CSC7325 Project

Notification System (Push + Messaging)

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A communication system between students and professors, implemented in Java Web Services and mobile frameworks

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Web Application (Tomcat):

- See registered student + Device Info.
- Delete students and/or devices.
- Send messages (Normal + Push).
- See sent messages

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Mobile Application

- Register to the service with e-mail confirmation
- See received messages
- Receive push notifications
- Local database

Server-side technologies

- Server - Independent Architecture (But tested on Tomcat)
- Java 1.6 + JDBC + Mysql
- MySQL Connection data pool (BoneCP)
- Barebones JSP 2.0 (with JSTL + templating support)

- JSON for the REST API
- Eclipse + MAVEN
- Git for source management

Client-side technologies

- iOS 5.1 +
- Xcode 4.5 + Objective C 2.0
- Clang Compiler 4.2 (support for ObjC Literals)
- Objective-C Blocks (multithreading & callbacks)
- Unit Testing: OCMock & Expecta framework
- ARC (Automatic Reference Counting)
- Core Data with SQLite database and Model (database)

Push Notifications

- Device sends a unique push notification token to the web service.
- The service sends a push notification to Apple's or Google's push servers
- The push servers send the messages to the devices

All communications are being done using SSL-TLS security (built-in)

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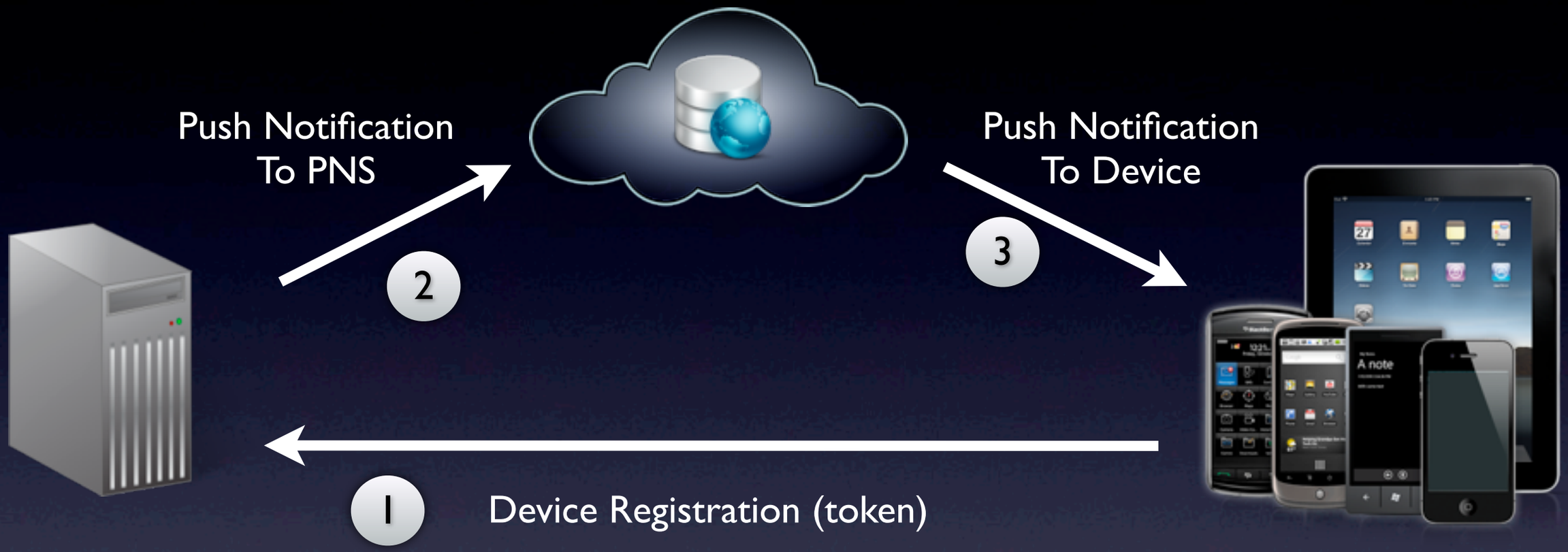
Push Notifications



