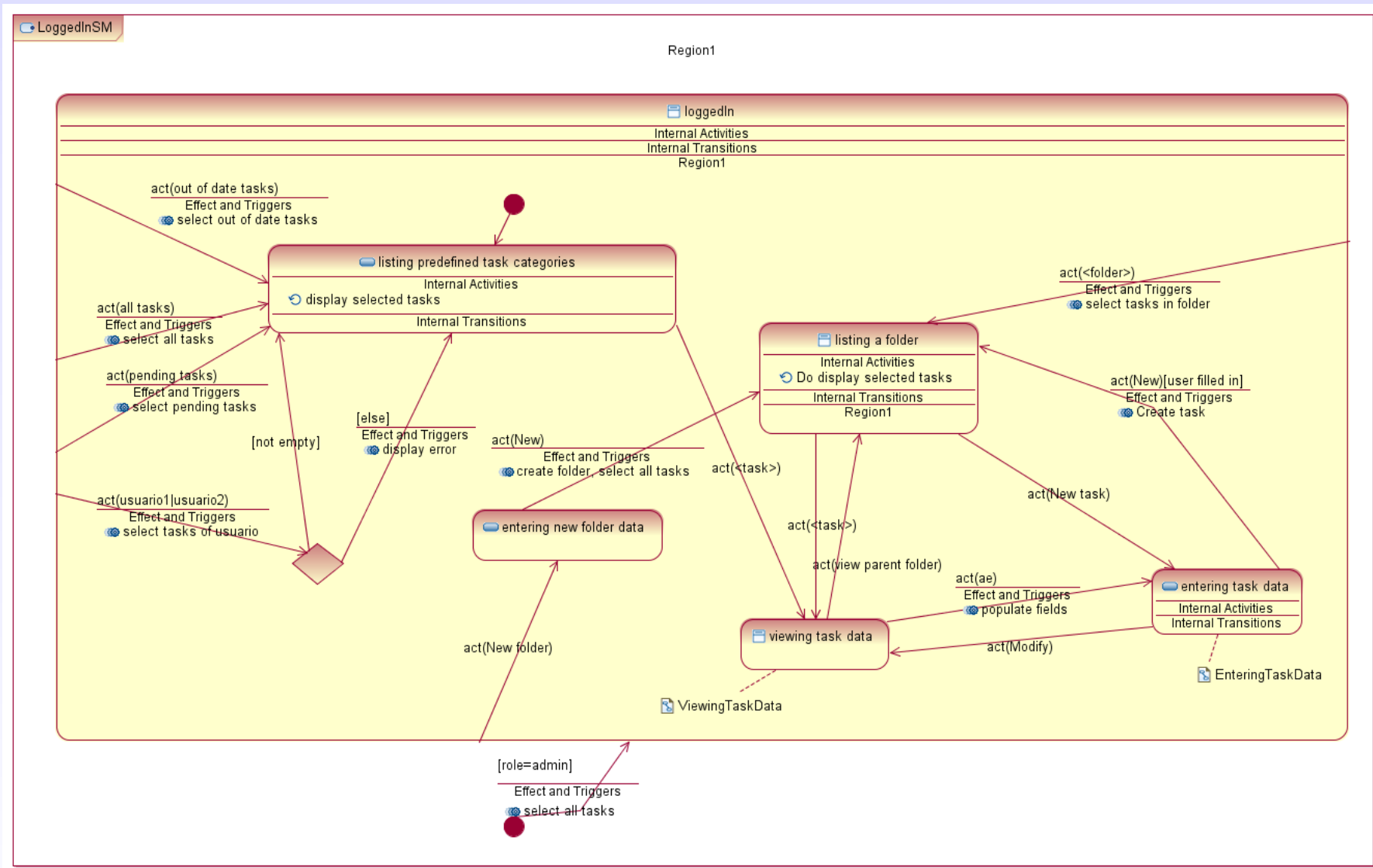
- [New comment](#)
- [Upload file](#)

