

Nick Holleman

Landfolio Framework

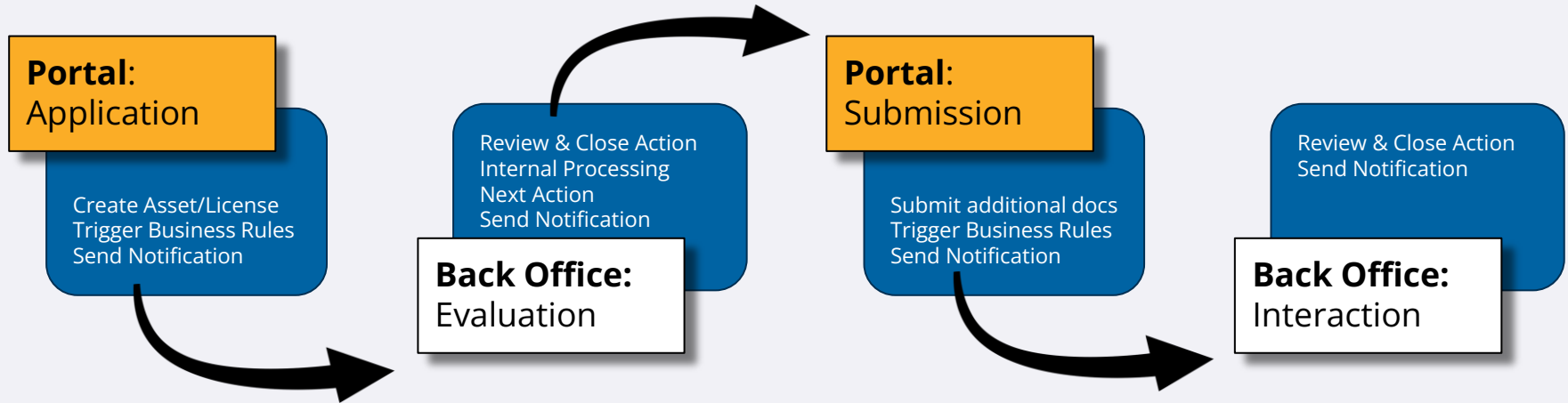
Our Next Generation Portal Technology

Landfolio User Conference, February 2023

Background



Portal: Pattern of Interactions



Background

Landfolio e-Government Portal

- Introduced in 2013 as a public-facing extension to Landfolio Back Office
- Provides public / license-holders / investors with visibility and transactional capability
- Configurable off-the-shelf system with higher level of UI customisation than Back Office
- Implemented for >10 customers
 - Kenya
 - Tanzania
 - Uganda
 - Ethiopia
 - Zambia
 - South Africa (Petroleum Agency)
 - KP Province, Pakistan
 - Idaho State, United States
 - Papua New Guinea
 - The True Life Company
 - Lesotho



Background

- Modular design
- Pages can display
 - static content
 - maps
 - dynamic content
 - transactional capabilities
- Each page has a page type that determines what can be configured

Ministry of Mining
Mining Cadastre Portal

Licence Portfolio

- All Licences
- Applications
- Active Licences
- Inactive Licences
- Pending Verification

Licence Management

- Apply for New Licence

Profile

- Edit My Details
- Edit Company Details
- Sign Out

External Links

- Mining Cadastre Map
- Madini Facebook
- Madini Twitter
- Share on Social Media

Licence Summary

Code: EPL/1023
Type: Exclusive Prospecting License
Status: Active
Owner: Test Company Ltd
Application Date: 22/01/2015
Granting Date: 07/04/2015
Expiry Date: 06/04/2018
Commodities: COAL
Location: North-Eastern, Wajir
Official Area: 17.1117 km² [Coordinates](#)

IDAHO Land Board
Department of Lands

Lease Management

- Lease Portfolio
- Lease Map
- Apply for New Lease

Payments

- Payments Due
- Payment History

External Links

- Idaho Dept. of Lands
- Share on Social Media

Legal

- Contacts
- Privacy Policy

Company Lease Portfolio

Lease Code: Lease Type:
Lease Status: Instrument Date: From To [Clear Search](#)

Lease Code	Lease Type	Lease Status	Instrument Date	From	To	Location
02236	Mineral Lease	07/01/1997	02/26/2017	Boise Meridian, 024 028.31	104th, 105th, Southeast	
02238	Mineral Lease	03/11/1977	02/26/2017	Boise Meridian, 024 046.27	104th, 105th, Front Lake	
02704	Mineral Lease	06/01/1977	02/26/2017	Boise Meridian, 065 418.15, 16	104th, 105th, Eastern Idaho	
02731	Mineral Lease	01/01/1978	02/26/2017	Boise Meridian, 114 398	104th, 105th, Clark, Eastern Idaho	
02733	Mineral Lease	05/01/1978	02/26/2018	Boise Meridian, 055 398.30, 055 398.31, 055 398.32	104th, 105th, Caribou, East	
02736	Mineral Lease	05/01/1978	02/26/2018	Boise Meridian, 085 438.30, 085 438.31, 085 438.32, 085 438.33, 085 438.34	104th, 105th, Car	
02737	Mineral Lease	05/01/1978	02/26/2018	Boise Meridian, 065 438.15, 16, 17, 18, 19, 20, 21, 22	104th, 105th, Caribou, Eastern Idaho	