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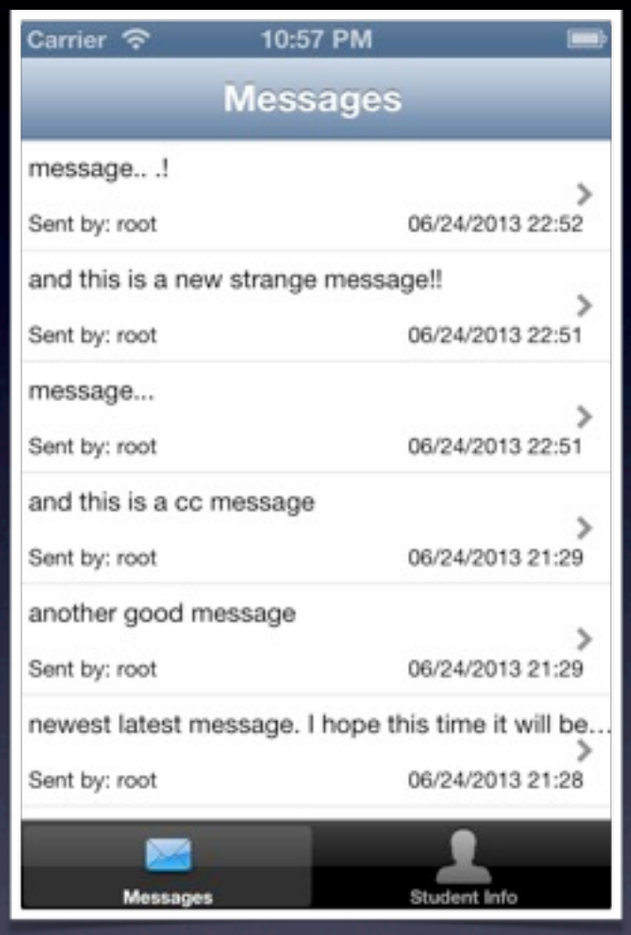
Functionality & API

Registration

- Application starts for the first time, checks registration status
- Sends Registration Request to the web server (push notification token, e-mail, name, etc)
- Server sends e-mail to the provided e-mail, including a confirmation link
- User clicks the link, and the server completes registration