Ended percentage

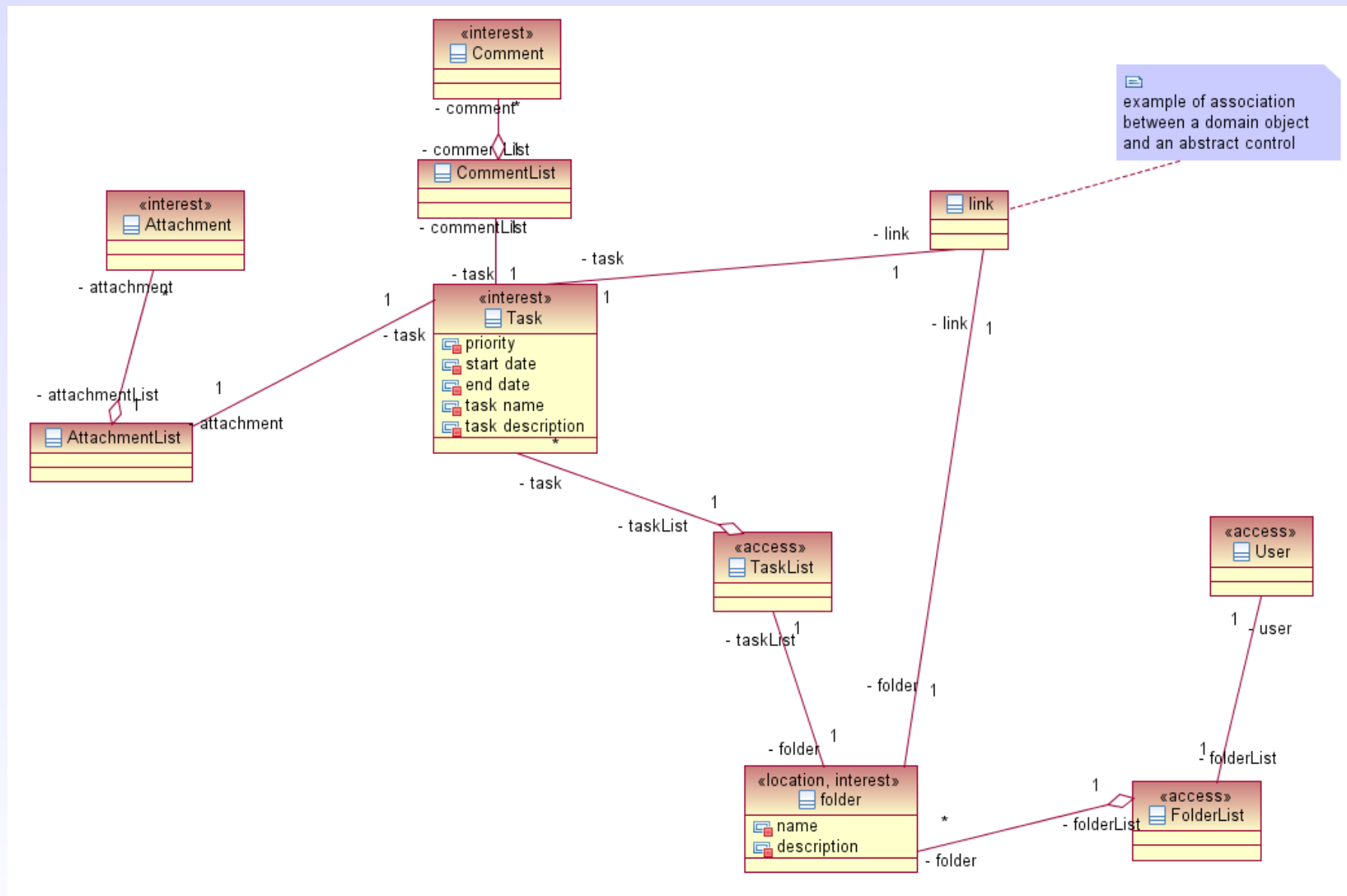
# Top level State Machine



# A more detailed state machine



# Domain model



# Wireframe: static HTML

## Listing predefined categories

### Conditions

1. role = admin
2. selected tasks=all tasks

### Outputs

1. Display user's name
2. Display all tasks
3. Display folder list

### Commands

Folder list:

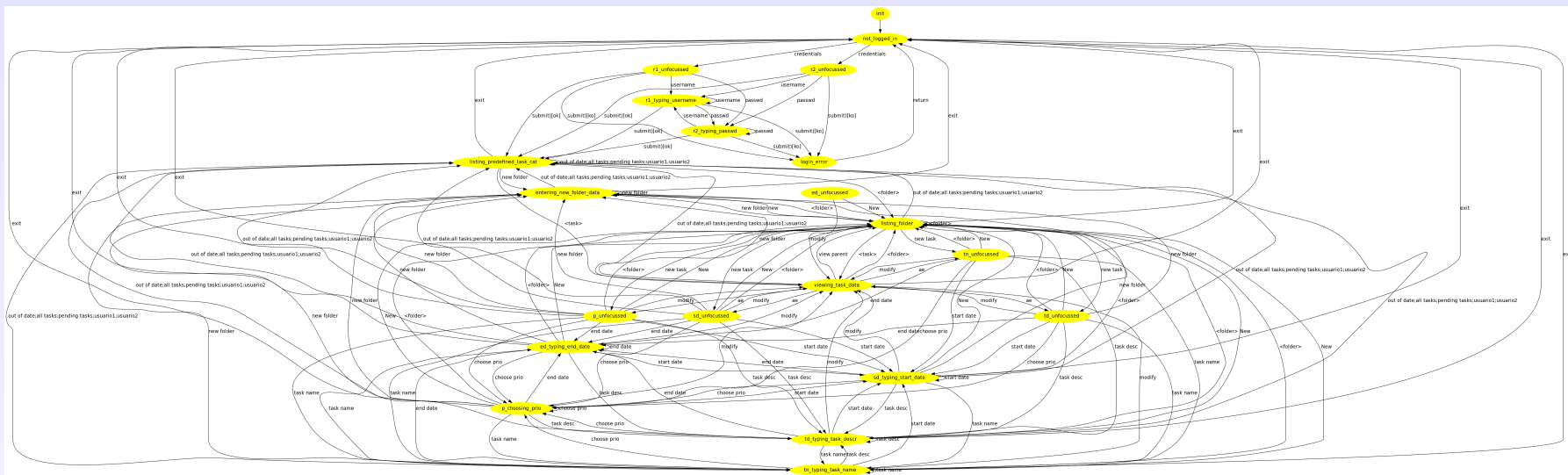
- [out of date tasks](#)
- [pending tasks](#)
- [all tasks](#)
- [usuario1](#)
- [usuario2](#)
- [\(folder a\)](#)
- [\(folder b\)](#)
- [\(folder c\)](#)
- [\(folder d\)](#)
  
- [new folder](#)

All tasks:

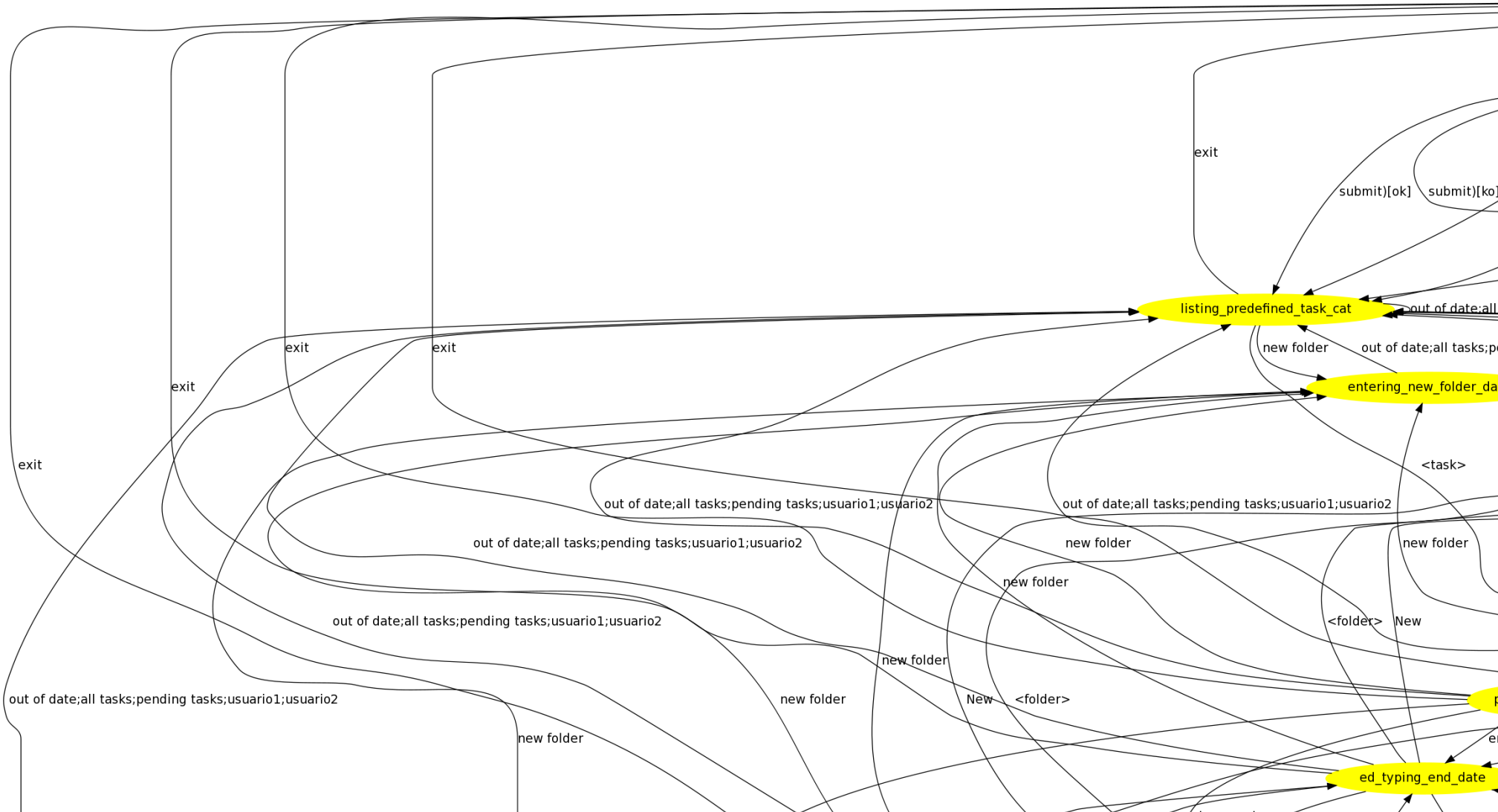
- [task1](#)
- [task2](#)



# Interaction graph



# Interaction graph

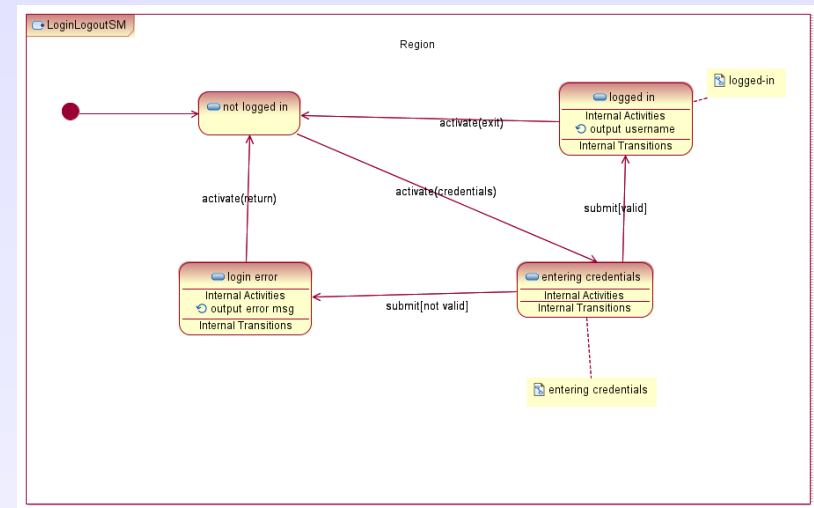


# Usability problems

1. Login form does not set the focus on username
2. No "remember" credentials in login form
3. Useless "return" user action
4. ...

## Summary

Out of 25 usability problems, 14 (56%) could be identified from state machine diagrams.



# Conclusion

1. So far no expressivity limits of State Machines
2. Useful for static usability investigations (anti-patterns) on PIMs
3. Viable for generating code for the "wireframe" platform

## Next steps:

Too many 'things to do' to list them here :-)