

Dynamic Forms

Dynamic Forms 2010

User Guide

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1 Dynamic Forms overview

Dynamic Forms is a product aimed at companies employing mobile workers and enables paper forms and work processes to be converted into mobile devices/desktop data capture forms. Dynamic Forms is controlled through a web portal, enabling the management of the entire system from anywhere, through an internet connection. The management portal allows users to send forms to mobile devices such as PDAs, tablets or laptops, and also to manage the settings within the system.

Form templates are created in the web portal by users, by creating a list of questions and answers. The form templates are sent to the mobile devices and are scaled to fit the screen size of that device. The mobile device application receives the forms when a web connection is established.

Updates and information are received via the **Sync** button on the mobile device, which links to the web portal. Users complete the forms on the device and the results are either saved so they can be revisited at a later time, or submitted to the web portal. In both cases the forms are sent back to the server.

2 Web portal

The web portal is the central portal for creating and viewing forms. Administration of the system is also performed here, and users log in using their active directory logins. Forms can be created, filled and viewed from the portal.

2.1 Login

In order to log in to the portal:

- open internet Explorer
- type in the URL of the web portal

Depending on the authentication method used during set-up, one of the following two login methods will be available:

- 1 Windows authentication

The following login prompt will appear:



Fig A Windows authentication login prompt

- enter user name in the following format <domain name>\<username>
- enter password
- click **OK**

2 Forms authentication

The following prompt will appear:

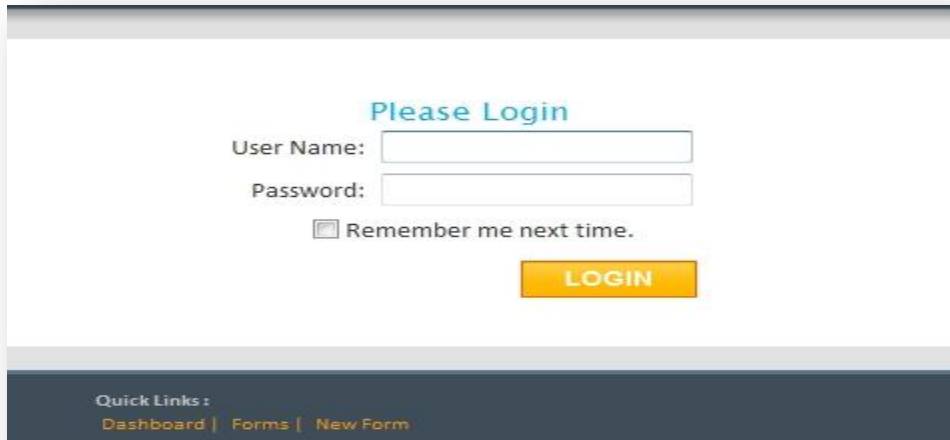


Fig B Forms authentication login

- enter username
- enter password
- click **login** or press **Enter**

2.2 Dashboard

The dashboard is the first screen presented and shows some quick links and also gives explanations of common features of the portal.



Fig C Dynamic Forms dashboard

Depending on the user's role, there may be two areas visible. These are: 1) forms administration and 2) security administration.

2.2.1 Forms administration

The forms administration area contains all the links to activities to which a “super user” may have access. These activities include:

- **forms**
View and filter a list of all the forms that have been collected in the system and find relevant data
- **new form**
Fill in a new form using the portal functionality, an alternative to filling in a form on a mobile device
- **form templates**
Create the appearance of forms, including formatting the data that will be collected
- **contracts**
Contracts are a way of grouping a job or piece of work into a logical group. A contract enables permissions to be granted to specified mobile users in order to collect the data required, and output the results in an easy to find format
- **clients**
Enter customers’ details so data collection can begin

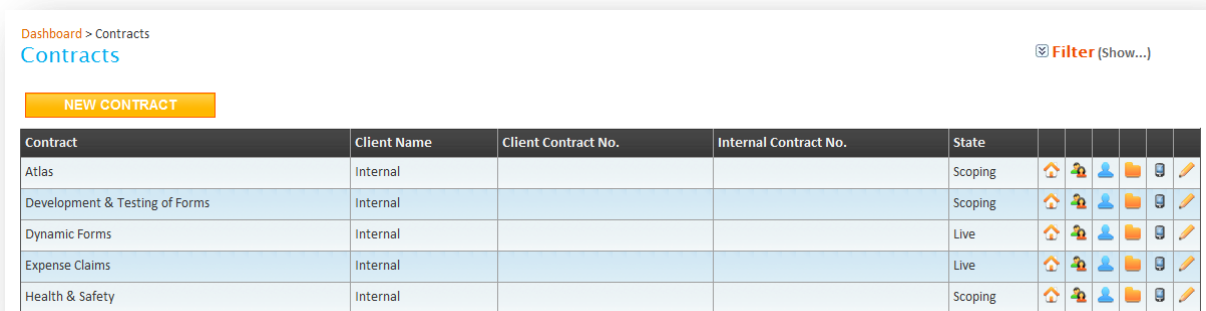
2.2.2 Security administration

The security administration is usually performed by the IT department. The functions available are:

- **users**
Manage which users can access the system along with their details and passwords
- **groups**
Manage security groups through this feature and add users to a security group or change the roles each security group has
- **organisational groups**
Enable groups of employees to be managed by someone other than system administrators. This feature is very useful for managing a license estate if there are multiple offices
- **devices**
Manage the mobile devices that are connected to the system, and allow new devices to connect to Dynamic Forms; also troubleshoot any connection problems.
- **customisation**
Add a company logo to the portal

2.3 Contracts

The contract list is where jobs or work tasks are grouped to enable the workload to be managed more effectively. Forms are assigned to a contract and permissions for users can also be granted in this section.