Locations of Leases



Background

- Menus - configurable to allow navigation between pages
- Memberships / roles control access
- Representation of companies and people
- Payment gateway integrations
- Branding to client needs - banner, logos, fonts, colours
- Built using WebForms technology

Application Details

Saved Today 5:33:36 PM
[Save New](#) [Discard Application](#)

Owner: Test Company

Type: *

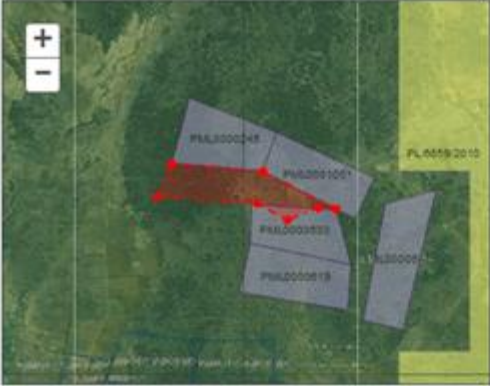
Coordinates: [Change Coordinates](#) GCS ARC 1960 * [Export to CSV](#)

Commodities: Green Garnet
[Change Selected Commodities](#)
 Commodities selected.

Supporting Documents: [Upload Documents](#) *

Required documents missing:
- Application Form
- Employment and Training Programme

Review Coordinates



Latitude	Longitude
1. 03° 09' 15.1" S	32° 50' 41.22" E
2. 03° 09' 20.37" S	32° 50' 51.36" E
3. 03° 09' 20.21" S	32° 50' 48.92" E
4. 03° 09' 21.98" S	32° 50' 44.61" E
5. 03° 09' 19.64" S	32° 50' 40.47" E
6. 03° 09' 18.7" S	32° 50' 26.43" E
7. 03° 09' 14.06" S	32° 50' 28.42" E

Area: 0.09 km² *

Location: Mwanza, Misungwi

Office: HQ-Dar es Salaam



Why Framework?



More Modern Look & Feel

Improved UI layout & styling options

VICTORIA
State Government

DASHBOARD PROFILE COMMITTEE TASKS RESERVES TENURE INFO CENTRE

NICK HOLLEMAN

DASHBOARD > RESERVE LIST > RESERVE DETAILS: 2004289 TOONGABBIE CRICKET/PUBLIC REC RESERVE

2004289 TOONGABBIE CRICKET/PUBLIC REC RESERVE

RESERVE TASKS

Reserve Details Activity Regulations Assets Related Tenure Documents Discussion

Name	TOONGABBIE CRICKET/PUBLIC REC RESERVE
Category	Reserves - Community Use Reserve
Subcategory	Recreation Area
DEWLP Region	Gippsland
Area	0.9105 Ha
Certified 17(01)	No
Legislation	Crown Land (Reserves) Act 1978, Section 4
Address	

Map showing the location of the reserve in Toongabbie, Victoria. The reserve is highlighted in red and contains an oval. Surrounding streets include King St, Scott St, and Cowen St. Landmarks include Toongabbie Mechanics Institute and St David's Anglican Church.

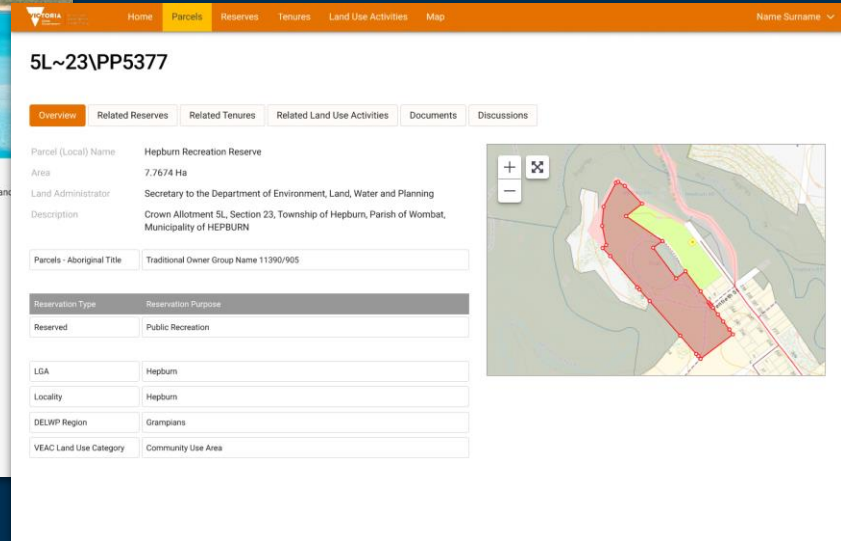
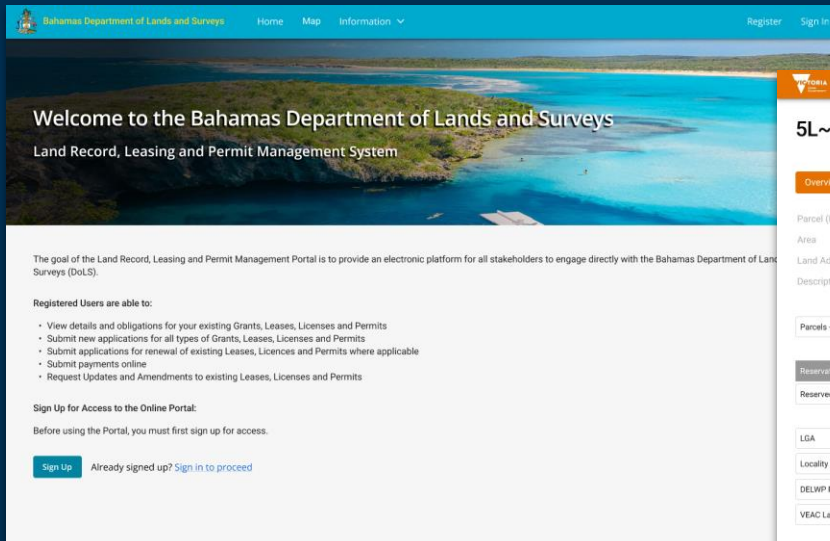
0 30 60m

