Moji 5 Whitepaper July 2020


Rapid Application Development tool for the
Microsoft SQL Server database

1.0 INTRODUCTION

Moji 5 is a Rapid Web Application Development (RAD) tool that lets customers easily build and host web-based applications. Using a drag and drop approach, anyone can easily setup data entry forms, business logic, workflows, report and charts, all over the web in your favorite browser.

All business applications revolve more or less around the same things - a database, basic CRUDS functionality (Create, Read, Update, Delete and Search records) and the ability to visualize your data in reports and charts. An application might also come with bells and whistles, such as data validation, business logic, security and access rights.

Moji 5 lets you create applications faster because it takes away the tedious work of having to write code to do all of the above. The platform automatically handles a large portion of the requirements of a standard business application, requiring you to only define the forms and fields you need. In summary, using a drag and drop approach, you can easily setup data entry forms, business logic, workflows, report and charts, all over the web in your favorite browser.
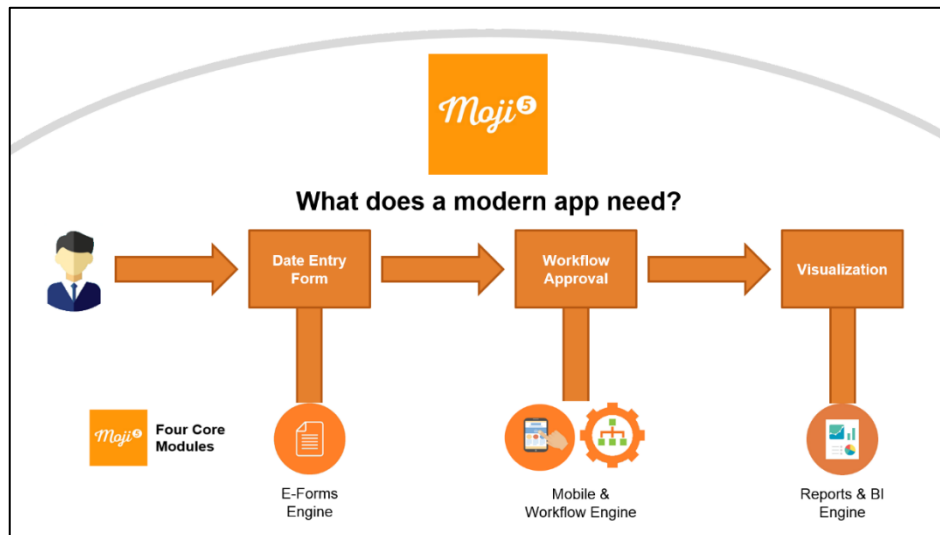
Moji 5 come with three powerful web-based designer tools (Forms Engine, Workflows Engine and Views Engine) that work via drag and drop to let you create full-fledged applications. Because the design tools are entirely web-based, your development teams can work on the same application from different physical locations.
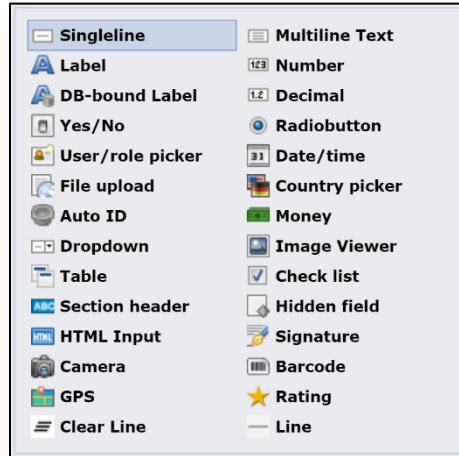
2.0 Forms Engine

The form designer allows you to create data entry forms, search forms as well as information-display forms. There are two ways to create a form: Generate forms from an existing set of tables, or create a form from scratch. When you use Moji 5, you do not have to bother yourself with the mundane task of binding your screens to the database. This is done for you automatically. The following details the features of the form designer.

The Forms designer is very extensive, allowing you to create complex validation rules, behavior and security in your Forms. Featuring an extensive toolset of Forms controls, together with a script engine, you can achieve any desired behavior or functionality.

Rich toolbox

☐	Singleline	☰	Multiline Text
A	Label	123	Number
A	DB-bound Label	1.2	Decimal
☐	Yes/No	◉	Radiobutton
☐	User/role picker	31	Date/time
☐	File upload	☐	Country picker
☐	Auto ID	☐	Money
☐	Dropdown	☐	Image Viewer
☐	Table	☑	Check list
ABC	Section header	☐	Hidden field
HTML	HTML Input	☐	Signature
☐	Camera	☐	Barcode
☐	GPS	★	Rating
☰	Clear Line	—	Line

The form designer provides you a rich set of controls for data entry. You can configure the detailed properties of each control including their dimensions and style. Create lookup drop-downs that display data from another table, or auto-generated ID numbers that auto-increment with each record, or file upload fields that accept uploads of specific types of files.