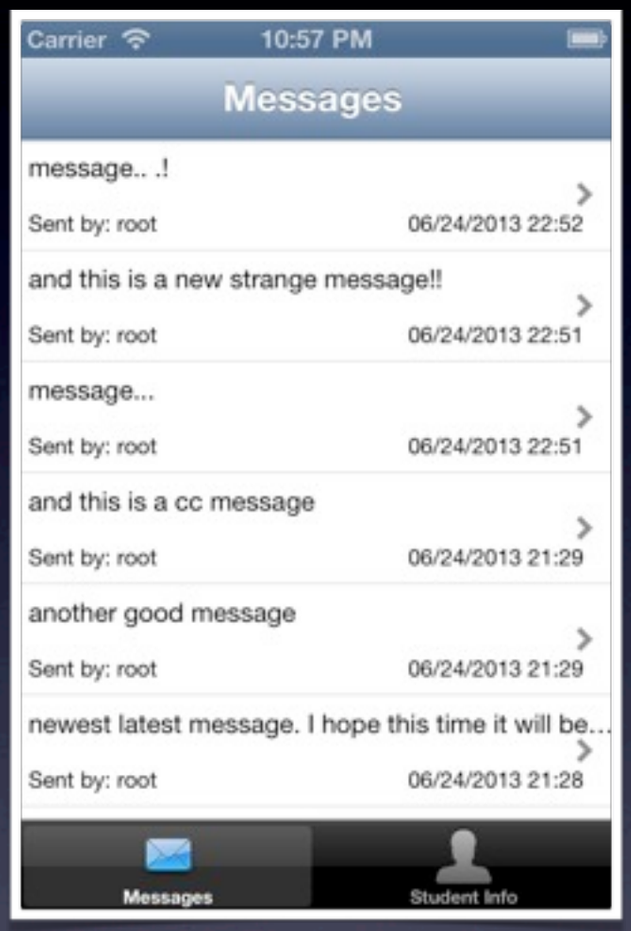
iOS Application

iOS Application



Read received messages

iOS Application



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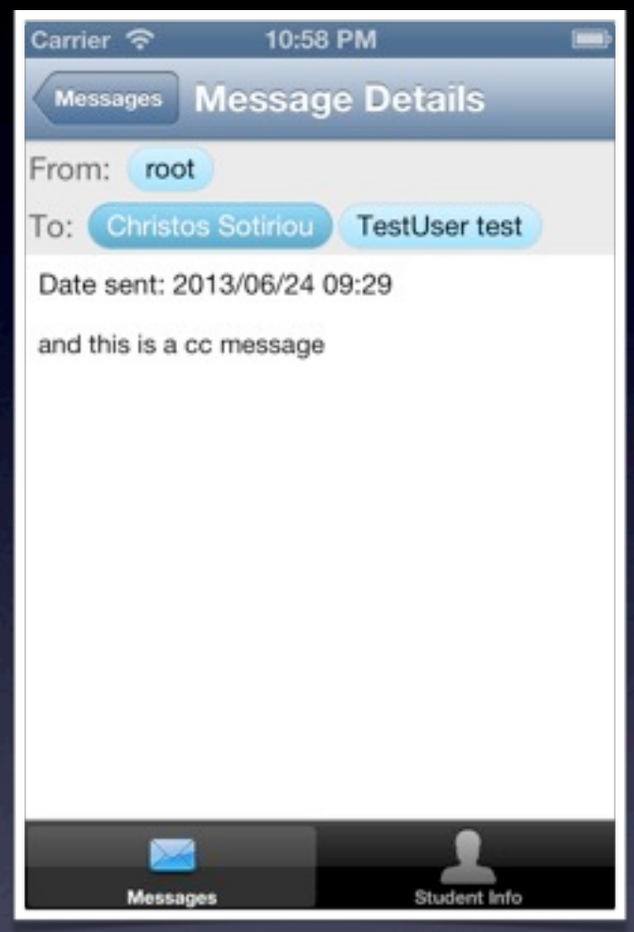
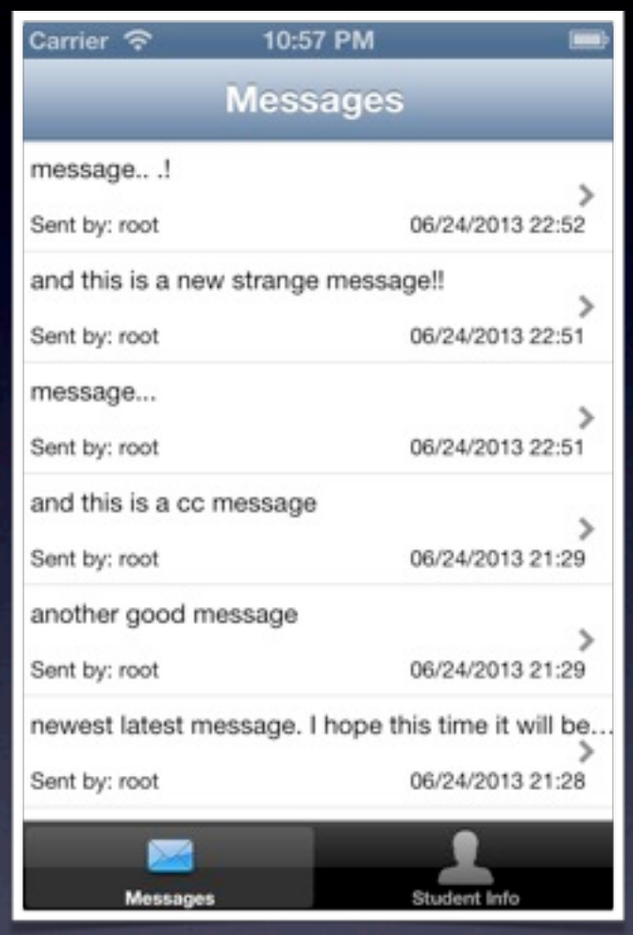


