

TTP-Dispatcher-Frontend



Current Docker-Version of TTP-Dispatcher: 2023.1.1 (Sept. 2023)

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1 Introduction

Within the Trusted Third Party (TTP) of the University Medicine Greifswald, the TTP-Dispatcher provides a REST-Interface for all functions. This interface is documented in the corresponding interface specification (REST-Spec). Each function has the type action and/or form. Action means the whole function can be called and finished via REST. This type is usually used by external systems to call functions within the TTP. Some functions can also be of the type form, which means the actual call of the function can be invoked by a user via a web form, e.g. directly from a web browser. The form type is usually necessary to embed an iframe with a web form from the TTP in an external system - the external system only knows pseudonyms, whereas the user can work with identifying data. This document describes how to use those embedded forms and provides necessary examples.

2 Getting a Form-URL

The REST-Spec lists all functionalities for which also "form" types, like *addPatient* form, are available.

As described in the REST-Spec, for each function-call a session and a token need to be requested. See the Spec for further instructions. For functions that provide forms, the token-response (e.g. *F_AP-N_TR*) contains a form-URL. This URL can be called by a web browser to show the form.

Example Token-Response:

```

{
  "call": {
    "form": {
      "method": "GET",
      "url": "http://localhost:8080/thS-web/rest/html/public/patient/add?tokenId=3619676d-ebe1-4fb5-9967-6debe1ffb539"
    },
    "action": {
      "method": "POST",
      "url": "http://localhost:8080/THS/rest/patient/add/3619676d-ebe1-4fb5-9967-6debe1ffb539"
    }
  },
  "tokenId": "3619676d-ebe1-4fb5-9967-6debe1ffb539",
  "uri": "http://localhost:8080/THS/rest/sessions/00e9d89b-884d-4d93-a9d8-9b884ddd938a/tokens/3619676d-ebe1-4fb5-9967-6debe1ffb539"
}

```

3 Calling the Form-URL

For example, the forms of function *addPatient* will look like the following screenshots. It depends on the configuration which forms and consents are displayed. The default workflow starts with a) acquisition of person identifying data (IDAT), followed by b) mapping and upload of a scanned consent form (PDF file) or digital acquisition of a consent and c) provision of a project-specific pseudonym.

3.1 Introduction (optional)



Language: DE | EN

New participant - Hints

- On the following pages you can submit the participant data and the consent document to the Trusted Third Party.
- Please pay attention to the hints that are displayed in each dialogue.
- For further information please refer to the SOP „Acquisition of person identifying data (IDAT) and the informed consent“.

Cancel

Next ➔

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Figure 1: Exemplary start page of web form as provided by the TTP-dispatcher when calling the *addPatient-Form* variant. The shown logos and most texts are configurable.

3.2 Acquisition of person identifying data (IDAT)



Language: DE | EN

New participant - Acquisition of person identifying data (IDAT)

◦ Mandatory fields are marked with *

Last name *

First name *

Date of birth (YYYY-MM-DD) *

Gender *

Telephone number

Email

Local identifier

Domain for local identifier	Local identifier	Actions
MDAT Case-ID	645767	

[Clear fields](#)

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Figure 2: IDAT acquisition form, which validates mandatory fields and will check for matches in the E-PIX®.

The list of displayed and mandatory fields is configurable in the dispatcher-configuration and can contain all IDAT-Fields of the E-PIX®. In addition, project-specific local identifiers (e.g. *patient-id*, *case-id*) might be added, if required.

3.3 Informed Consent (optional)

Recording a consent is not necessary in all scenarios, therefore this step is optional.

Depending on the workflow of obtaining the consent, study personal needs to either digitally map a paper-based consent form into data fields, scan and upload the consent form as PDF file, or acquire the consent completely digital using a SignPad (from signoTec). In addition, filling out and uploading multiple consents is possible. Consents can be mandatory or optional to fill out by the user. Optional ones can be skipped; mandatory ones are necessary to include the patient in the respective study. This is configurable in the dispatcher-configuration and the gICS-templates.

Record of informed consent

- o Please fill out the consent precisely.
- o Required fields are marked with *. Consent modules, which must be consented to ("yes") to include the participant in the study, have a bold solid border. Optional modules have a dotted border.

[Printable view of identifying data](#)

Demostudy

Consent for Demostudy

Version: 1.1

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Yes No

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Yes No

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Yes No

Name of the *participant-informing* person (firstname surname)*

Date of signature of the *participant-informing* person (YYYY-MM-DD)*

Date of signature of the **participant** (YYYY-MM-DD)*

I hereby confirm that the entered information are the same as on the paper-based consent document of the current participant.

Cancel

Next

Figure 3: Filling out the digital consent without using a SignPad. For example, if none is available (paper-based workflow).

Record of informed consent

- o Please fill out the consent precisely.
- o When pressing the button "Continue", all data will be saved at the Independent Trusted Third Party.
- o Required fields are marked with *. Consent modules, which must be consented to ("yes") to include the participant in the study, have a bold solid border. Optional modules have a dotted border.

Printable view of identifying data

Demostudy

Consent for Demostudy

Version: 1.1

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

Yes No

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Yes No

Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet.