Drag and Drop to layout for

FLIGHT & ACCOMMODATION BOOKING FORM

[ReadOnly] **Status**	(Dropdown list) ∨	Find New
[ReadOnly] **Ref No**		
[ReadOnly] **Date created**		📅 12 ∨ 00 ∨ AM ∨
[ReadOnly] **Created by**	(User/role picker) ∨	Find a user
[ReadOnly] **Company**	(Dropdown list) ∨	Find
[ReadOnly] **Department**	(Dropdown list) ∨	Find
[ReadOnly] **Location**	(Dropdown list) ∨	Find
Reason For Booking		

After a form is setup, you can use the drag-and-drop form designer to layout your form elements the way you want it. It is possible to assemble a form in minutes.

Supports complex relationships

The form designer supports complex multiple-table relationships. For example, you can create a sub listing in your form that lets you key in multiple entries (as shown in the

diagram). This mirrors the master-child table relationships inherent in most database applications.

Moji 5 does the tedious work of setting up of all the relationships for you, you only need to define which sub listings you need and the columns needed in each sub listing.

Create advanced behavior without coding
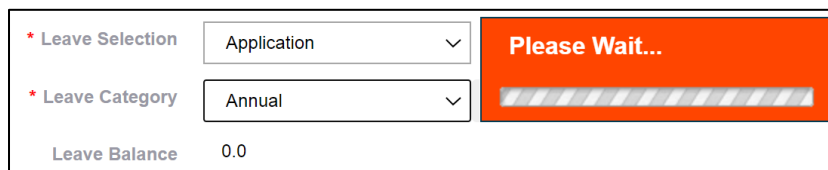
The most important part in the design of any application is the business logic area. Form behavior is one such area. For instance, you might need to hide a certain field when a particular condition is met. In the diagram on the right for instance, when the user selects 'Own Arrangement' from the Arrangement Radio button, the Pick-up Date & Time will be hidden.

Moji 5 comes with a behavior generator wizard that lets you create various advanced behavior without requiring any programming knowledge!

* Advanced users can define further behavior using C#, VB.NET or T-SQL

AJAX-ready

When you create forms using Moji 5, your forms are all AJAX-ready. This means that your end-users see a rich and fluid interface. For instance, when you change the selected item in a drop-down list, this might cause another part of the form to change. The change happens instantaneously without causing a browser refresh.

Customize every aspect of look and feel
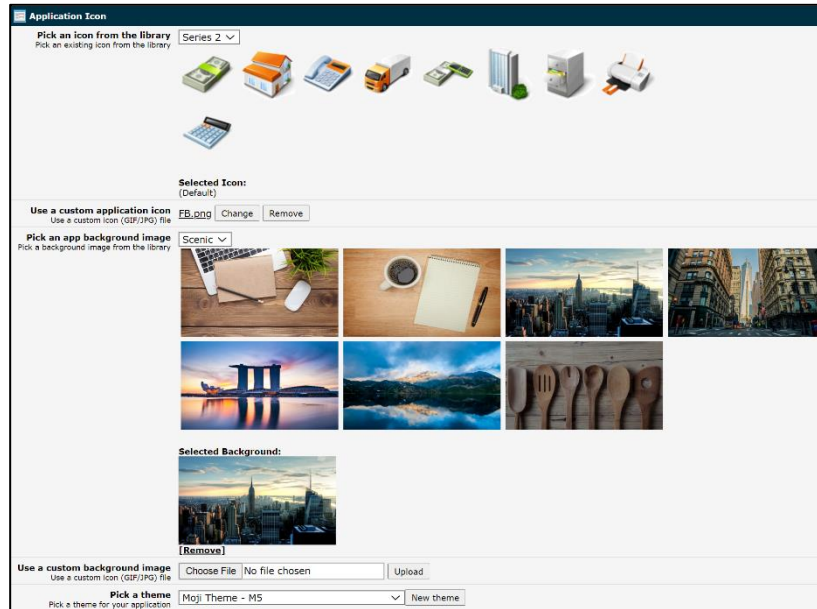
Every aspect of the form can be customized - especially the look and feel. Using the in-built theme creator and generator, you can easily switch themes for your application in a matter of a few clicks.

* Your forms can even be made to look exactly like your corporate Intranet portal, so that you can integrate data entry forms directly into your portal.

Security & Audit Trail Facilities

When you create a form in Moji 5, your form automatically uses the security mechanisms provided by the platform. You can choose whether to generate audit trails for every

single change done in the form, and also configure Access Control Lists (ACL) to restrict what specific groups of users can do on your form.

Globalization & Language Translation Support

Moji 5 support advanced globalization features, allowing each user in the same application to use different language settings. You can also create different language-versions of the same form so that users from different nationalities see the form in their native language.

Best of all, you can easily translate your form to any language via the Microsoft Translator engine. After the translation, you can further open the form to correct and modify the machine-translated text.

