MUSTE server protocol

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1 Design principles

- stateful - authentication happens once

- unidirectional - client sends request, server answers

2 Message format

- Client messages (CM) are messages from the client sent to the server

Message Name	Valid Responses	Description
CMLoginRequest	SMLoginSuccess SMLoginFail	Send login request
CMMOTDRequest	SMMOTDResponse SMSessionInvalid	Request a Message-of-the-day, e.g. the user survey from the server
CMDataResponse	SMDataReceived SMDataInvalid SMSessionInvalid	Send result of the survey
CMLessonsRequest	SMLessonsList SMSessionInvalid	Request available lessons
CMLessonInit	SMMenuList SMLessonInvalid SMSessionInvalid	Start a new lesson
CMMenuRequest	SMMenuList SMLessonInvalid SMSessionInvalid	Send request for menus

- Server messages (SM) are messages from the servert sent to a client

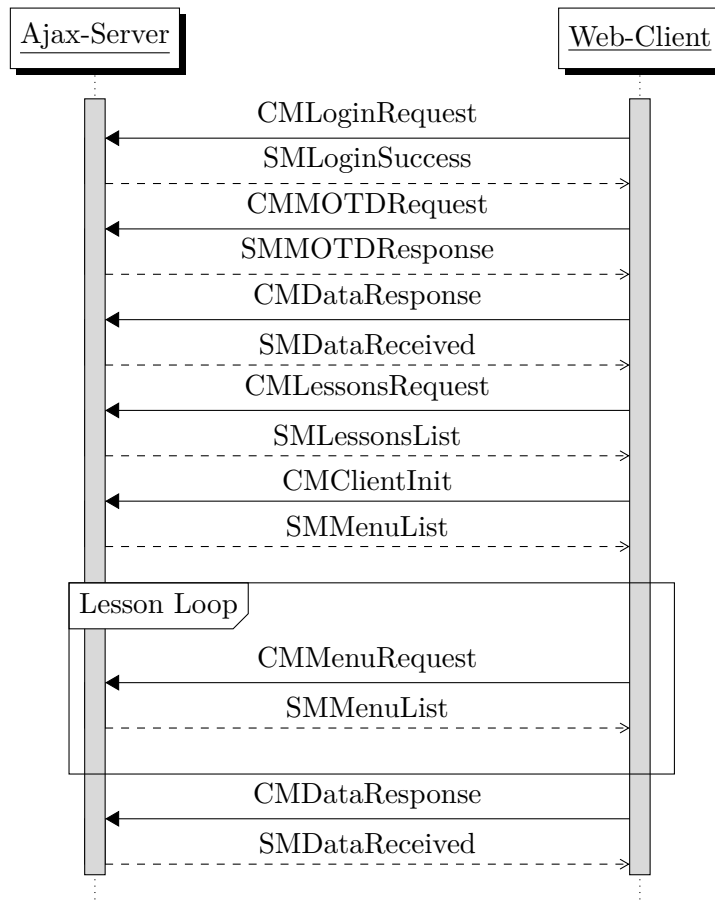| Message Name	Description
SMLoginSuccess	Login successful
SMLoginFail	Login failed
SMMOTDResponse	A potential html-fragment for a message of the day
SMSessionInvalid	Invalid Session
SMDataReceived	Data received
SMDataInvalid	Invalid data
SMLessonsList	Lesson listing
SMLessonInvalid	Invalid lesson
SMMenuList	List of possible menus in a lesson

3 Message Datatypes

General format:

```
{"message":string, "parameters":object}
```

With `message` field containing the message name and `parameters` containing (optional) message parameters.

Message	Parameters	
CMLoginRequest	`{"username":string,"password":string}`	
CMMOTDRequest	`{"token":string}`	
CMDataResponse	`{"token":string,"context":string,` `"data":["field":string,"value":string]}`	**1**
CMLessonsRequest	`{"token":string}`	
CMLessonInit	`{"token":string,"lesson":string}`	

CMMenuRequest	`{"token":string,"score":number,`
	`"a":{"tree":string,"grammar":string},`
	`"b":{"tree":string,"grammar":string}`
	`}`	

SMLoginSuccessful	`{"token":string}`	**2**
SMLoginFail	`null`	
SMMOTDResponse	`{"filename":string}`	**3**
SMSessionInvalid	`{"error":string}`	**4**
SMLessonsList	`{"lessons":[{"name":string,"passed":boolean}]}`	

SMMenuList	`{"passed":bool,"score":number,`
	`  "a":{"lesson":string,"tree":string,`
	`      "lin":[{"path":[number],"lin":string}],`
	`      "menu":{:[[{"score":number,`
	`                  "lin":[[[number],string]]}]]}},`
	`  "b":{"lesson":string,"tree":string,`
	`      "lin":[{"path":[number],"lin":string}],`
	`      "menu":{:[[{"score":number,`
	`                  "lin":[[[number],string]]}]]}}}:`	

SMLessonInvalid	`null`	
SMDataReceived	`null`	
SMDataInvalid	`{"error":string}`	**5**

1 `token` is an identifier assigned to the client session by the server. `context` defines the semantics of `data`.

- For *startQuestionaire* and *finalQuestionaire*: `field` can be one of *Field1* to *Field20* and `value` can either be a number between 1 and 5 for fields with Likert scale and a string for the freeform fields
- For *finishedSession* and *canceledSession*: `field` is *PlayTime* and `value` is the time used for completing the session or before canceling and going back

2 The token to be used by all following client requests

3 A file name to be displayed as a message of the day

4 Reason like timeout or not authenticated

5 Potential error message

4 Sequences

5 Database