Show Coordinates



Styling

- Banners, logos, fonts and colours (Primary & Secondary) configurable via CSS



The Red Sea Authority

Home Information

EN | العربية | Register Sign In

Welcome to the Red Sea Zone Authority Land Registry System

Find and access information relating to land etc.

Managing Land Assets and Transactions?

Are you a land owner wanting to achieve something on your land? Do you work for a conveyancing law firm and need to manage aspects of land assets under your purview?

Register now to access and manage certain aspects of land assets!

[Register Now](#) Already signed up? [Sign in to proceed](#)

Watch this introductory video to our Registry System



Botswana Mining Cadastre Home Map Information

Register Sign In

Welcome to the Botswana Mining Cadastre Portal

Your gateway to all mineral tenure and explosives services in Botswana

The goal of the Mining Cadastre Portal is to provide an electronic platform for all stakeholders in the mining sector to engage directly with the Botswana Ministry of Mineral Resources, Green Technology and Energy Security (MMGE).

Registered Portal Users are able to:

- View details and obligations for your existing Mineral Tenure and Explosives Licenses
- Submit applications for new licenses, certificates and permits
- Submit applications for the renewal of existing licenses, certificates and permits
- Submit reports, work programs and payments
- Apply for Ownership Transfer, Relinquishment (Area), Extension (Area), Surrender and Work Program Modification
- Request Inspection Services

The Red Sea Authority

Home My Portfolio Apply Information

EN | العربية | John Doe

My Real Estate

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

[View Now](#)

My Leases

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

[View Now](#)

My Transactions

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.

[View Now](#) [New Transaction](#)

Botswana Mining Cadastre Dashboard Licenses Obligations Map Information

John Doe

Welcome User!

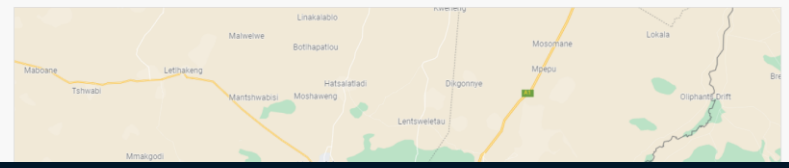
[Apply for License](#)

Please see below a list of your licenses which can also be filtered by Status. The licenses are also highlighted on the map below. Click on the Code link to see the details of that license.

My Licenses

All Licenses **Active Licenses** Applications Inactive Licenses

Code	Name	License Type	Expiry Date	License Area
2432893	Big Mining Company	Exploration License	27 January 2033	23,367 km2
2838221	Spatial Mining Company	Exploration License	13 February 2042	8,768 km2
2434983	Mineral Mining Company	Building License	15 December 2030	2,345 km2
3204211	Big Mining Company	Mining License	23 January 2027	14,990 km2
3204343	Gold Miners Plc	Mining License	23 January 2031	13,452 km2



Recent Activity

Browse Transactions

[Browse All](#)

Editable Transactions

Code	Type	Status
2432893	Transfer	Pending
2838221	Transfer	Pending
2434983	Mutation	Pending

Transactions in Progress

Code	Type	Status	Registration Date
2432893	Transfer	In Progress	14/03/2022
2838221	Transfer	In Progress	12/12/2025

Current Obligations

[Browse All](#)

Payment Obligations

Summary	Due Date
Payment: Renewal Fee (USD:4500.00)	08/03/2022
Payment: Submission Fee (USD:1250.00)	18/09/2022