Create Complex Form Behavior through wizards
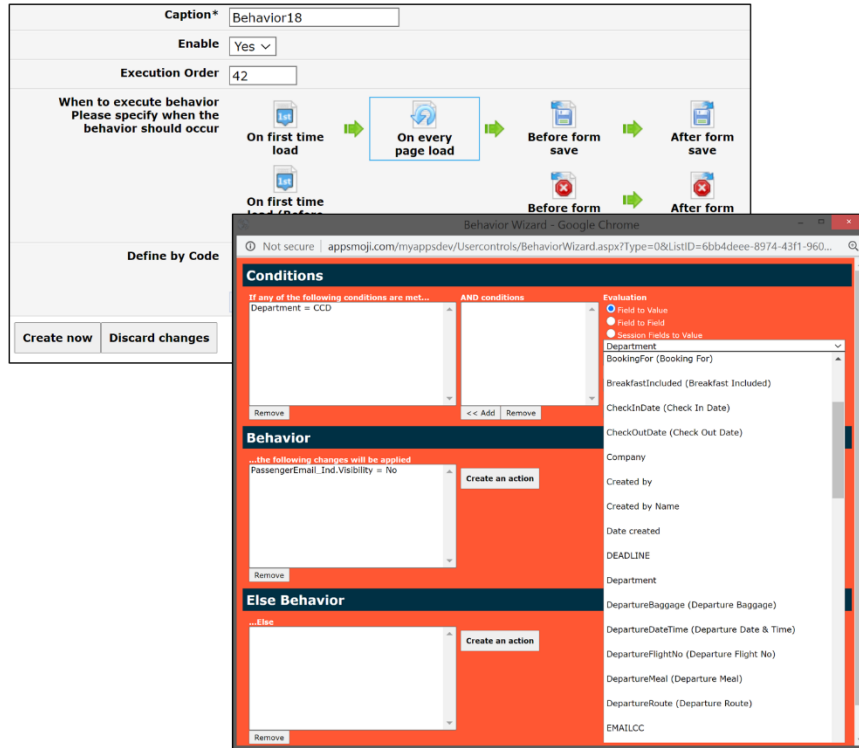
Moji 5 provides ample wizards that allow you to generate complex form behavior without any programming. For example, you can call web services, run SQL commands, populate data from another table into a form and so on.
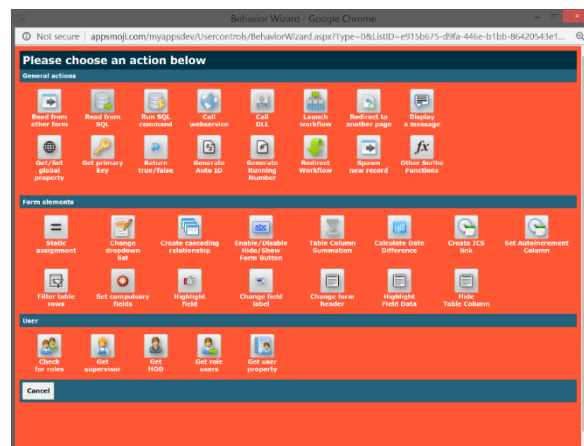
3.0 Workflows Engine

The workflow designer is one of the key components that set Moji 5 apart from its RAD competitors. The workflow designer allows you to create workflows visually via drag and drop, and then attach them to data entry forms, so that filled-up forms can be routed to different levels of staff for approval.

The workflow engine does much more than this, including task escalation, delegation, e-mail reminders and even pushing information out to third party back-end systems. The following details some of the features of the Moji 5 workflow engine.
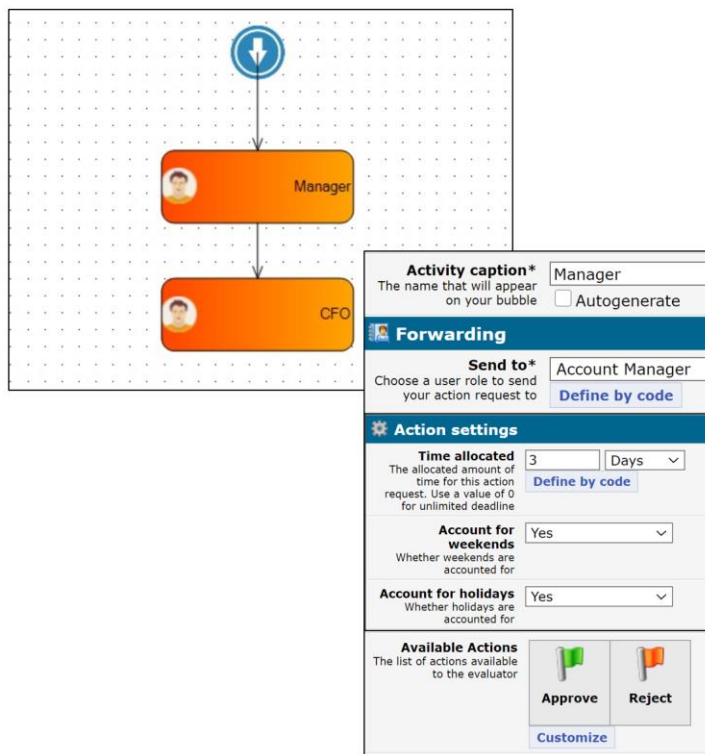
Drag and Drop workflow designer

Create workflows visually via drag and drop - configure detailed settings for each step of the workflow. Connect multiple activities using arrows to create looping actions and so on.

When you submit a filled-up form, your form travels on the attached workflow to the pre-defined users / roles. As each activity completes, the form is routed to the next activity, and e-mail notifications are sent to the appropriate parties whenever an action occurs.