Contract	Client Name	Client Contract No.	Internal Contract No.	State						
Atlas	Internal			Scoping						
Development & Testing of Forms	Internal			Scoping						
Dynamic Forms	Internal			Live						
Expense Claims	Internal			Live						
Health & Safety	Internal			Scoping						


Fig D Contract list

Creating a contract enables the user to start completing forms on a mobile device, and is activated by clicking **new contract**.

The work order numbers and contract number are for referencing purposes and usually correspond to an internal work order number and the client's work order number.

To set up a contract and give users access:

- create a list of subjects; these are the clients for whom the form is to be completed
- provide authority to users who should be able to access the contract
- assign the form templates which can be completed for this contract
- assign the mobile devices that will be used on this contract

Each step is completed by clicking on the relevant icon, eg create a subject by clicking on the  icon. Once completed, the assigned users may begin completing the forms on either the portal or the allocated mobile devices.

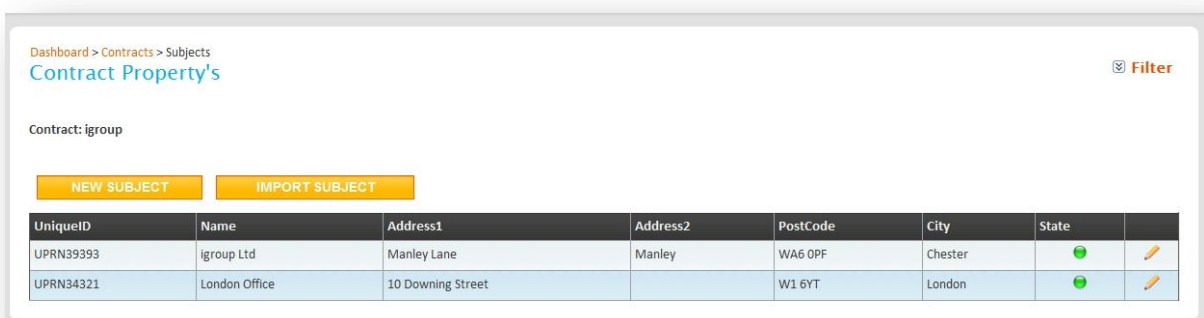
2.3.1 Creating subjects for a contract

There are two ways to create subjects for a contract. Either:

- create the details manually - click the **new subject** button and complete the details;
- import the subjects from an Excel spreadsheet

The imported Excel spreadsheet should be in the following format:

- rename to "data"
- delete any unused sheets
- enter data in the following column order:
 - uniqueID
 - name
 - address1
 - address2
 - address3
 - city
 - postcode



Dashboard > Contracts > Subjects
 Contract Property's Filter

Contract: igroup

NEW SUBJECT IMPORT SUBJECT




UniqueID	Name	Address1	Address2	PostCode	City	State	
UPRN39393	igroup Ltd	Manley Lane	Manley	WA6 0PF	Chester	<input checked="" type="checkbox"/>	
UPRN34321	London Office	10 Downing Street		W1 6YT	London	<input checked="" type="checkbox"/>	

Fig E Creating subjects for a contract

2.3.2 Assigning users to a contract

Users must already have been created to be assigned to a contract. Once assigned, the user can view and complete the forms for that contract. To assign a user:

- click the  icon next to a contract on the contract list (see Fig D)
- choose the user to be added by checking the tick box next to the user's name (see Fig F)

- click the right arrow to transfer the user to the assigned users list
- to remove a user's permissions, select a user from the assigned users list and click the left arrow

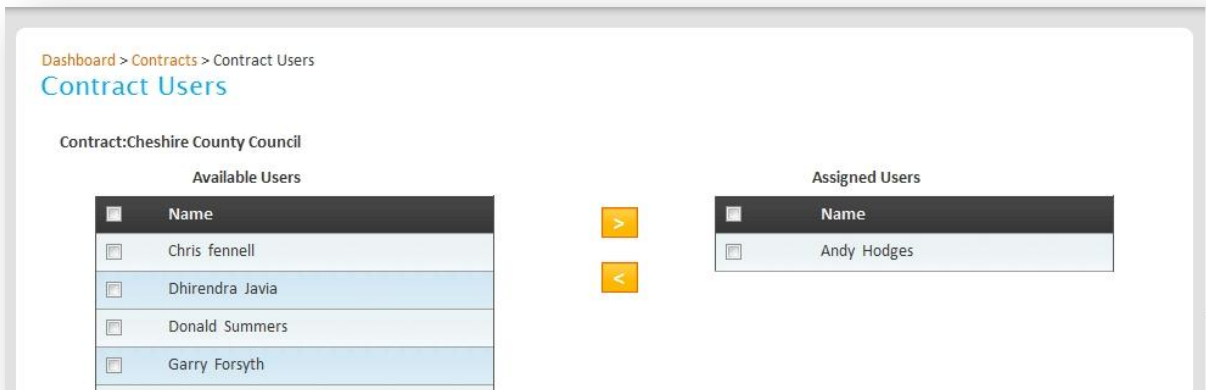


Fig F Adding a user to a contract

2.3.3 Assign the form templates to a contract

To assign form templates to the contract:

- select the icon next to the contract to be used (a list of the form categories is displayed)
- expand the category in which the required form is stored
- choose to add the form to the server and/or the mobile device and click **save**

Forms added to the server are now available in the Form Fill page. Forms added to devices assigned to the contract will be updated at the next sync.



Fig G Adding forms for a selected contract

2.3.4 Assign the devices to a contract

Each device has a unique ID number inside the operating system which is used to ensure that the data flow to specific devices is controlled.