Reporting Obligations

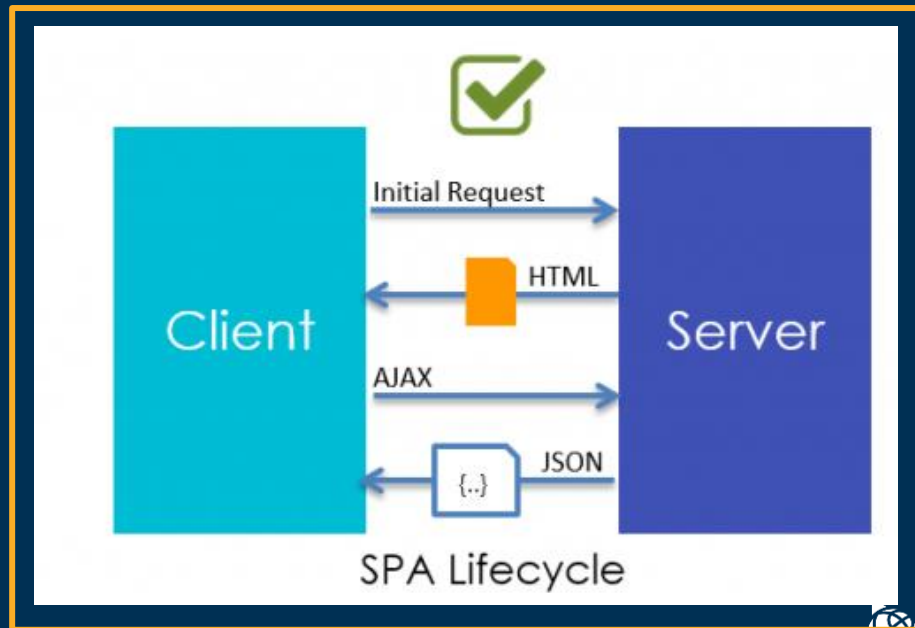
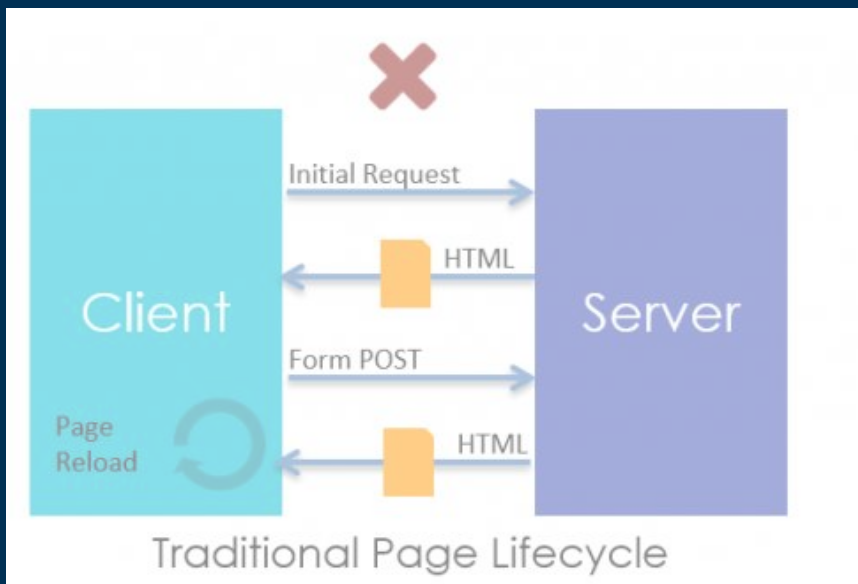
Summary	Due Date
Resubmit Reporting Documents	12/03/2022
Submit Required Documents	13/03/2022
Resubmit Lease Documents	16/03/2022