Extensive Toolset lets you create serial and parallel activities
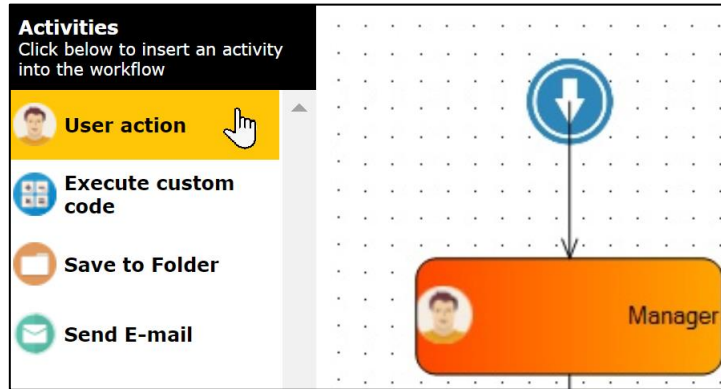
Moji 5 provides a comprehensive toolset of activities that allow you to create rich workflows. You can connect different activities to string a list of actions together. Activities can be connected together in a serial fashion (activities execute one after another), or in a parallel fashion (activities execute at the same time), or a complex mixture of both.

Supports complex evaluation criteria

You can also create complex evaluation criteria when multiple users are involved in a specific approval (group approval). For instance, you may choose to broadcast a form to a group of ten (10) managers. When a total of one (1) person from this group approves the submission, the final outcome will be considered as '*approved*'. Or instead of this strategy, you may decide to have the submission approved only if *everyone* approves. This is just one of many scenarios you can implement in the workflow.

Supports auto-reminders

Moji 5 supports auto-reminders - tasks that are left for too long without any action will send e-mail reminders to the assigned approver. Tasks that have surpassed their deadline will be auto-approved.

Generate complex routing logic without writing any code

Requested_Budget (Requested Budget)
(Currency)

Above 50000   **Below**   **Create**
Specify a value range to check for. You can fill in one of the above or both.

Status
(Dropdown list)

You can create conditional branching in the workflow - create complex rules to decide when to route a submission and who to route it to. You can do all this using the built-in wizards without having to write a single line of code!

* For advanced users, you can even create your own complex logic using C#, VB.NET or T-SQL.

View & track the status of your submissions
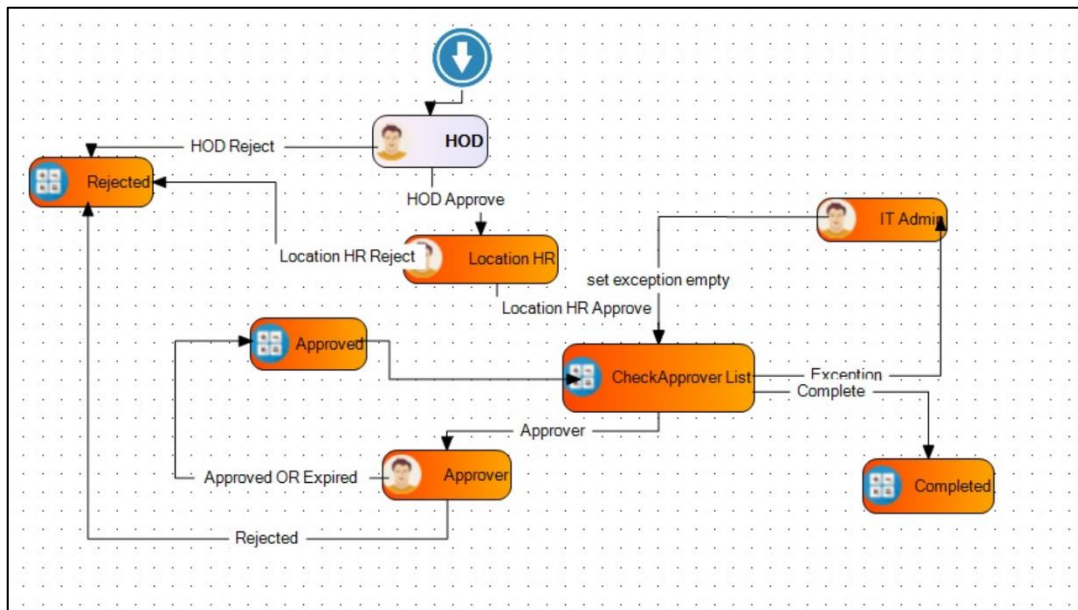
End-users and project team members can check the status of a particular submission visually. Users can check the history of a particular submission to see everything that has happened in a particular submission.

You can search for a submission using any field from your forms, or zoom right in to a submission using the generated submission number.

Achieve full transparency and provide a central single source of truth for your business processes using this feature of the software.

Integrates deeply with Moji 5 Forms

The workflow also features deep integration with the form. You can set for instance, hide or show different parts of the form depending on which stage of the workflow the submission is at.

4.0 Views Engine

The views designer is a rich toolset that allows you to visualize your data in different formats. Once data has been entered by your users through a form, it can be visualized using one of four types of views below.