To add devices to a contract:

- click on the icon next to a contract (devices currently available are displayed on the left)
- click the tick box for the required device
- click the right arrow to move the device to the "assigned devices" table
- to remove a device from the contract, select the assigned device in the table on the right and click the left arrow

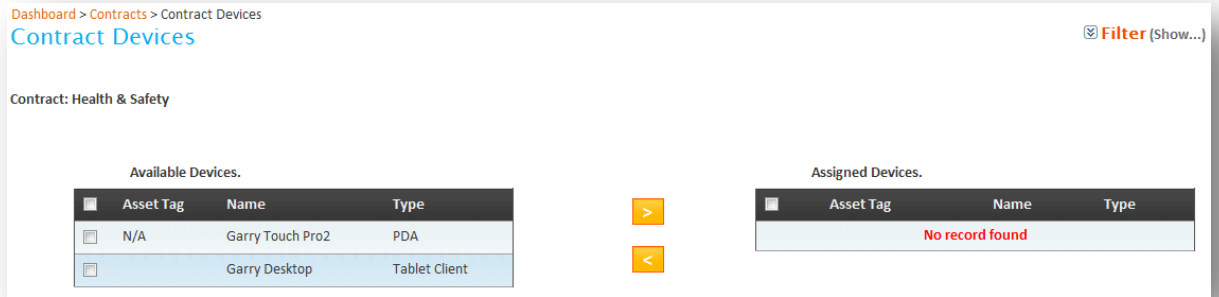


Fig H Adding and removing devices from a contract

2.4 Completing a form

One of the functions of the portal is to authorise a user to complete a form. This process is very similar to completing a form on a mobile device:

- click **new form** from the main menu
- select the appropriate contract
- select the form category
- select the form to be completed (the list of subjects assigned to that contract are displayed)
- select the subject for whom the form is to be completed by clicking the icon.

NB Job reference is an optional field for internal use

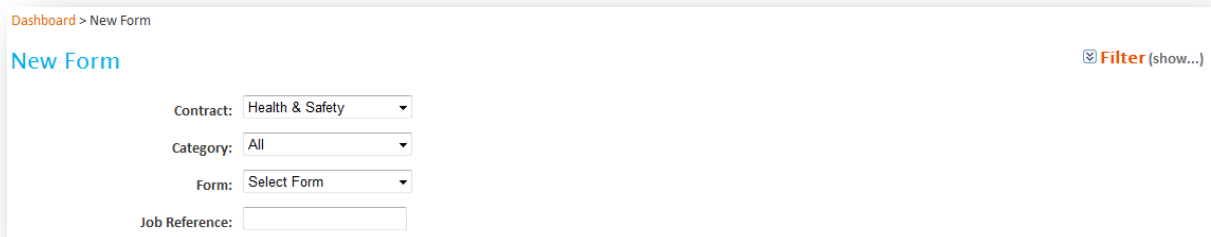


Fig I Selecting a form to fill in

2.4.1 Questions and answers

A form is made up of a series of questions and answers, so in order to complete a form the user must read the questions and enter the appropriate answers. There are a number of different answer types, which are described below:

Answer types

- **drop down list**

A drop down list is configured in the portal. The user clicks the box and a list containing the possible answers is displayed.

Q-Fb 20 Identify the dimensions that were verified

A-Fb 20

-- select --

-- select --

Face to face

Flange dimensions

Hole size

PCD

Other

Fig J Drop down list

- **radio group**

A radio group is a question to which there can only be one response selected. There may be multiple answers but only one can be chosen.

Q-MD 31 Select if purchase order is complete or not

A-MD 31 Is purchase order is complete or not

Complete

Incomplete

Fig K Radio group

- **check box**

A check box is an individual answer that can be selected or un-selected.

Q-D7 Did you Inspect

A-D7 Weld Repairs

A-D7 Kitting Inspection

A-D7 Hardness Testing

A-D7 Plating/Coating

A-D7 PMI Testing

A-D7 Drift Test

Fig L Check box

Image

Images can be added to a form in the portal, however the process differs slightly to that on the mobile device. Before being added to a form, the images must already exist on the computer on which the user is working. To add an image to the form click the **browse** button; select the file to upload then click the **upload** button. A preview of the uploaded form will be displayed to the right of the control.

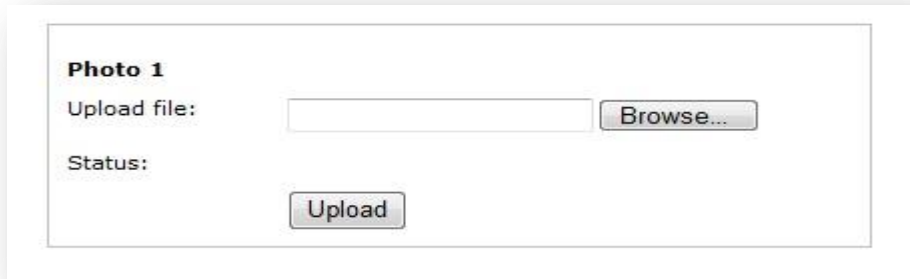


Fig M Image upload control

Signature

The signature control in the portal does not allow for a signature as such, but when activated, the signature control applies the username of the current user, together with the actual date and time.

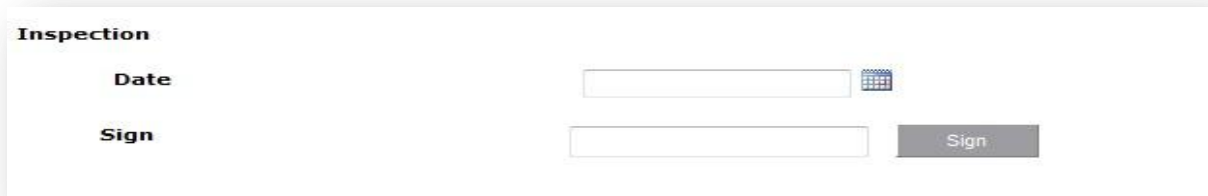


Fig N Signature control

2.4.2 Saving the form

Data entered into the form can be saved by clicking the **save** button at the bottom of the form. The data is written to the database and can be retrieved at a later date by selecting the form from the form list. Forms can be saved any number of times, and any previously saved data in that form will be overwritten each time.

