***Component Interfaces***

For each component defined in the previous diagrams we summarize which kind of interfaces link it to the rest of the system, specifying the nature of those interfaces.

* Web Server

Type of interfaces provided: exchange of web pages via HTTP protocol.

Type of interfaces required: remote procedure call to the system.

Each service offered to web clients is mapped a customer service provided by the Application Server.

* Application Server

Type of interfaces provided: remote procedure call.

Type of interfaces required: procedure call.

Summary of the main interfaces offered:

* Interfaces for registration of customers and login of registered users.
* Interfaces for operations concerning taxi rides, such as taxi requests, reservations and rides’ deletion.
* Interfaces for access to the rides’ history of a customer, with the possibility of checking info related to past rides.
* Interfaces for operations reserved to taxi drivers, such as the communication of availability and the communication of acceptance/refusal of a ride.
* Interfaces for operations reserved to administrators, such as the possibility of creating/deleting drivers’ accounts, the possibility of modifying drivers’ status or modifying rides’ status.

Summary of the main interfaces required:

* Interfaces for the creation, deletion and management of taxi rides, and also for the associations between customers, drivers and rides.
* Interfaces for the creation and management of users, as well as for validation of accesses.
* RidesManager

Type of interfaces provided: procedure call.

Type of interfaces required: procedure call.

Summary of the main interfaces offered:

* Interfaces for the creation of requests and reservations and the deletion of rides.
* Interfaces for the termination of rides.
* Interfaces for the subscription of customers and drivers to rides.
* Interfaces for the retrieval of the rides history of a customer and info about specific rides.

Summary of the main interfaces required:

* Interfaces for taxi queue management.
* Interfaces for the management of users.
* Interfaces for the communications of messages/notifications.
* Interfaces for the access to MTS database.
* UsersManager

Type of interfaces provided: procedure call.

Type of interfaces required: procedure call.

Summary of the main interfaces offered:

* Interfaces for the creation and deletion of users.
* Interfaces for the retrieval of users.
* Interfaces for validation check in case of login and registration
* Interfaces for availability setting in case of drivers.

Summary of the main interfaces required:

* Interfaces for the communications of messages/notifications.
* Interfaces for the access to MTS database.
* QueueManager

Type of interfaces provided: procedure call.

Type of interfaces required: remote web service or remote procedure call.

Summary of the main interfaces offered:

* Interfaces for taxi retrieval and taxi removal from taxi queues.
* Interfaces for moving a taxi at the bottom of a queue and in general for updating taxis’ position.

Summary of the main interfaces required:

* Taxis’ GPS coordinates’ retrieval.
* DatabaseManager

Type of interfaces provided: procedure call.

Type of interfaces required: remote queries and operations on database.

This component is a sort of stub acting the role of the real database.

The interfaces offered are basically all kind of queries, insert, delete and update operations addressed to the actual tables of the real database.

The interfaces required are the actual queries and operations on the real database.

* MessageBroker

Type of interfaces provided: procedure call.

Type of interfaces required: remote procedure call, remote email service and web service provided by the web server.

This component is responsible of communications with both mobile clients (directly via remote procedure calls) and web clients (indirectly via web server).

The interfaces offered are basically procedures that forward any kind of relevant message to the clients, possibly also to multiple clients due to the pub-sub architecture style.

* MTSDatabase

Type of interfaces provided: remote queries and standard database operations.

Type if interfaces required: None

All kinds of insert, update, delete operations and queries are offered.