Modular User Manager (MUM)

A Template for Common User Management Tasks in Online Studies Based on LOTUS

v2.1, 2018-06-12, Thomas Pronk, pronkthomas@gmail.com

Contents

NB – This document uses singular they as gender-neutral pronoun.

Introduction

MUM is a template for LOTUS projects. MUM offers:

a) A website layout that adapts to different screen sizes.
b) A way for participants to register themselves for your study, as well as login, logout, and quit the study.
c) Methods to obtain and check informed consent, e-mail address, password, and phone number.
d) A British English and Dutch language version.

Try out a MUM example project over here:

- British English: https://www.lab.uva.nl/lotus/MUM2/page/C_home?_language=en-GB
- Dutch: https://www.lab.uva.nl/lotus/MUM2/page/C_home?_language=nl-NL

MUM Website

Desktop Mode

In desktop mode, a MUM Website consists of the following parts (Figure 1):

- A top area with two **logos** (logo_left.png and logo_right.png)**.** The left and right logo should have the same height. The standard site uses a left logo of 220 by 82 pixels, and a right logo of 82 by 82 pixels. Much wider logos are possible, but are more challenging to adapt to small screens.
- A left navigation area, with links to:
    - The **status** page (identified by the Continue button); a step-by-step procedure that guides participant through the registration and study procedure.
    - The **home** page; the default landing page of the website
    - Zero or more **custom pages**, such as a "Help" page.
- A right navigation area, with **user management** links: register, login, log out, quit the study, and pick a different language.
- A bottom area where the **content** of the current LOTUS page is displayed.
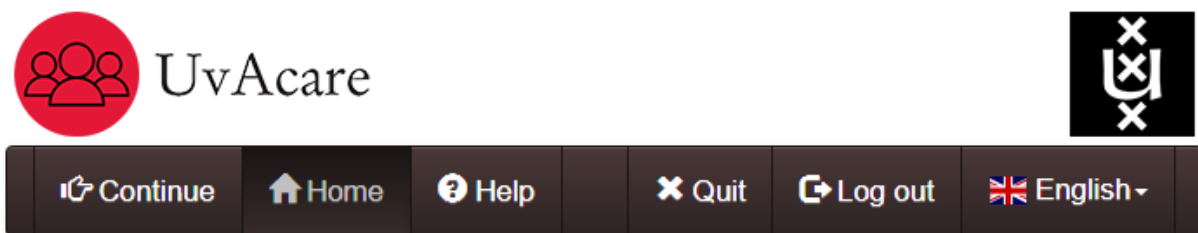
Figure 1. Example MUM Website in desktop mode

Mobile Mode

On small screens (i.e. screen with a width smaller than 768 pixels), the website is adjusted as follows (Figure 2):

- The top logos disappear, and instead a small logo appears inside of the navigation bar (logo_small.png; 281 by 82 pixels). Note that the width of 281 is the minimum width of Bootstrap in extra small (xs) size.
- The navigation links are put in a drop-down menu.

MUM Registration Procedure

When a participant visits the study website, the navigation area shows links to the home page and custom pages at the left, and links to login and register at the right.

- Via the **login** link, the can login by providing their e-mail address and password. Additionally, participants can request to reset their password via e-mail.
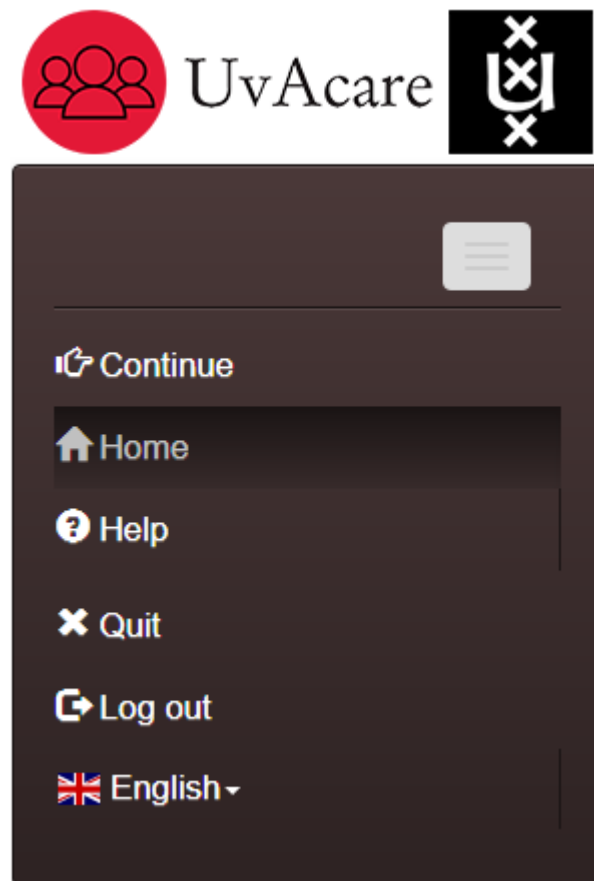- The **register** link starts the registration procedure.