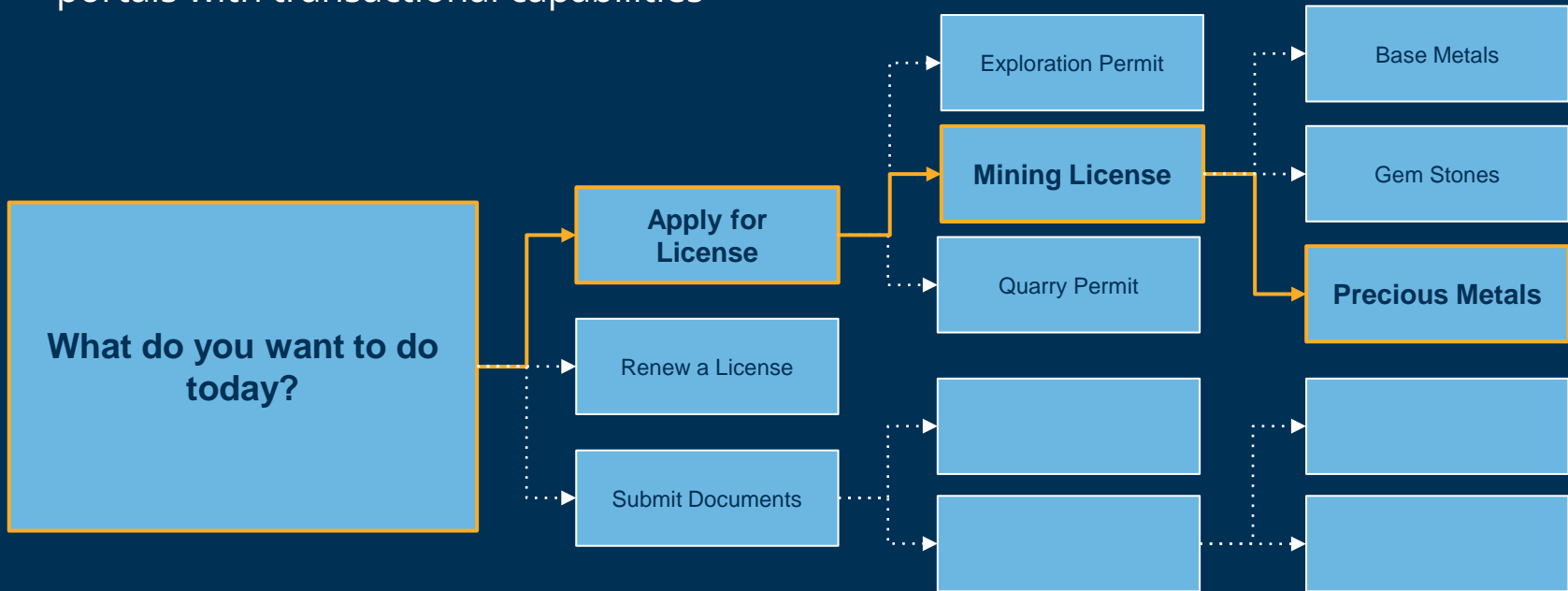
Single Page Application

dynamically updates the current web page instead of loading entire new pages



Increased Control of Site Configuration

Create sites that guide users to success, allowing creation of fully-featured portals with transactional capabilities



Responsive

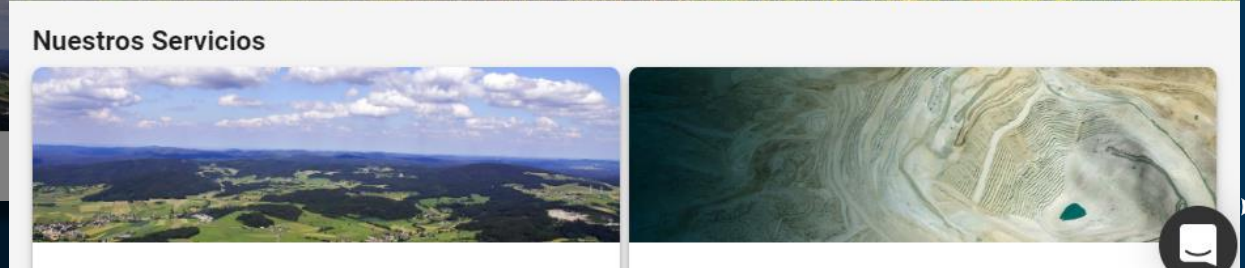
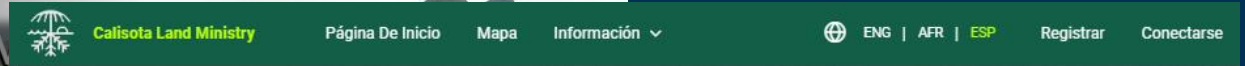
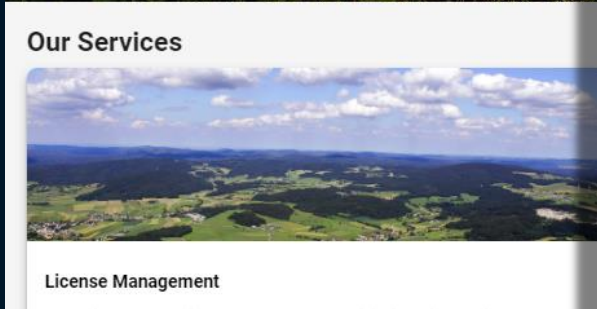
Modify the content of the page based on the size & type of device being used



Fully Multilingual

Every text element on the site can be configured in each language

Left-to-right and right-to-left languages supported



PLUS...

All those good things from the previous eGov Portal

ENABLING...

- Fully transactional capabilities for applications and portfolio management
- Spatial data display and capture (including first-come-first-serve spatial validation checks)
- Online payments
- Transparent public data sharing of cadastral information
- Open public participation