See message Details (cc info)

iOS Application



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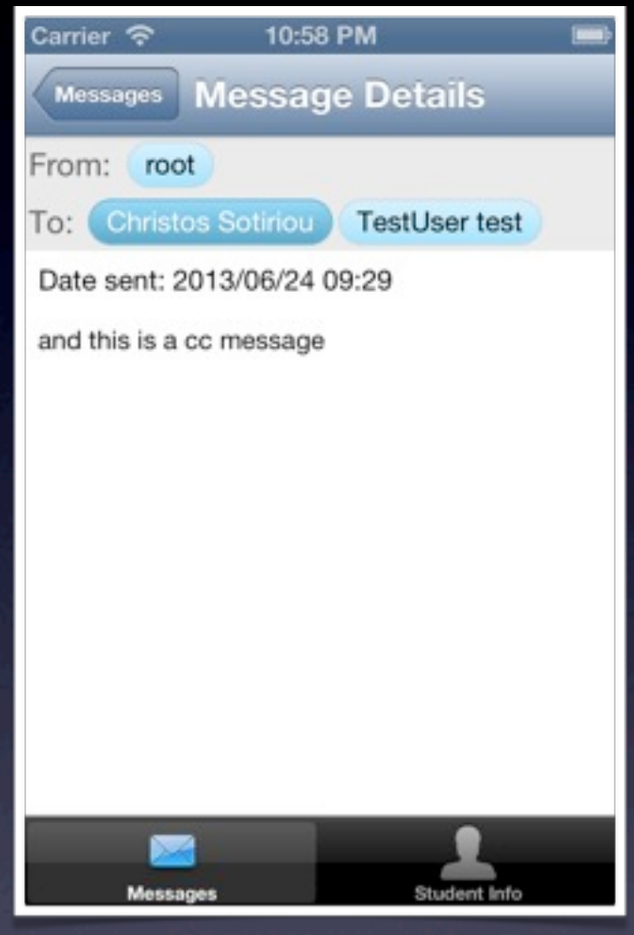

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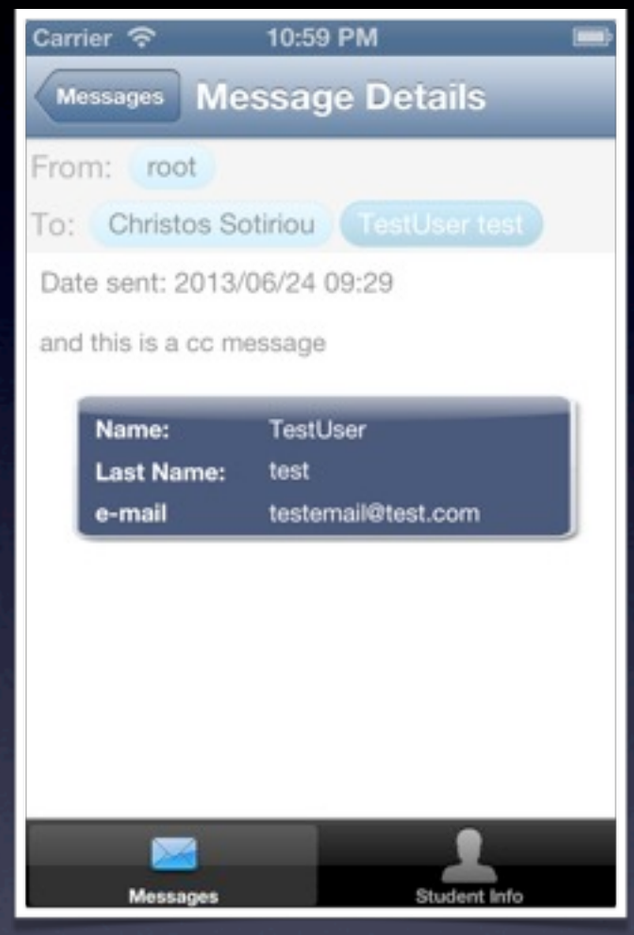

Click on a user name for details

Sending Messages

NotCenter Control Panel

Panel | Messages

Messages were sent successfully

Select	Name	LastName	Edit Student
☑	Christos	Sotiriou	Edit
☐	TestUser	test	Edit

Send message to selected students

kkk Send

 Logout

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Copyright 2013 Telecom SudParis Logout