2.4.3 Submitting the form

Once the user is sure they have finished completing the form it is submitted by clicking the **submit** button and the information is sent back back to the web portal. Once the form has been submitted it cannot be changed, however the form can be viewed from the forms list by selecting the completed form.

2.4.4 Viewing form results

All completed forms, either through the portal or the PDA, can be viewed by selecting "forms" from the main menu. The most recently submitted forms show at the top of the list. To locate a form, select the client, contract, dates and name of the person who submitted the form from the choices in the search options.

Fig O Filters available for a form search

2.4.5 View/print

Once the form to be viewed has been located, click the **view/print** preview icon . A pop-up window is created and the form output, including the answers, can be viewed by the user.

Job Number	Created	Submitted	Address	Form Name	User Name	Edit Form			
	08/08/2009 15:51:31		igroup Ltd	Repeat Section with one question	Andy Hodges				
	08/08/2009 15:51:20		Murali	Repeat Question	Chris fennell				
	08/08/2009 15:44:21		Subjects	Repeat Question	Andy Hodges				

Fig P The view/print preview icon

The user can view the output, or print it by selecting the print option from internet Explorer.

2.4.6 PDF output

Dynamic Forms allows the user to output the form in PDF format so it can be emailed. This format ensures that the forms cannot be changed once they have left the system. Click the icon (see Fig P) to view the PDF output of the selected form.

2.4.7 Word output

Dynamic Forms 2010 allows the finished form to be exported into Word. Clicking on the icon (see Fig P) enables the user to open the document in Microsoft Word format.

2.4.8 Editing a form

If a form has been saved to the server it is still possible to edit the contents, provided that the form has not been submitted (section 2.4.2). To begin editing click the icon next to the appropriate form.

3 Question and form designer

3.1 Creating a form

To be able to fill a form in on either the portal or a mobile device, a form template must first be created. The form template contains all the questions and answer sections previously created ready for the completion. It also contains the output of the form from the data that has been collected by the mobile user.

3.1.1 To create a new template:

- click on **form template** on the main menu
- click new form definition
- choose the category in which the form is to be saved
- enter a name for the form
- enter the page type to be used
- click **save**

Dashboard > Form Template > Form Template Details

Form Template Details

Category:

Name:

Page Type:

Fig Q Creating a form template

The **move selected** button transfers a form from one category to another.

3.2 Question designer

Question designer is the area within the portal used to create the questions and answers required to collect data. The logic paths for the forms are defined and different answer types can be selected.

Select the form to be built by clicking on the icon.

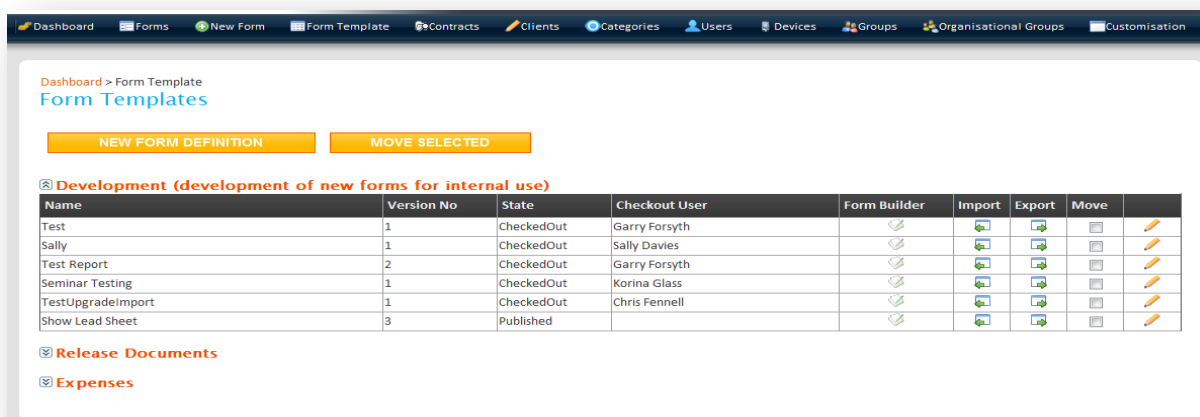



Fig R Selecting a form to build

3.2.1 Sections

Sections are created to break up a form into distinct parts, in order to avoid overfilling a screen on the PDA, tablet or portal. The user is also filling in answers that have some relevance to each other. One section on a form might be entitled "job details", which must be filled in before a job is started,

and the next might be "detail repairs". Each section is often a distinct part on the output of the form. This equates to a Visio document with different sheets because not all the data fits on one sheet.

To create a new section:

- click the  icon on the "section list" toolbar
- enter the section name (see Fig S)

Sections can be activated from another question on the form. To do this:

- tick "has piping"
- select the question
- select the answer
- select the answer value
- save the section by clicking **save**