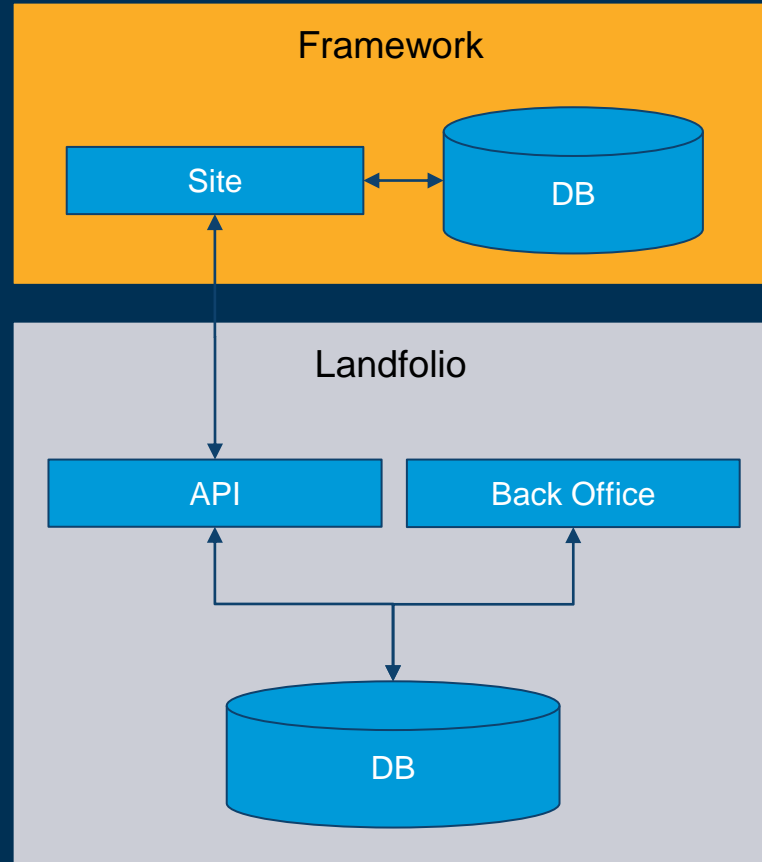


Anatomy of a Framework site



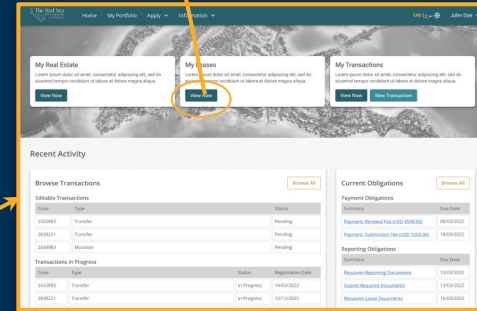
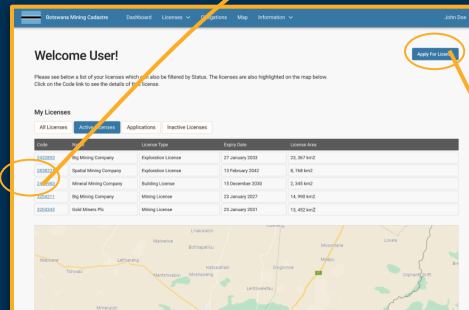
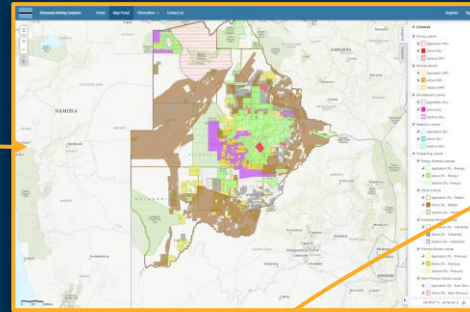
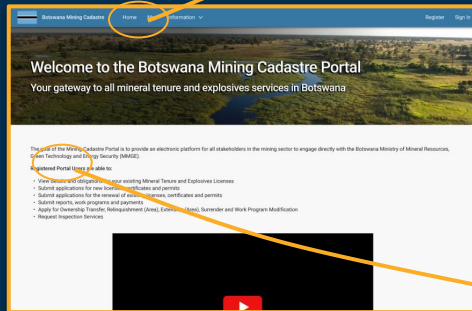
High level system architecture

- New UI on existing business logic
- Dependent on Landfolio data model and business processes



No 'Out the Box' UI

- Add Pages & Contents
- Add Navigation & Behaviour



Page Content

- Sections & Containers
 - Layout - position and arrangement
- Widgets
 - UI elements - content, data, functionality
 - Can be triggers to behaviours



Sections & Containers

Botswana Mining Cadastre | Dashboard | Licences ▾ | Obligations | Map Portal | Information ▾ | Eduan Naude ▾

Welcome User!

Please see below a list of your licences which can also be filtered by Status. The licences are also highlighted on the map below. Click on the Code link to see the details of that licence.

Apply for Licence

For general enquiries or to request company representation, please click [here](#).

My Licences

All Licences | Active Licences | Applications | Inactive Licences

Mineral Concessions

Code	Licence Type	Status	Application Date	Commencement Date	Expiry Date
123test	Mining Licence	Renewal Pending - Document Verification	31/05/2022	31/05/2022	30/05/2047
ac test	Mining Licence	Application Pending - Document Verification	07/02/2022		
DL000142-APP	Development Licence	Application Pending - Document Verification	18/07/2022		
DL00014322-APP	Development Licence	Application Pending - Document Verification	18/07/2022		
DL000144/2022-APP	Development Licence	Application Pending - MME Consideration	18/07/2022		

<< < 1 2 3 4 5 > >>

Miscellaneous Licences and Permits

Code	Licence Type	Status	Application Date	Commencement Date	Expiry Date
No items available.					

<< < 1 2 3 4 5 > >>

Widgets

Botswana Mining Cadastre | Dashboard | Licences | Obligations | Map Portal | Information | Eduan Naude

Welcome User!

Please see below a list of your licences which can also be filtered by Status. The licences are also highlighted on the map below. Click on the Code link to see the details of that licence.

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My Licences

[All Licences](#) | [Active Licences](#) | [Applications](#) | [Inactive Licences](#)

Mineral Concessions

Code	Licence Type	Status	Application Date	Commencement Date	Expiry Date
123test	Mining Licence	Renewal Pending - Document Verification	31/05/2022	31/05/2022	30/05/2047
ac test	Mining Licence	Application Pending - Document Verification	07/02/2022		
DL000142-APP	Development Licence	Application Pending - Document Verification	18/07/2022		
DL00014322-APP	Development Licence	Application Pending - Document Verification	18/07/2022		
DL000144/2022-APP	Development Licence	Application Pending - MME Consideration	18/07/2022		

<< < 1 2 3 4 5 > >>

Miscellaneous Licences and Permits

Code	Licence Type	Status	Application Date	Commencement Date	Expiry Date
No items available.					