Figure 2. Example MUM Website in mobile mode

The registration procedure consists of four parts, each of which is administered or skipped in succession (Table 2).

Telephone Number Validation

Table 1 contains regular expressions that can be used to validate different types of phone numbers. You can set these up at Define Project -> Participant Parameters -> M_phone Constraints (click the little chain icon to the right of "M_phone" -> phone Constraint argument.

Table 1. Regular expressions for phone number validation

Expression	Description
/^(((\+31|0|0031)6){1}[1-9]{1}[0-9]{7})$/i	Dutch mobile phone numbers
/^(\+|06|00){1}[0-9]{8}[0-9]*$/i	Phone numbers across the word. Since phone numbers can have very different formats per country, this expression is quite permissive; it expects each number to begin with 06 (for dutch mobile numbers), with +, or with 00 (indicating International phone numbers called from NL). Next, it expects eight or more digits.

Table 2. Parts of the MUM registration procedure. The Switch column contains names of LOTUS Project Parameters for enabling (true) or disabling (false) a part.

Switch	Description
M_reg_ic	*Informed Consent* • If consent is not given, then registration is halted. • If consent is given, a **quit study** link appears in the right navigation area. Via this link the participant can stop taking part in the study at any step. When the participant quits the study, can do so while leaving their data for use by the researchers, or while withdrawing their data. Only in the former case, they are offered an exit-questionnaire. In the latter case, the data is not automatically removed, but the researcher is notified via e-mail to do so.
M_reg_email	*E-mail Address* • The participant provides their e-mail address. A warning appears if the provided e-mail address has an incorrect format (not having an @ sign etc.) • Upon providing a valid e-mail address, an activation e-mail is sent. The participant needs to click a link in this e-mail in order to continue registration. If the provided e-mail address is already associated with an existing account, then the e-mail activates the existing account and not the one currently being registered.
M_reg_password	*Password* • By default, the password should be at least five characters in length. This can be adjusted.
M_reg_phone	*Telephone number* • By default, only Dutch mobile phone numbers are allowed. This can be adjusted. • Upon providing a valid phone number, an activation code is sent by SMS. The participant needs to provide this activation code in order to continue.

MUM Naming Scheme

Names of LOTUS components used in a MUM project are prefixed with one of these identifiers:

- G_ denotes general LOTUS components
- J2_ denotes JASMIN2 components
- M_ denotes MUM components

For names of components that are custom for your study, please use this structure: "C_word_word "; each name starts with C, each word in small letters, separated by underscore (_).

Notable MUM Components

*Table 3. Overview of notable MUM components. Those colored **red** may need to be adapted to your own project.*

Name	Description
${project.M_allow_register}	If true, participants can register themselves via the website. If false, they cannot, and the Register link is not displayed in the right navigation area.
${project.M_email_bounce}	Bounce e-mail address; it's used to send reminders from, but *not* to communicate with participants.
${project.M_email_contact}	E-mail address for communicating with participants.
${project.M_email_ps}	A text appended to each e-mail sent to participants featuring a link to the contact e-mail address and a link to quit study.
${project.M_email_invalid}	Warning shown to participants if they entered an invalid e-mail address.
${project.M_exit_qn}	URL of exit questionnaire. This is the same kind of URL you would specify as url parameter for a LOTUS Qualtrics Task.
${project.M_languages}	Languages the study is available in. It consists of a JSON object, where the keys are language codes and the values are names of the languages as displayed in the language picker. Language codes are ISO-639 language codes followed by ISO-3166 country codes, for example: en-GB, nl-NL. The language picker is only displayed if two or more languages are specified here.
${project.M_nav_*}	Texts for navigation links
${project.M_nav_links}	Definitions of optional custom pages for left navigation area.
${project.M_reg_ic}** **${project.M_reg_email} **${project.M_reg_password}** **${project.M_reg_phone}**	Set to "true" to enable this part of the registration, or to "false" to skip it. See section on registration procedure for more information.
${project.M_title_long}	Title of your study used in e-mails and on the website.
${project.M_title_sms}	Title of your study used in SMS messages. *The maximum length of this title is 11 characters.*
${user.uid}	Has the same value as UserID. This parameter solely exists for easily joining LOTUS Participant Parameters with Qualtrics data (which generally contain a uid parameter to identify a participant)
${user.M_consented}	▪ **unknown**; no informed consent was administered yet ▪ **no**; participant declined informed consent ▪ **yes**; participant provided informed consent
${user.M_done_exit_qn}	If true, then exit questionnaire was completed (and not offered to the participant anymore)
${user.M_email}	E-mail address provided by participant
${user.M_email_confirmed}	▪ **unknown**; no activation e-mail was sent yet ▪ **false**; activation e-mail was sent ▪ **true**; participant has activated e-mail address
${user.M_language}	The language of this participant
${user.M_language_qualtrics}	The language of this participant in an encoding understood by qualtrics, and can be used to start a questionnaire in that language via the Q_Language parameter. For example: NL, EN-GB.