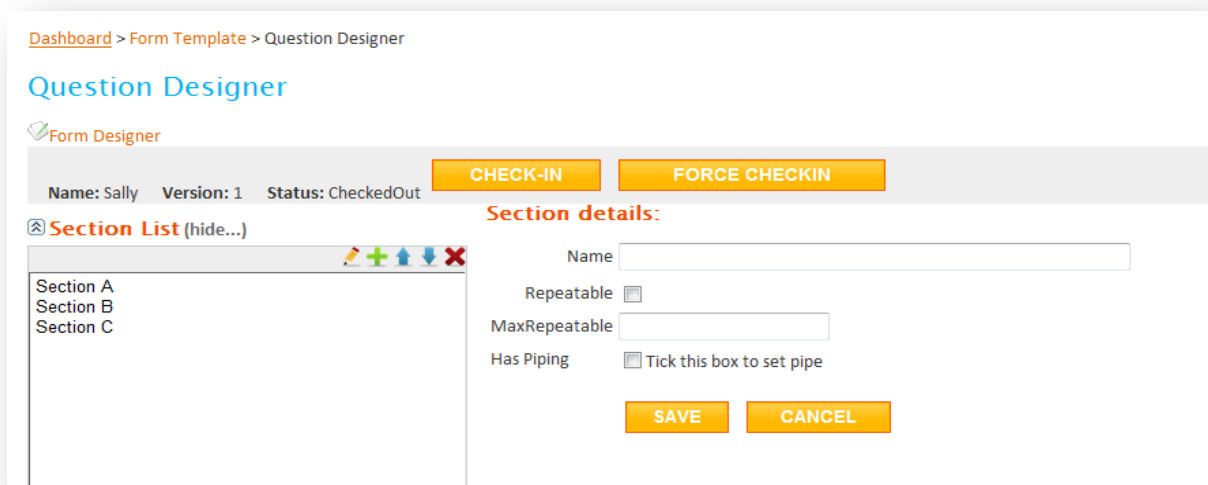


Fig S Creating a section

3.2.2 Repeatable sections

A repeatable section can be filled in up to a specified maximum number of times, which allows the same questions to be answered with a variety of answers. If the section is "describe the vehicle?" the questions could include "what is the make?"; "what is the model?"; "what is the colour?" and "what is the engine size?". To amend a standard section to include repeatability, check the repeatability box. The maximum number of times the section will be repeated is entered in the "max repeatable" box.

Repeatable sections can be activated from another question on the form:


- tick the box "has piping" (see Fig S). A further set of boxes appears
- select the question that will activate this section
- select the answer that will activate this section
- select a value that will activate this section

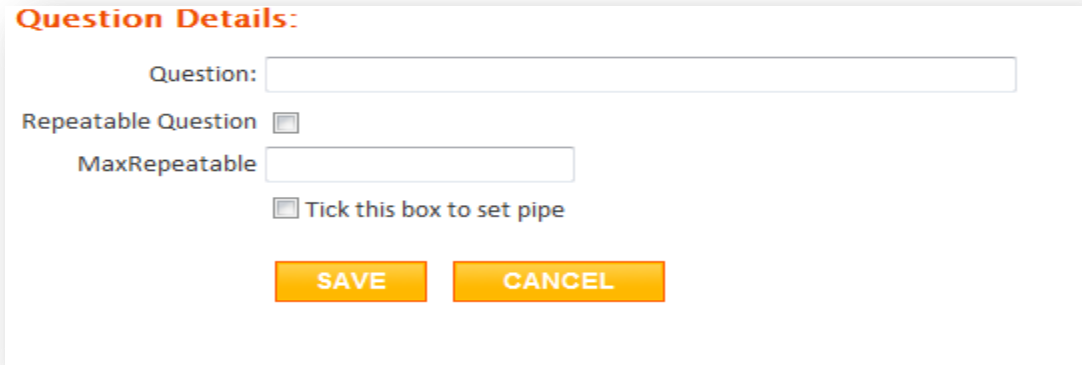
3.2.3 Questions

A question is an instruction to the user to complete data. Examples are "enter the date" or "enter the job details".

To create a question within a section that has been created:

- highlight the section in the list
- the contents of the section are loaded into the section contents list box

- click the  icon to add a question
- the new question options will be loaded (see Fig T)
- enter the question name (displayed to the user when completing a form)
- add options for repeatable and max repeatable



Question Details:

Question:

Repeatable Question

MaxRepeatable

Tick this box to set pipe

SAVE **CANCEL**

Fig T Creating a question

There are 3 types of question, and a question can have one or more answers.

Question types

- **Standard**

Standard questions, once created, have a number of answers added to them. The question will be displayed to the user on both the web portal and the mobile device. The user will have to complete the answers under the question.

- **Repeatable**

A repeatable question is one whose answers can be repeated (completed) a set number of times. A repeatable question is defined when the question is created, a maximum number of times it can be repeated has to be set. The question will be repeated the specified number of times on the form designer so that the answers can be added to the form output.

- **Piping**

A piped question is only activated if a previous question has a specific answer value ie, the user will be directed to a specific section of the form relevant to that particular answer, (already in use on paper forms, eg 'if you answer yes to this question please go straight to section D'). This enables a second question or set of questions to be asked on the basis of the response to the first question.

3.2.4 Narratives

A narrative is a piece of text inserted into the output form. It is important because it enables the form to output statements based on what a user has answered. For the question "did you inspect the roof?" the possible answers are "yes" and "no". If the user selects "yes", the report would include the statement "the roof was inspected by Jim Jones on 28/04/2010". If "no" was selected, the narrative would not appear in the report.

To create a narrative:

- create a new question
- give the question a name that indicates it is part of a narrative
- create a narrative answer
- define the text to be output in the narrative, and also whether it includes answers from other parts of the form (see Fig U)

Subject Metadata

Section List

Module A Pre Inspection Meeting

Question Designer

Layout Designer

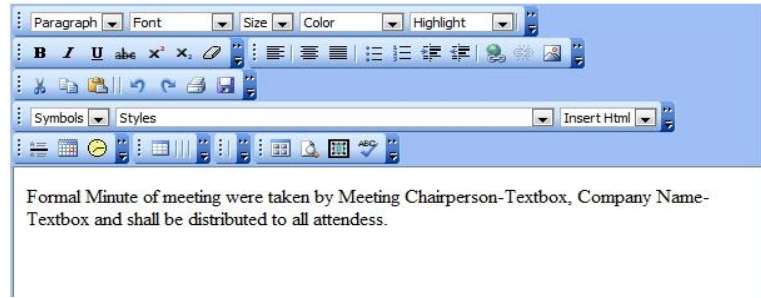


Fig U Creating a narrative

3.2.5 Answers

The different types of answers are shown in section 2.4.1. Answers can be added to questions in any order.

4 PDA

The PDA application is installed by copying a CAB file to the PDA and running it. There are elements that must exist on the PDA before Dynamic Forms can be installed - the .net Compact Framework 3.5 and SQL CE 3.5. Provided these are present, Dynamic Forms will successfully install when run from the PDA.