<< < 1 2 3 4 5 > >>

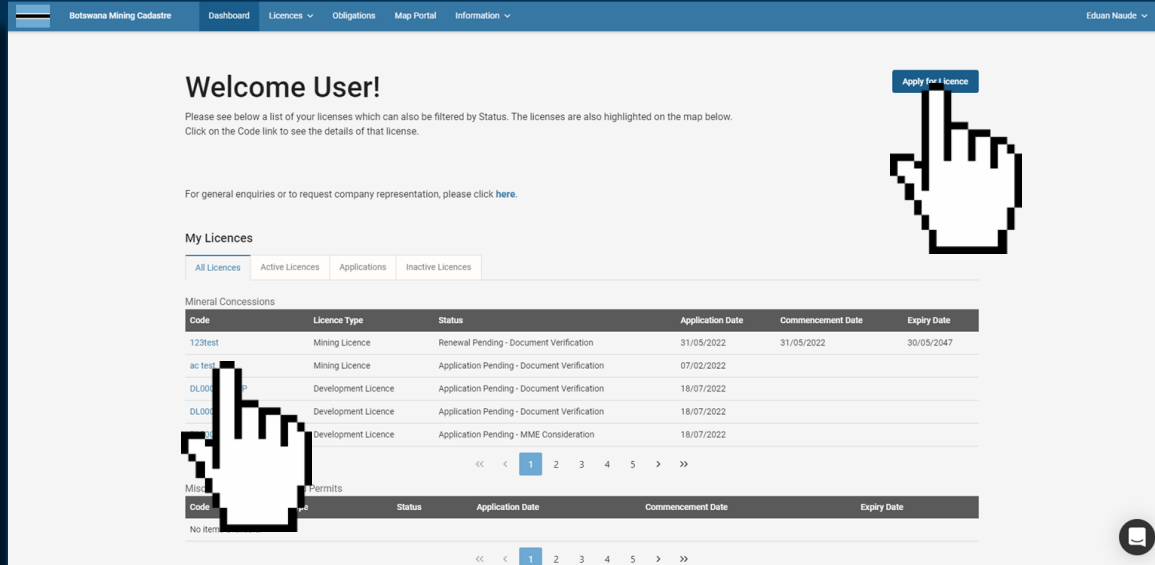
Behaviour

User Interactions

- Task Widget > Click
- List Widget > Link Click
- Page > Load
- Draft > Create

Respond with Behaviour

- Navigate to Page
- Submit Draft
- Generate Report



The screenshot displays the Botswana Mining Cadastre dashboard. The top navigation bar includes the Botswana flag, the text 'Botswana Mining Cadastre', and menu items for 'Dashboard', 'Licences', 'Obligations', 'Map Portal', and 'Information'. The user's name 'Eduan Naudu' is visible in the top right corner.

The main content area features a 'Welcome User!' message, a list of licenses, and a 'My Licences' section. A hand cursor icon is positioned over the 'Apply for Licence' button in the top right, and another hand cursor icon is positioned over the first row of the 'Mineral Concessions' table.

My Licences

Navigation: All Licences | Active Licences | Applications | Inactive Licences

Mineral Concessions

Code	Licence Type	Status	Application Date	Commencement Date	Expiry Date
123test	Mining Licence	Renewal Pending - Document Verification	31/05/2022	31/05/2022	30/05/2047
ac test	Mining Licence	Application Pending - Document Verification	07/02/2022		
DL000	Development Licence	Application Pending - Document Verification	18/07/2022		
DL000	Development Licence	Application Pending - Document Verification	18/07/2022		
DL000	Development Licence	Application Pending - MME Consideration	18/07/2022		

Navigation: << < 1 2 3 4 5 > >>

Mineral Permits

Code	Status	Application Date	Commencement Date	Expiry Date
No Item				

Navigation: << < 1 2 3 4 5 > >>



Status Update



Where we are now

Go-live completed for Botswana Mining Cadastre Portal in **Oct/Nov 2022**

- Fully transactional site compliant with local legislation
- Full service licensing
- Payment integration



Upcoming implementations

We continue to build out functionality to support a number of implementations that we expect to go live over the next six to twelve months with portals built using Landfolio Framework:

- Natural Resource Permitting and Licensing Portal, Government of the **NorthWest Territories**, Canada
- **Victoria** State Land Use Activity Portal, Australia
- **Red Sea** Zone Authority Land Registry System, Saudi Arabia
- **Bermuda** Land Title Registry Office
- **Sint Maarten** Kadaster
- **Barbados** Land Registry
- **Bahamas** Land Record, Leasing and Permit Management System
- **Namibia** Mining Cadastre Portal



Recently added functionality



Discussions

General Enquiries

To submit a general enquiry, click the **New Enquiry** button. This will open a new discussion with the Department of Mines. Each new enquiry must have a suitable name and description, and attach any supporting documents if necessary.

To follow up on an existing enquiry, select the corresponding entry under My Requests and click the **Add Comment** button to submit your enquiry.

My Requests New Enquiry

Account Activation 09/02/2023
Hi there,Can you please send us supporting documentation? ...

Account Activation Opened 09/02/2023
Participants DOM Portal Administrators (Representation and Enquiries), Trimble - Eduan Naude

Normal + Sans Serif + **B** *I* U

Please see the attached documents to activate my account.

