

IP-Based  
Push-To-Talk
Hlabishi Kobo

Supervisor: W.D Tucker
Co-Supervisor: M.J Norman

Introduction

- ▣ PoC - Push to Talk over a Cell phone
- ▣ Walkie-talkie concept
- ▣ Voice instant messaging
- ▣ Half-duplex communication

User Interface Specification(UIS)



UIS continue...

User interface under development

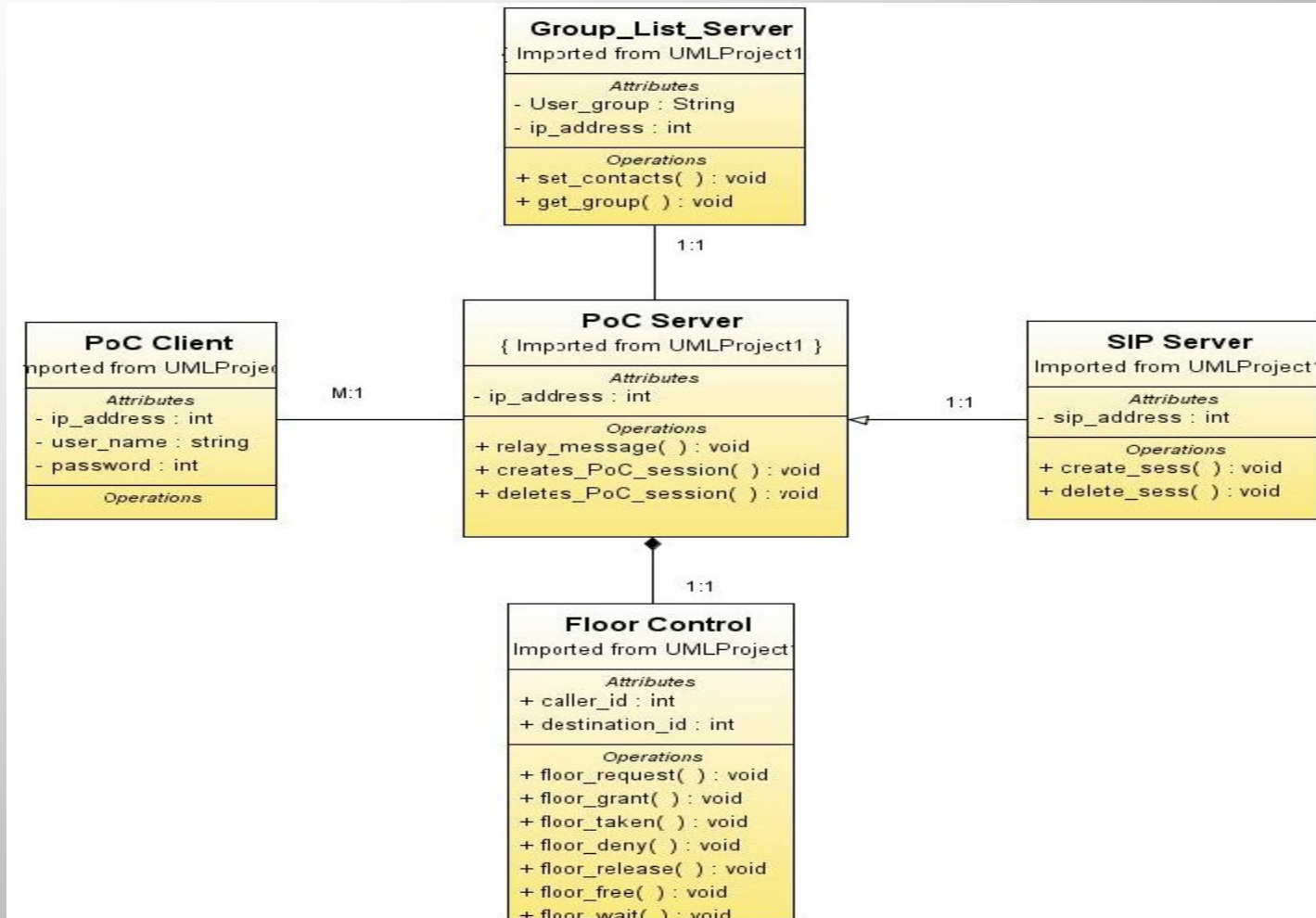


Example of a complete POC



(Celtius, 2008)