Tabular Views

Tabular views are the most common and basic type of view. It basically presents data in a tabular listing format (as shown in the diagram on the left). You can see each submission as a record in a table, and each field as a column in this table. A view has many in-built features such as:

- Changing column visibility
- Changing column sorting
- Changing formatting of data in the column
- Display image data in-table
- Display aggregate rows (such as showing the total sum of values in a column at the end of the table)
- Column Filtering - filter your data in real-time to zoom down on the records you need to see
- Security and access rights - control *who* sees *what* in your view

- Row highlighting - Highlight rows that meet a certain predefined criteria with a certain color

Calendar Views
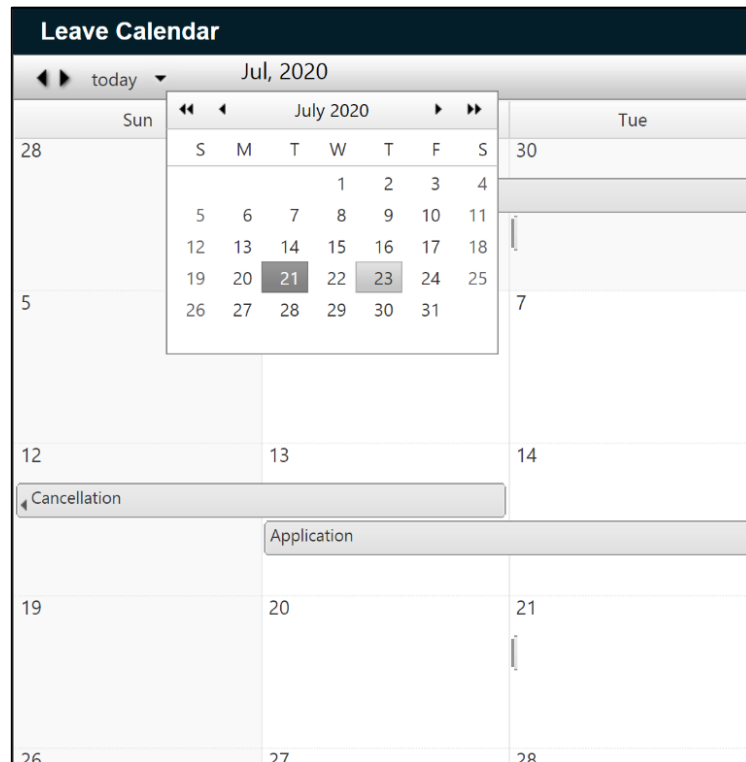
Calendar views allow you to visualize your data on top of an enterprise calendar. Any particular form with at least one date/time field can be visualized on the calendar. For instance, you may wish to display a list of *marketing events* on top of a calendar using the *event date* field.

* You can also use automatic filters provided at the top of a calendar to show only the data you are interested to view.

Chart Views

Create on-demand charts to visualize the relationship between your data graphically. You can use any combination of fields from your form to assemble a chart. You can then use the automatic filters provided to zoom in on the data you wish to view in real-time. Create bar charts, pie charts, doughnut charts and many more.

Composite Report Views
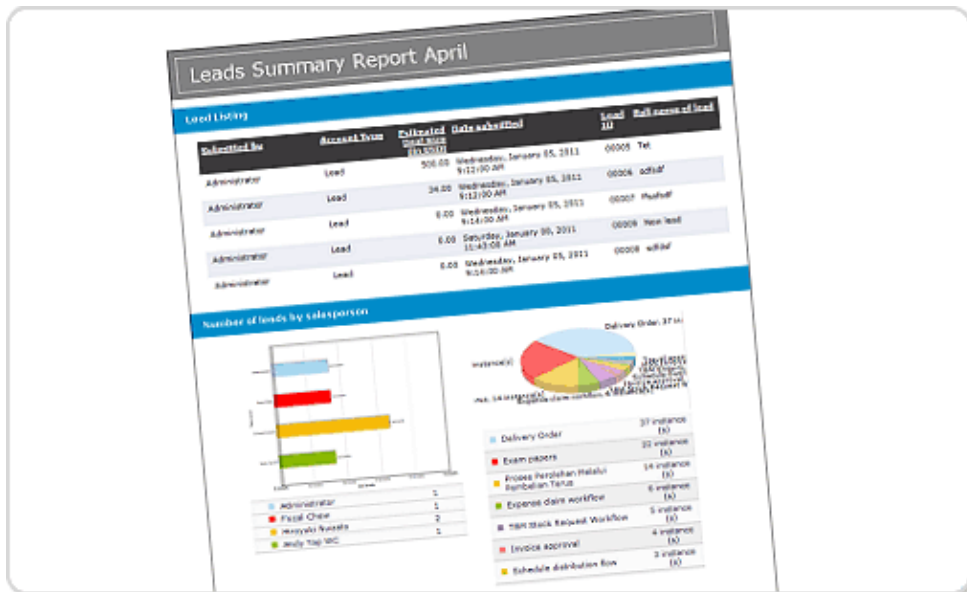
Create composite report views - a combination of visual chart views and tabular views to assemble impressive reports for the management. Layout and format the report visually, and use the automatic filters provided to call up desired information.