Thank you!

Account Details.pdf

landfollo ADMIN 09/02/2023

Hi there,
Can you please send us supporting documentation?

Regards,
Admin Support

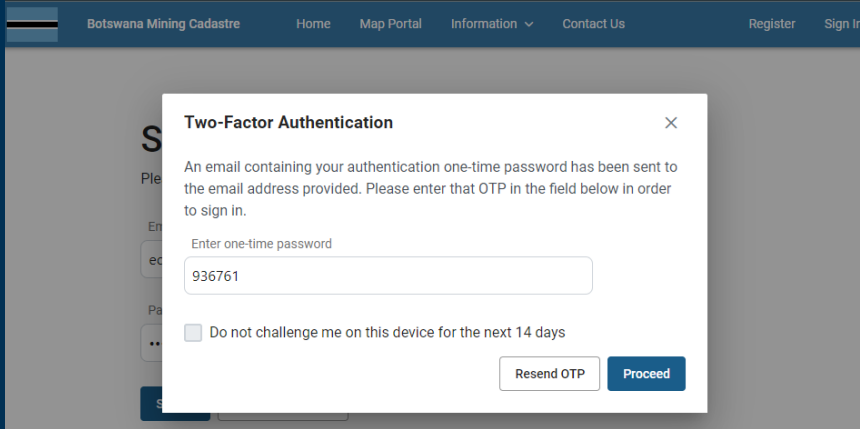
Trimble - Eduan Naude 09/02/2023

Hi, Please activate my account to access my licenses.



Multi-factor authentication

- Built-in
- SAML integration (bring your own)



The screenshot shows a web browser window with the Botswana Mining Cadastre portal. A modal window titled "Two-Factor Authentication" is displayed in the foreground. The modal contains the following text and elements:

Two-Factor Authentication [Close icon]

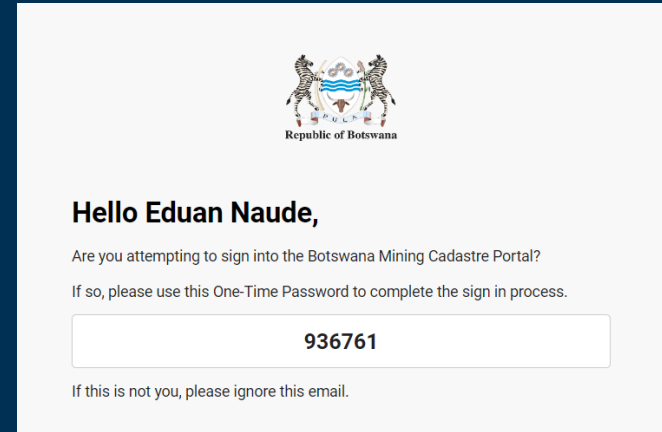
An email containing your authentication one-time password has been sent to the email address provided. Please enter that OTP in the field below in order to sign in.

Enter one-time password


936761

Do not challenge me on this device for the next 14 days

Resend OTP Proceed



The screenshot shows an email notification from the Botswana Mining Cadastre Portal. The email content is as follows:


Republic of Botswana

Hello Eduan Naude,

Are you attempting to sign into the Botswana Mining Cadastre Portal?
If so, please use this One-Time Password to complete the sign in process.

936761

If this is not you, please ignore this email.



Payment gateway integration with DirectPay / PayGate

Submit Payment

[Download Invoice](#) [Discard](#)

Licence Code	TEST-PL0001/2022-NIGIS	Due Date	25/11/2022
Payment Reference	AF/PL/00000004	Amount Due	BWP 100

Select method of payment:

Proof of Payment

- Select the "Upload" button below to attach your proof of payment
- Select the "Add" button to upload additional documents.
- Once you have attached your proof of payment(s), select "Submit Proof of Payment".

Proof of Payment

Debit/Credit Card

- Select "Pay Now" to make an instant payment.
- You will be redirected to the Payment Gateway where you will enter your card details and submit the payment.
- After making your payment, you will be redirected back to the Botswana Mining Cadastre Portal to download your payment receipt.

I have read and accept the terms of use of this site.

PAYGATE

English

Payment Summary

Merchant	Department of Mines
Service Date	Thu Feb 09 2023
Payment Reference	AF/PL/00000004-168
Total	BWP 100.00

[Back To Department of Mines](#)

Payment Method & Details

Select payment method:

Card Holder Name

Card Number Expiry Date CW

By continuing I accept all relevant Ts&Cs, including the Privacy Policy, and I hereby give permission for DPO Group, and its Affiliates, to use personal information provided for the sole purpose of processing the requested transaction and conducting the necessary fraud and risk screening.

Verified by **VISA** **MasterCard SecureCode** **PCI DSS** **VISA** **MasterCard**

DPO GROUP Think Payments [Website](#) | [Terms & Conditions](#) | [Contact Us](#)



Where to next?



Where to next?

- Framework is **not a product but a toolkit** for making Landfolio-compatible web applications
- Portals are our first application, but we foresee many others in the near future including
 - Dashboards (Power BI widget coming soon!)
 - Focused use case interfaces to the Landfolio core system as complementary tools
 - Eventually, a Back Office replacement