Device management software can greatly reduce the time and effort involved in provisioning a device with the software and subsequently keep it up to date with the latest version of Dynamic Forms.

4.1 Running Dynamic Forms

The application can be run a number of ways. The first option is from the programs folder on the PDA. The icon is shown in Fig V.

To open the program:

- click the Windows **Start** menu
- select Programs
- select Dynamic Forms

This may differ on some devices and is dependent upon the version of Windows used by the manufacturer.



Fig V The Dynamic Forms program in Programs

The second option is to navigate to the Program files folder and find the Dynamic Forms install. By default this is located in the "Dynamic Forms" folder.

4.2 Settings

After the application has been run, the login screen is displayed. This screen enables the setup of the connection to the server and the secure login of users to the application. Unless the software has been provisioned with the server location login, the user must enter the server settings manually.

Access menu -> settings, then enter the address of the server on the screen. Click **save**.

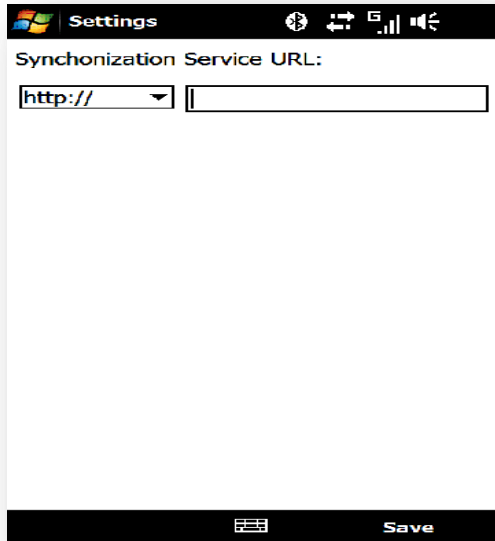


Fig W The Settings screen

4.3 Registering a device

After saving the server settings, the device can be registered with the server. Select menu -> request access and the screen will be displayed. Enter the device name if known and click **send**. The device will be added to the list in the portal and an email sent to the administrator confirming that a new device requires approval.

4.4 Synchronising

In Dynamic Forms 2010 the sync is automatic, and therefore the user does not need to instigate a sync of the data as it is performed in the background without external prompting.

To start a manual sync, or to view the sync log, select the "**sync**" tab on the main menu (see Fig Y).

4.5 Login

Each user who has been given access to the PDA will have a unique username and password for that PDA. Once the user enters their login details they are checked against the onboard database and should the user not exist, the server is checked for their details.

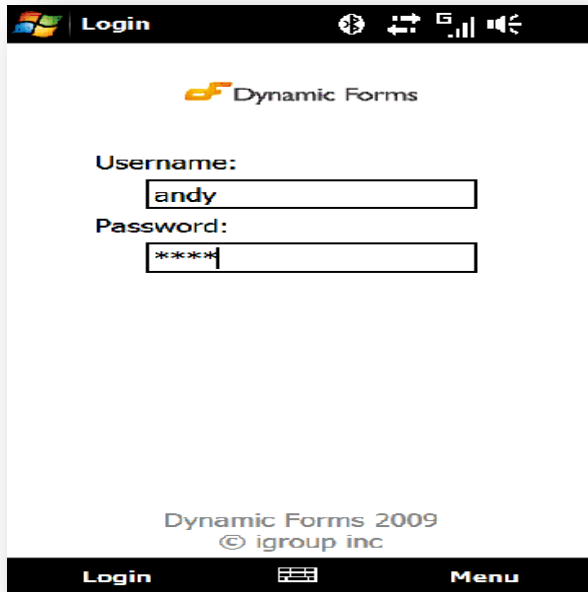


Fig X Login Screen

4.6 Selecting a contract

After logging-in to the application the user must choose a contract. This ensures that only forms assigned to that contract can be filled in. The user selects the appropriate contract by choosing it from the drop down list in the top right of the main menu.

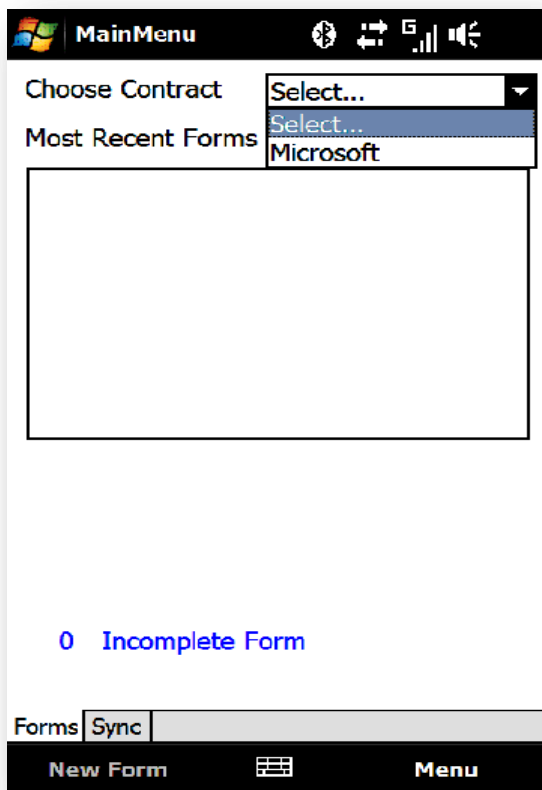


Fig Y Selecting a contract

4.7 Selecting a form

4.7.1 New form/form list

Having selected a contract, the user can click the **new form** button in the bottom left hand corner of the main menu (see Fig Y). This displays a list of the forms available on the selected contract. Select the category and a list will appear of all the forms for that category.