Yes No

Name of the <i>participant-informing</i> person (firstname surname)*	<input style="width: 95%;" type="text"/>
Signature of the physician*	<div style="border: 1px solid #ccc; height: 60px; width: 95%;"></div> <div style="text-align: right; margin-top: 5px;"><input type="button" value="↺"/></div>
Date of signature of the <i>participant-informing</i> person (YYYY-MM-DD)*	<input style="width: 80%;" type="text"/> <input style="width: 15px; height: 15px; border: 1px solid #ccc;" type="button" value="📅"/>
Signature of the participant*	<div style="background-color: #ccc; width: 100%; height: 60px; display: flex; align-items: center; justify-content: center;"> Click here </div>
Date of signature of the participant (YYYY-MM-DD)*	<input style="width: 80%;" type="text"/> <input style="width: 15px; height: 15px; border: 1px solid #ccc;" type="button" value="📅"/>

Figure 4: Filling out a consent using a SignPad. There is no need to upload a scan afterwards, instead the digital consent is printed out for the participant.

3.4 Provision of pseudonym and user-friendly summary of processed identifying data (printable)



Language: DE | EN

New participant - Upload scan(s) and finish

o Please execute the following steps to complete

The pseudonym for your system is: *mdat_842304*

[Printable view of identifying data](#)

1. Please enter the pseudonym **mdat_842304** in the field „Pseudonym“ on the paper-based consent.
2. Please scan the paper-based consent (including pseudonym) as one PDF document.
3. Please transmit the PDF document to the Independent Trusted Third Party as described in the following:
 - o Please select the PDF documents with the button „Select Scan(s)“.
 - o Please check your selection.
 - o Please verify the result afterwards with the button „Preview“.

Hint: If any correction is required, delete the scan and repeat step 3.

4. By clicking the button „Save participant“, the uploaded scans will be saved and the pseudonym will be transferred to your system.

Save participant

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Figure 5: In the last step of addPatient form (without SignPad), the user needs to scan the paper-based consent and upload this to the TTP. In addition, the pseudonym of the participant is shown and will be transferred to the external system by clicking "save participant".

4 Search Participant and other functions

Similar to *addPatient* form, embedding *searchPatient/managePatient* form via iframe is also possible. By selecting the desired participant, more functions via forms are available, e.g. "show participant record in external system", *addConsent*, *addRevocation*, *addConsentScan* or *updateIDAT*.



Language: DE | EN

Search participant

- Enter first- and/or lastname (min. 3 characters) to get result suggestions.

Name:

Identifier-Domain: *

Pete

Peter222 Liebknecht

Penndorf Peter

Peter Liebknecht

Last Name	First Name	Gender	Birthdate
Liebknecht	Peter	male	03.03.1977
Liebknecht	Peter222	male	03.03.1977
Peter	Penndorf	male	16.03.1984

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Figure 6: Searching a participant by IDATs or local identifier. "Open Participant" uses the pseudonym to open the participants study records in the external system. "Further TTP-Functions" enables the user to use TTP-Functions that are more specific (see Figure 7).

Here you can view the participant's data, pseudonyms and consents.
 You also have the option to fill out new consents.
 In case of withdrawal, you can record it here.
 If necessary, you can upload scans of the paper consents.



Peter Liebknecht


male, 46 years
 Born 1977-03-03

Pseudonyms

MDAT












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 Update patient data

 Print patient data

 2 Consents

 0 Withdrawals

Date of entry	Document	Modules	Type	Scan	Quality control
2023-06-14 16:35:44	Patienteneinwilligung 1.6.d			 	In Prüfung THS
2023-06-14 16:35:43	Patienteneinwilligung 1.6.d			 	In Prüfung THS

1-2 of 2

Navigation icons: back, forward, page 1

 Fill new consent


 Finish

Figure 7 Further TTP-Functions - it is configurable, which functions are presented to the user, e.g. depending on the user/ role rights of the external system embedding this iframe.

5 Full support for system integration

The REST-Interface allows the external systems to choose between actions (REST-Calls) and forms (integrated iframe). When using actions, most responsibility for the workflow falls to the external system. When using forms, the user (e.g. study nurse) gets initial training and, at all times, is guided through the workflow by the forms of the TTP, described in this document.

For the workflow of including a participant in a study and create the study record with medical data (MDAT), using the form is the only way of separating the IDATs from the study records in the external system, which should only know the pseudonym (PSN):

- external System = MDATs + PSN
- TTP = IDATs + PSN + consent

This workflow of separation of concern is a way of fulfilling data privacy protection regulations.

The integration of the REST-Interface and the call of forms has been implemented in well-known commercial products (exemplary):

- SecuTrial (iAS), Link: <https://www.secutrial.com>
- CentraXX (Kairos), Link: <https://www.kairos.de/produkte/>
- M-KIS (Meierhofer), Link: https://www.meierhofer.com/de_de/kis-fuer-akut-misch-und-psychiatrische-kliniken
- SAP (with custom development), Link: <https://www.sap.com/germany/industries/healthcare.html>
- VivianClient (MicroNova), Link: <https://www.micronova.de/home.html>

Credits

Concept and implementation: P. Penndorf, A. Blumentritt, L. Geidel

Web-Client: P. Penndorf, A. Blumentritt

Docker: R. Schuldt, F. M. Moser

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Supported languages

German, English