${user.M_password}	Password provided by participant (in an encrypted format)
${user.M_password_confirmed}	▪ **unknown**; no password was provided yet ▪ **true**; participant has provided a valid password
${user.M_phone}	Telephone number provided by participant
${user.M_phone_confirmed}	▪ **unknown**; no phone number was provided yet ▪ **false**; activation code was sent ▪ **true**; participant has activated phone number
${user.M_phonecode} ${user.M_phonecode_entered}	Activation code generated by MUM and activation code last entered by participant.
${user.M_remove_data}	▪ **false**; participant did not request removal of data ▪ **true**; participant requested removal of data
${user.M_username}	Does not have any identifying function. Each participant is named "anonymous"
M_informed_consent (Task)	Informed Consent questionnaire.
C_home (Page)	Custom page required by MUM as default landing page; this is the first page potential participants get to see.
C_help (Page)	An optional custom page
M_email_email_confirmed (Action)	If a participant registers with a new e-mail address, then this e-mail is sent to that address. By default, it contains a hyperlink for activating this e- address.
M_email_warning (Action)	If a participant registers with an existing e-mail, then this e-mail is sent to that address. By default, it does not contain a hyperlink for activation, but one for resetting the password
M_email_password_reset (Action)	If a participant requests a password reset, then this e-mail is sent.
M_sms_phonecode (Action)	The SMS sent to the participant's phone that contains the activation code

Version History and Future

MUM Version 1

- **v1.2.** At the registration step, only username and password are requested. E-mail address and phone number are requested just before they are activated, with the participant having the option to change the e-mail address and phone number they provided. Section "MUM Registration Procedure" is updated to reflect these changes.
- **v1.3.** Added logo_small for small screens and a description of the website layout for small screens.
- **V1.4.** Added exit-questionnaire; removed I (large-caps i) and l (small-cap i) from phone activation code; participant does not automatically re-continue study when they progressed beyond screening, instead researcher gets e-mailed and decides what to do; moved to gender-neutral pronouns in this manual.
- **V1.5.** Removed C_suicidal cases; simplified Figure 3. Flowchart; marked MUM Components need to be customized when using MUM for a custom project in red in Table 1.
- **V1.6.** Updated Figure 1 to the current demo information website; added Dutch demo website.
- **V1.7.** Added a special hyperlink via which testers can register for a MUM project, so that they can easily be distinguished from actual participants in LOTUS.
- **V1.8.** Added explanation of MUM1_register participant parameter.

MUM Version 2

- **v2.0.** Changes:
    - Username has been removed; participants now login with e-mail address and password.
    - MUM does not concern itself with the screening anymore; it's only concerned with the logic of registration and login procedures.
    - One can select which of the following four parts of the registration procedure are administered:
        - Informed Consent
        - E-mail Address
        - Password
        - Telephone number
    - MUM1 allowed adversaries to find out which e-mail addresses were registered with a project in two ways: (case 1) if an e-mail address was already registered, but used again in the registration of a new account, it would warn the participant this e-mail address was already in use. (case 2) if an e-mail address was not registered, but filled at the password recovery, it would warn the participant that the e-mail address was not in use. MUM2 is protected against this, by not showing any such warnings to the participant during registration or password recovery. In case 1, it sends an e-mail to the account already registered with the existing e-mail address. In case 2, if an e-mail address is not recognized, it doesn't do anything.
    - The procedure for quitting a study is adjusted. If a participant quits a study, they are offered two options:
        - Quit while leaving the data acquired so far available for the researchers. If the participant picks this option, they are offered to take part in an exit questionnaire.
        - Quit while withdrawing the data acquired so far. If the participant picks this option, they are not offered to take part in an exit questionnaire. Note that the data is not automatically removed, but the researcher is sent an e-mail notification instructing them to do so.
    - The information website has a slightly adjusted layout and contains more icons.
    - All MUM2 components are now prefixed "M_" instead of "MUM1_".
    - Integration of the Qualtrics screening questionnaire takes place in a slightly different manner.
- **v2.1.** Added regular expressions for phone number validation; actions that send e-mails and SMSs, and multi-lingual features

Features under Consideration

The following features are being considered, but not yet planned to be implemented:

- A "my account" screen, where participants can change their e-mail address, telephone number, and password, without researcher assistance.
- Limits on the number of times a participant can request activation e-mails, password reset e-mails, and telephone activation SMSs. This limits the degree to which participants can abuse MUM for sending unsolicited messages to other people.
- Automated deletion (and encryption) of data acquired of a participant.
- Different login credentials than e-mail address and password