High Level Design



Main classes of the solution

Low Level Design

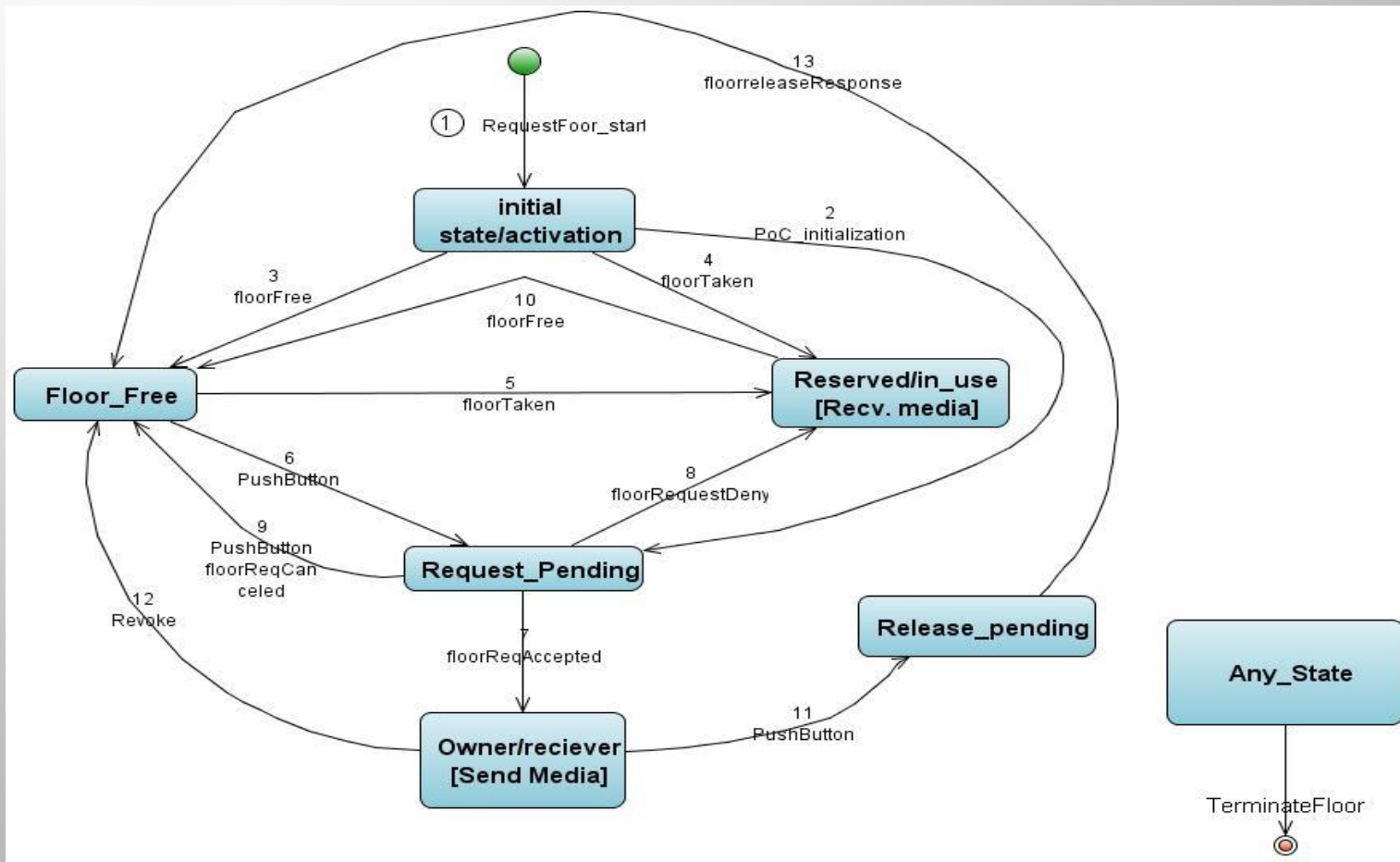
Floor Control
<i>Attributes</i>
+ caller_id : int
+ destination_id : int
<i>Operations</i>
+ floor_request() : void
+ floor_grant() : void
+ floor_taken() : void
+ floor_deny() : void
+ floor_release() : void
+ floor_free() : void
+ floor_wait() : void



```
method floor control{
    while(true){
        switch(floor){
            case 1 : requesting a floor
                call floor_request()
            case 2 : the user granted the floor
                call floor_grant();
            case 3 : floor is in use
                call floor_taken();
            case 4 : floor request rejected
                call floor_deny();
            case 5 : floor is released, now available
                call floor_release();
            case 6 : floor is not in use
                call floor_free();
            case 7 : user waits for the floor which is
                in use
                call floor_wait();
        }
    }
}
```

LLD/OOD

State diagram showing the floor control in PTT



Project plan

Task	Term 1		Term 2			Term 3	Term 4
Project Analysis	URD	RAD					
	SURVEY						
Design and Development			UIS	OOA/HL D	OOD/LLD		
			Prototype Using FTP	UML Modeling	RTP,SIP,SIM PLE		
			Python/Carbide C++	User Case & Class Diagrams	Methods Pseudo codes		
Implementation						-Implement servers <ul style="list-style-type: none"> • SIP server • PoC server • GLM server -Start coding with Carbide C++ -Port to Cell phone	
Testing, Evaluation and Presentation							-Debug -Symbian emulator -Cell phone

DEMO

- ▣ Record audio
- ▣ Play/Playback Audio
- ▣ Save
- ▣ Load
- ▣ Send (Incomplete)
 - Send the audio to another PC/ emulator via FTP
 - ▣ Had problems connecting to the server.

Thank you
Q&A