* You can also output the report as a PDF file for printing purposes.

Map Views
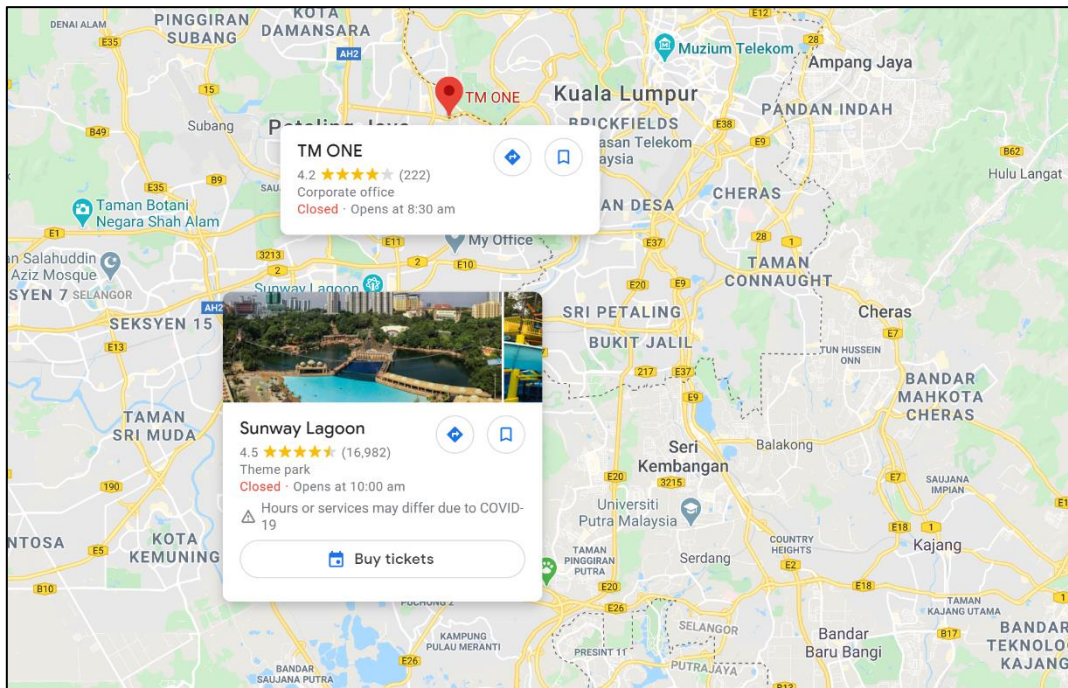
The map views let developers build apps that allow GPS information to be displayed on Google maps inside your applications.

Additionally, the map views works with the Smartphones (see below), where GPS coordinates can be transmitted by the mobile device every minute to the backend where it is then displayed on the map.

Hence it lets developers include tracking functionality in their applications.

5.0 Mobile Enterprise

Moji 5 lets users deploy forms and logic to mobile apps that can run **natively** and in **offline mode**. Publishing an app to the mobile device is nothing more than a few clicks of the mouse!

Moji 5 supports viewing forms on the smart Phones and tablet devices.

It also lets users approve workflows from the phone.

6.0 Benefits of adopting Moji 5

Save costs through easier and quicker application maintenance

The biggest benefit of creating an application on top of a Forms platform is that changes can be easily done on the fly. For instance, when you need to add a new field to an existing form, you do not need to engage the services of the vendor again. You can easily do so on your own within minutes using the form designer.

Deployment of such changes are also done in a controlled but simple manner.

Centrally manage and host a multitude of applications

Another long-term benefit of adopting an application services platform such as *Moji 5* is that you can host not just one but a whole multitude of applications within your organization.
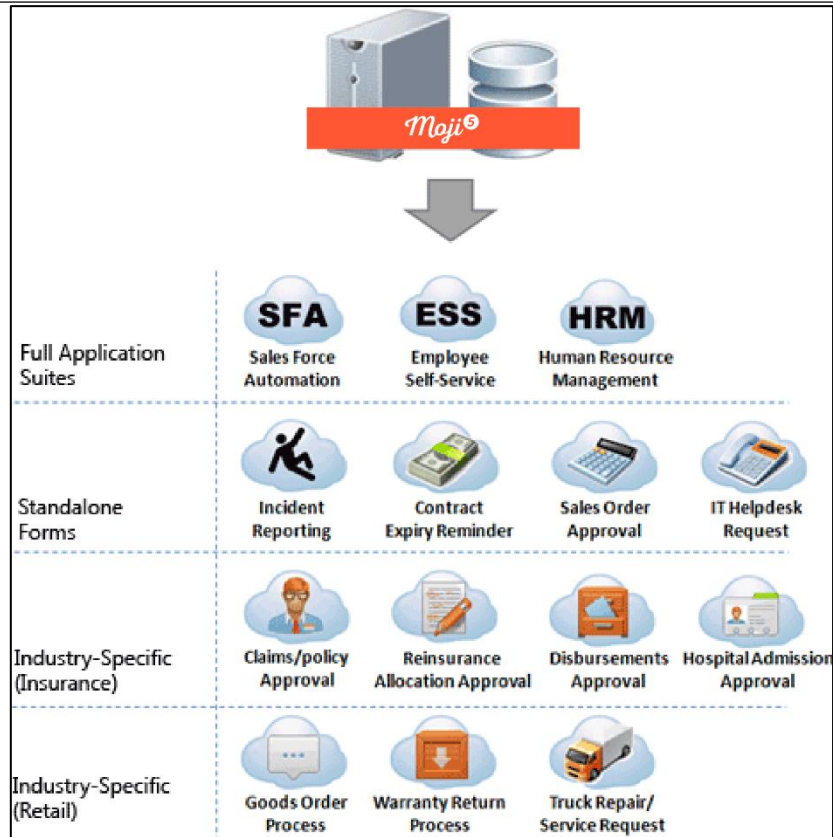
For example, you may begin your first *Moji 5* project by electronizing all paperwork for the HR department. You may decide to create a form to handle Staff Suggestion or Recruitment. The same platform can then be used later for your IT department (to handle IT helpdesk requests). The same platform can also be used later by your Sales & Marketing Department to handle Customer Relationship Management. The following table lists a few examples of the many different types of applications you can host on top of *Moji 5*.