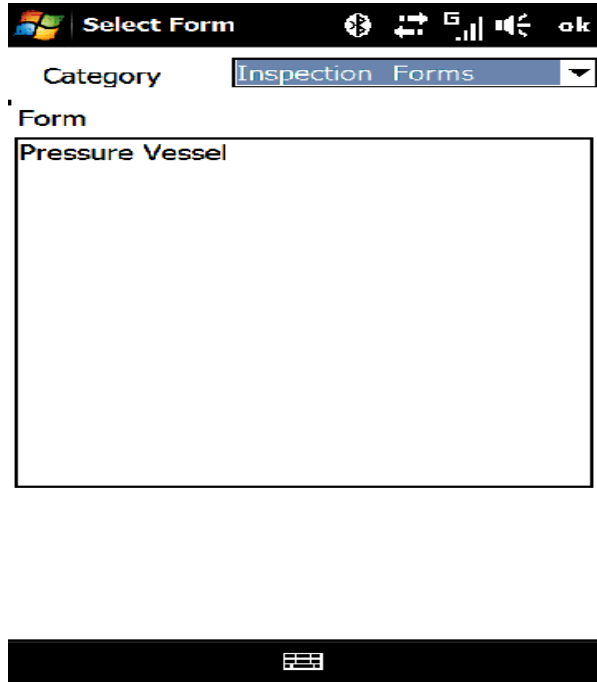


Fig Z Forms list

4.7.2 Incomplete forms

Forms that the user has started completing, but not yet submitted, are available for completion. If there are any available, this is indicated by the blue text "incomplete forms" on the main menu (see Fig Y). Selecting this will display a list of any incomplete forms. The required form can be edited and either saved or submitted in the normal way.

4.7.3 Most recent forms

A list of the most recently completed forms is shown on the main menu, for quick access. The name of the form is displayed and, if selected, a new instance of this form is created for the user to complete. The forms are shown in the table on the main menu (see Fig Z). This operation works in the same way as the new form/form list operation (See Fig Z).

4.8 Filling a form

4.8.1 Adding a subject to the form

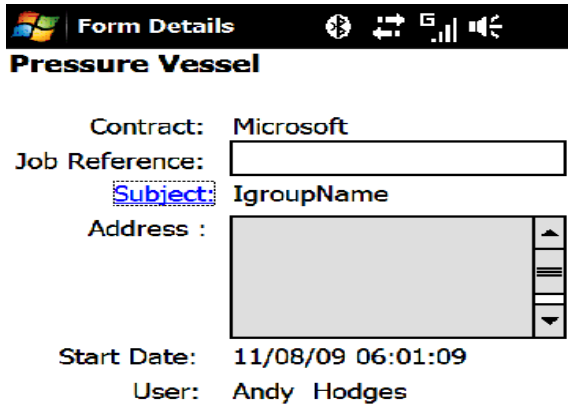
Having selected a form, the user must associate a property with it by selecting the blue property text on the screen, then choosing from a list of properties associated with the contract.

4.8.2 Adding a job reference number

A new feature in Dynamic Forms 2010 is the option to add a job reference number when starting the form. This allows easy data export from the portal and also enables the user to find a completed form in the portal more quickly.

4.8.3 Starting the form

Once a subject has been associated with the form, the user can begin. A list of all the sections within the form will be visible and the user can select which section to start with.



Form Details [Bluetooth] [Refresh] [Signal] [Volume]

Pressure Vessel

Contract: Microsoft

Job Reference:

Subject: IgroupName

Address :

Start Date: 11/08/09 06:01:09

User: Andy Hodges



Start [Grid Icon] **Menu**

Fig AA Selecting a subject and starting the form

4.8.4 Navigating through the sections

The user has several options for navigation around the form. Once a section is selected, a list of the questions will be displayed. The user can navigate back to the main section list by selecting **close** on the bottom menu.

The user can navigate between sections when browsing by using the **next** and **previous** buttons at the bottom of the screen. The next and previous buttons will move the screen to the next or previous section respectively.

4.8.5 Filling answers

Answering questions

Within a section, the questions are displayed in a scrollable area. The user will select each question to answer. Depending on what types of question have been defined, the user will have a number of different types of question to answer.

Answering piped questions

The piping functionality allows questions to be dependent on the answers to previous questions. On the PDA a question which is piped from another question will appear greyed out and the user will be unable to select this question until the parent question is answered and activates the pipe to which the question belongs. Once a parent question is answered the child questions will become available.

4.8.6 Images

Forms can contain questions that require an image as an answer. To take an image select **"take photo"** or browse to an image already on the PDA.

The resulting image will be set as the answer to the question. The image is displayed to the user as a thumbnail on the screen.



Take an image

Image 1



Fig BB Images

4.8.7 Signatures

The signatures facility can be used to confirm sign-off. The user enters the name of the person and a blank area is used to capture the signature. Once completed, these sections show in the section list as a green tick icon, which shows that a signature has been obtained.

4.9 Saving a form

Once a form has been created the user has the option to save the form whilst it is in progress. To save a form, navigate back to the main section list and select **close** from the main menu. This will take the user back to the screen where the property is assigned to the form. The **save** button is displayed on the bottom left of the screen. Once selected the form is saved, the PDA is synchronised with the main server.

Saved forms are related to the user's profile. If a user logs into another device they can complete any saved forms on the new device. In the event of a lost or broken device no work is lost.

4.10 Submitting a form

Once a form has been completed the user is able to submit it. The user performs the first part of the instructions for section 4.9 (saving a form). This time however, the user selects **submit** instead of **save**. The PDA will then synchronise and the completed form is removed from the device. Forms which have been submitted are not sent to PDAs. These forms are available for review in the web portal by users with the necessary access permission.

5 Tablet edition

The tablet edition of the portal has the same functionality as the PDA. In order to use the tablet please refer to the PDA section. However, some screens may have a different appearance, and these are described below.