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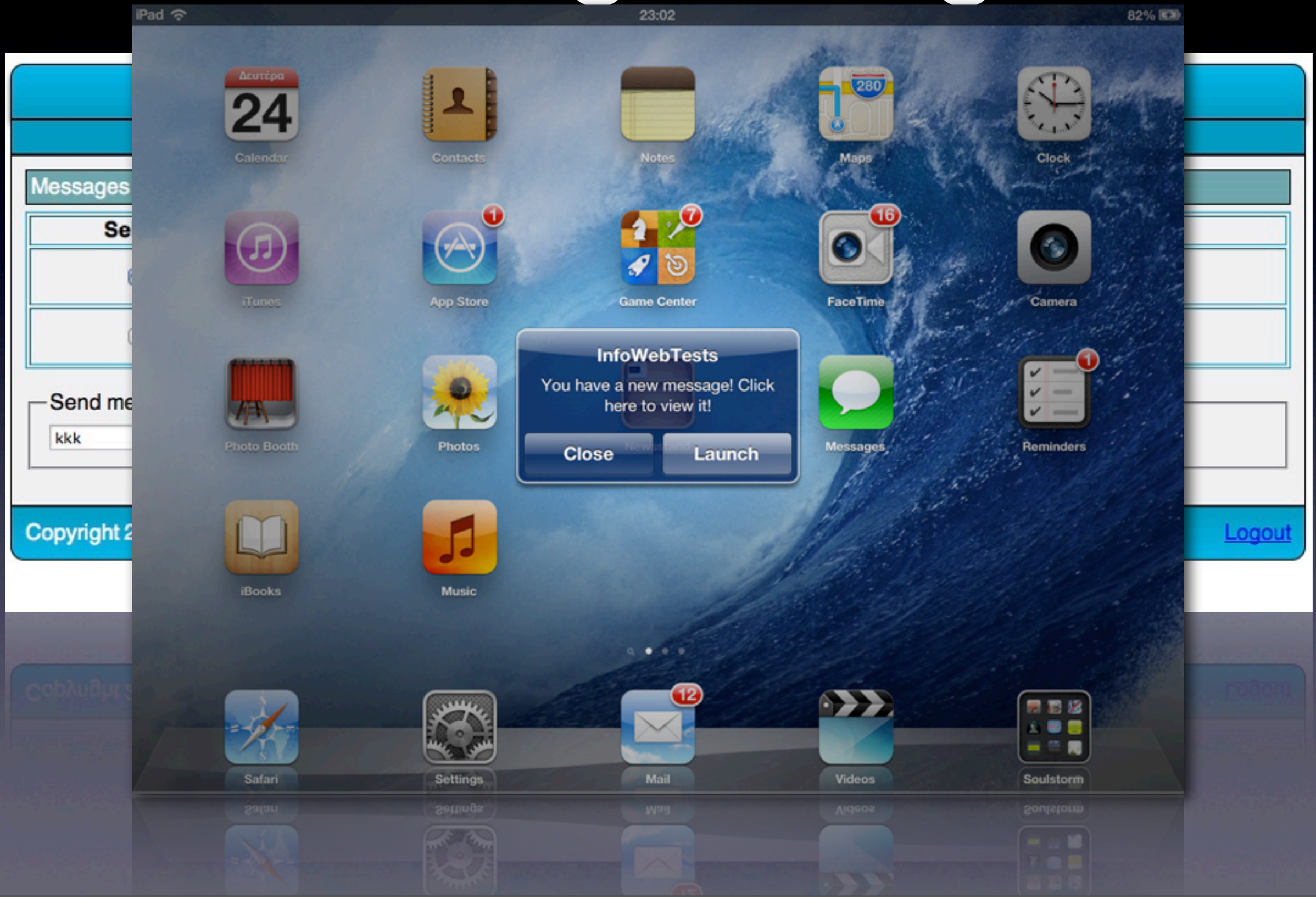