HR Department

- Staff Suggestion Process

- Recruitment Process

IT Department

- IT Support Case Ticketing

- Troubleshooting

Sales & Marketing Department

- Leads/Opportunities Tracking Process

- Marketing Campaign Approvals Process

Finance Department

- Pricelist change & publishing approvals Process

- Payment voucher approval process

- Procurement approval process

Domain Specific Applications

- For Shipping & Logistic Firms

  BOL approval, Ship Maintenance requests, Incident Reporting

- For academic Institutions

  Student Registration, Equipment Request

- For Insurance Firms

  Policy submission process

- For Banking Institutions

  Loan approval process

- For Manufacturing Industry

  Raw materials procurement, Incident Reporting, Job approval

- Others

 All other industries and their respective applications/processes

You can realize long-term costs by investing in a single platform that allows you to **centrally manage multiple applications** and reduce the **number of isolated apps** in your organization.

Powerful workflow designer allows you to create unlimited workflows

Moji 5's visual workflow designer allows you to create an unlimited number of workflows to electronize every business process in your organization. You can easily employ drag and drop to create or modify workflows that model your business processes instantly.

Connect action bubbles together using drag and drop arrows, and etc. The intuitive interface allows anyone without advanced technical knowledge to start building their own workflows.

Zero deployment hassle
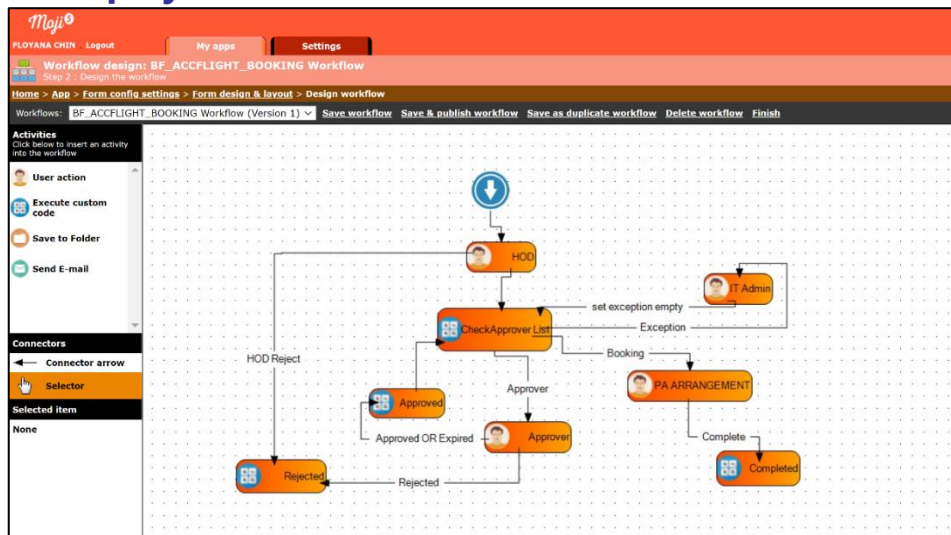
Moji 5's deployment is simple – just run the installer, and follow through the wizard to setup the software. *Moji 5* functionality is **entirely web-based** (including the designing of workflows and Forms) making deployment of future patches and updates easier for the Administrator.