5.1 Starting a form

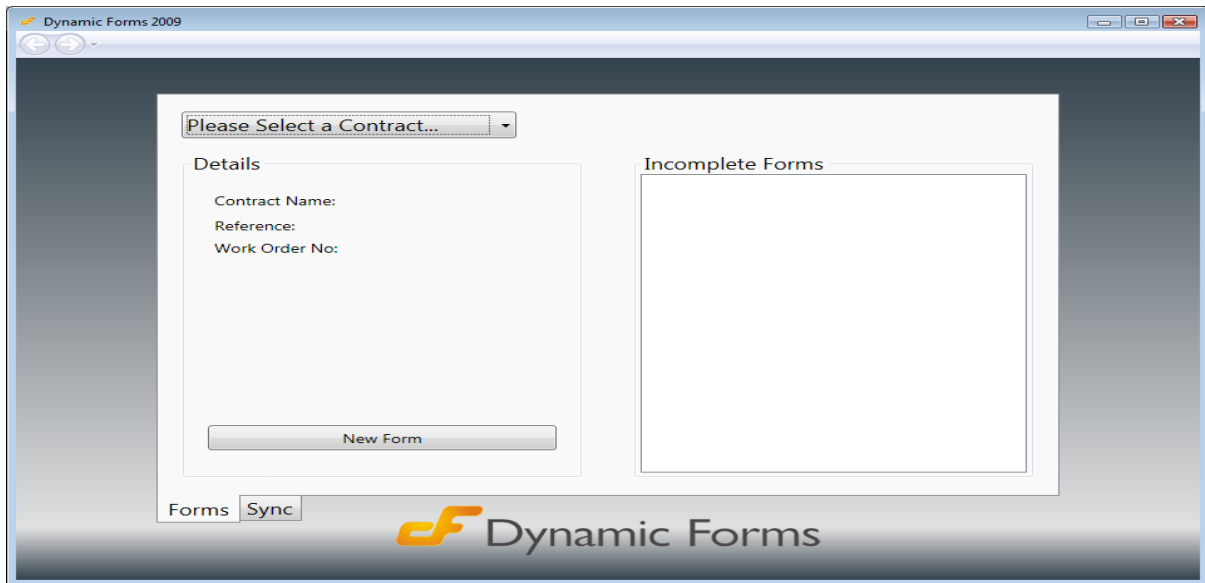


Fig CC

As in the PDA, select the contract and click **new form**

The following screen will become visible:

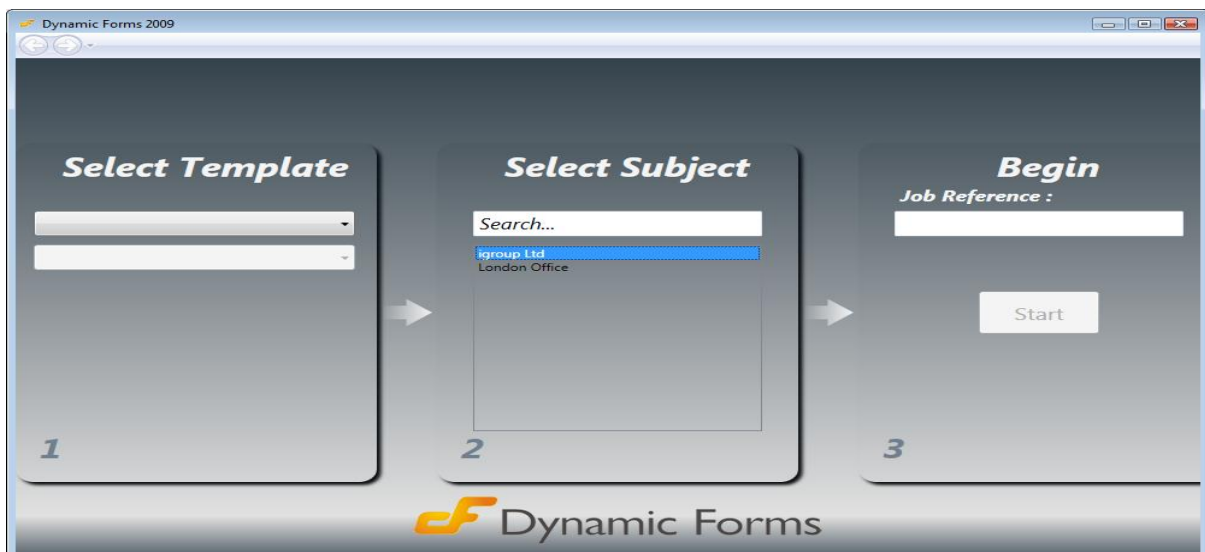


Fig DD

Follow steps 1, 2, 3 as described and click **start**.

Select the appropriate section and complete it. Fill in the form as described for the PDA. Click **save** or **submit** once the form is completed.

Glossary

Client

The ultimate customer for whom the form is being filled in. Work may be undertaken for a number of customers and this is where they are entered.

Contract

A contract is a work package that is being undertaken, whether internal or external work. A contract relates to the job number that most companies use to define a work package.

Device

A device is a PDA or tablet that can be used to fill in a form. Each device has a unique ID and can be assigned to contracts.

Form

A form is a set of data that has been collected by filling in a form template. Forms are filled in on the PDA or in the portal and can be viewed /printed from the portal.

Form templates

A form template is a blank form that has been created with a set of questions and answers that the user must fill in. The template is used to collect data via the web portal or the PDA. Form templates can be created and modified in the portal.

Subject

To distinguish between forms an address must be assigned. Within the system this is called a subject but can be thought of as an address or site that the form relates to.

Question designer

Question designer is where the form templates are constructed, and where the questions to ask and the answers that the user will fill in are created. The structure of the questions is replicated on the PDA and in the portal.

Layout designer

The form designer is where the form output design is created. HTML can be imported from a converted word document and then changed to view correctly in Dynamic Forms.

Super user

A user who has access to every available function.

Sync

Abbreviation of synchronisation – occurs when the mobile device connects with the server, initiated automatically but can be performed manually as required.