Networking

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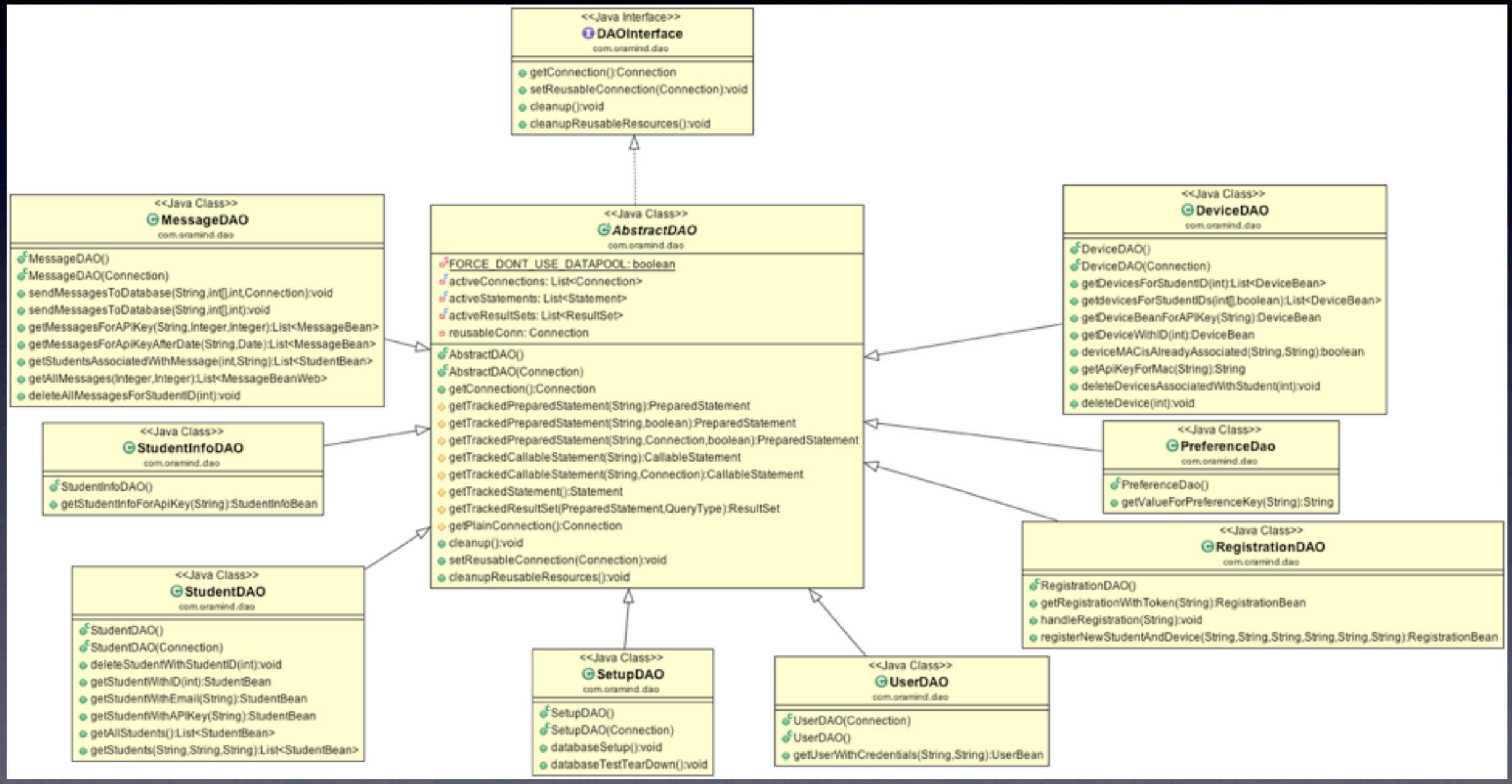

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- New connections from Data Pool (optional)
- Single cleanup() function cleans up open connections in each DAO

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- Implements block-based callbacks
- Holds API key (for requests)
- Asynchronous connections (up to 5 concurrent - can easily increase limit)
- Can also be instantiated as simple object (for unit testing)

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- Validation tests on the test data returned
- Test Servlet deletes the test data (manually)

Deliverables

- Web Service, Tomcat oriented
- Prototype iOS application, with all supported functionality implemented (+ tests)
- Installation documentation + Project Report (PDF)
- https://bitbucket.org/csotiriou/sai-csc7325-project/

The end

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