Build applications that meet your unique organizational needs

The *Moji 5* system is extensible in that it also provides a full-fledged scripting engine (with debugging support built in) allowing advanced developers to tweak complex application behavior. The scripting engine is available in the VB.NET and C# languages, allowing you to define classes, methods and properties to fine tune the software to meet your unique organizational needs.
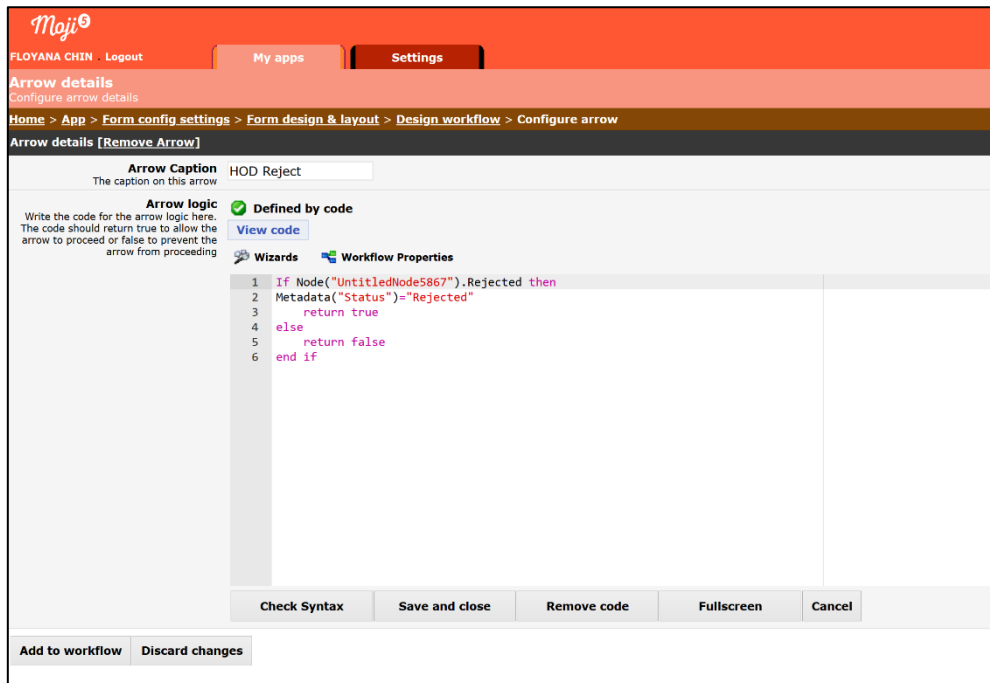
Make your applications available globally

Moji 5 supports strong localization features - data can be easily saved and retrieved entirely in foreign languages such as Japanese, Thai, Taiwanese or even Arabic.

The localization features in *Moji 5* can even be configured so that one single *Moji 5* Server can host users from different localities or countries. For instance, when a user from

Japan logs in, all dates, times and currencies would follow Japanese formats, whereas a user from Norway who logs in to the same server, would see his dates and times show in Norwegian format.

7.0 Technical Specifications & Requirements

The deployment of *Moji 5* is fairly straightforward - it is fully web-based and thus only needs to be installed on the server.

A Sample Rapidflows Architecture with Load-Balancing

A suggested deployment architecture is as follows : a 3-Tier High Availability (HA) architecture, where by the following equipment are attached:

APP/WEB SERVER

The **minimal** server-side requirements for *Rapid4* are outlined below:

Requirement	Description
Hardware	Intel XEON Dual Core 16 GB RAM and above 500GB of free hard disk space
Operating System	Windows Server 2012 or above

Middleware	MSMQ (Microsoft Messaging Queue Server)
	IIS (Internet Information Server) 7 or above
	.NET Framework 3.5
	A valid SMTP account

The **recommended** server-side requirements for *Rapid4* are outlined below:

Requirement	Description
Hardware	**Intel Xeon E5-2667 v3 (22nm Haswell-EP)**
	3.2 GHz base clock speed, 20MB L3 cache, 9.6 GT/s Intel QPI 1.1
	16 cores, Turbo Boost 2.0 (3.6 GHz), hyper-threading
	Four memory channels, twelve memory slots per processor
	32GB RAM
	1 TB of free hard disk space
Operating System	Windows Server 2014 or above
Middleware	MSMQ (Microsoft Messaging Queue Server)
	IIS (Internet Information Server) 7 or above
	.NET Framework 3.5
	A valid SMTP account

DATABASE SERVER

The **minimal** server-side requirements for *Rapid4* are outlined below:

Requirement	Description
Hardware	Intel XEON Dual Core
	16 GB RAM and above
	500GB of free hard disk space
Operating System	Windows Server 2012 or above

Middleware	SQL Server 2014 Express

The **recommended** server-side requirements for *Rapid4* are outlined below:

Requirement	Description
Hardware	**Intel Xeon E5-2667 v3 (22nm Haswell-EP)**
	3.2 GHz base clock speed, 20MB L3 cache, 9.6 GT/s Intel QPI 1.1
	8 cores, Turbo Boost 2.0 (3.6 GHz), hyper-threading
	Four memory channels, twelve memory slots per processor
	64GB RAM
	1TB of free hard disk space
Operating System	Windows Server 2014 or above
Middleware	SQL Server 2014 Standard

8.0 Conclusion

Moji 5, a Rapid Application Development tool provides a powerful application development & delivery platform that can help your organization reduce development time and costs.

With an intuitive "drag and drop" theme underlying the entire software, *Moji 5* provides maximum productivity and efficiency in managing your applications, all the while sustaining a compelling user experience unmatched in any other software synergy.

For more information regarding Moji 5, please visit our website at
https://www.workmoji.com/Moji 5.

For further correspondence, please contact your Moji 5 vendor.

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