

KwaZulu-Natal Office of the Premier eThekweni Floods April 2022

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THE SOUTHERN AFRICA ESRI USER CONFERENCE 2023



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Overview

- The **scenario**
- The **client**
 - KZN Office of the Premier



- Key **takeaways**



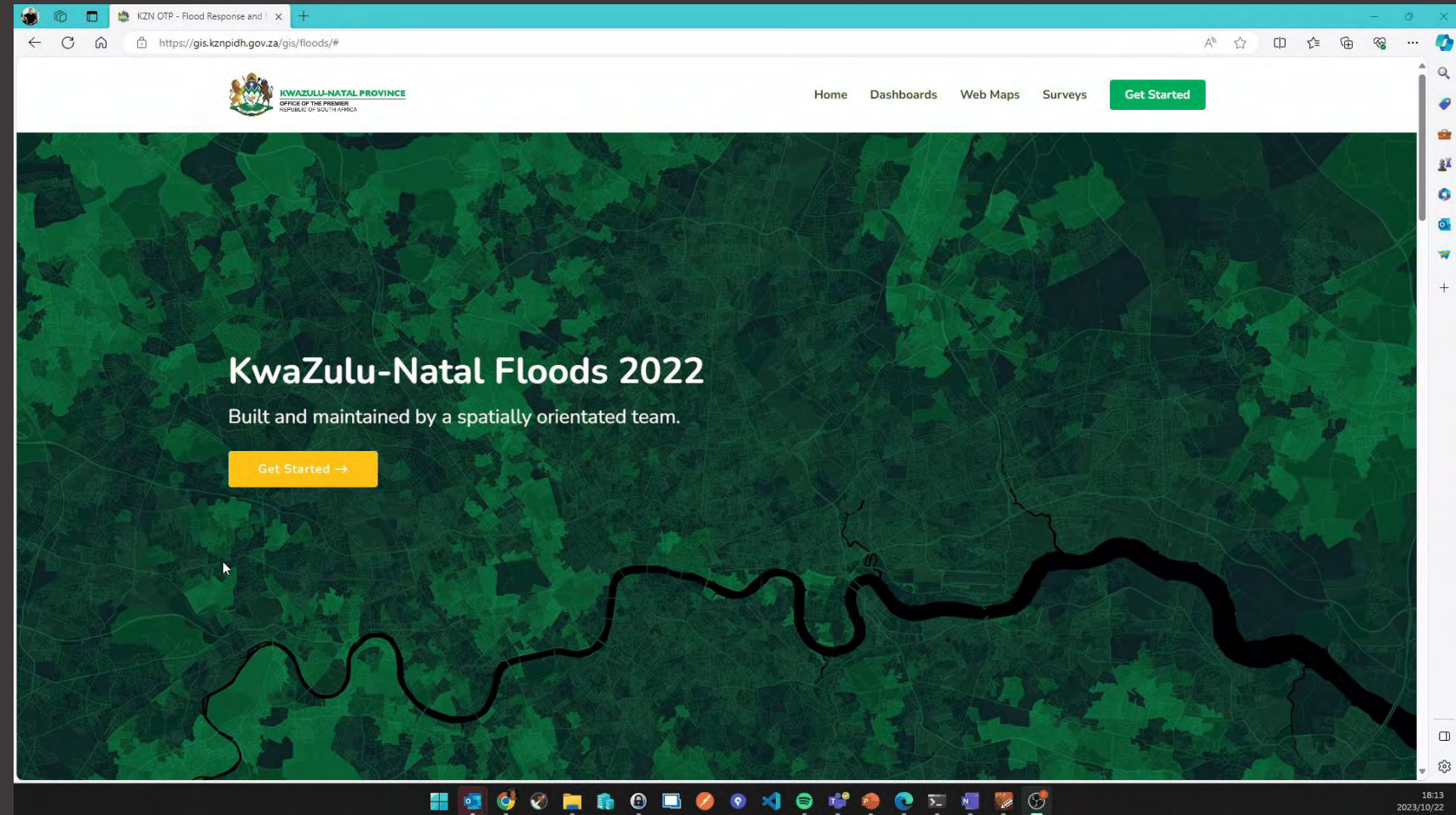
The left side of the image features a complex, abstract graphic design. It includes a series of overlapping, curved bands in shades of orange, red, and pink. Below these, there are sections of blue and yellow, some with a hexagonal pattern. The bottom left corner shows a large, solid red shape with a yellow curved line passing through it. The entire graphic is set against a dark gray background that has faint, concentric circular lines radiating from the center.

Solution Components

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Landing Zone

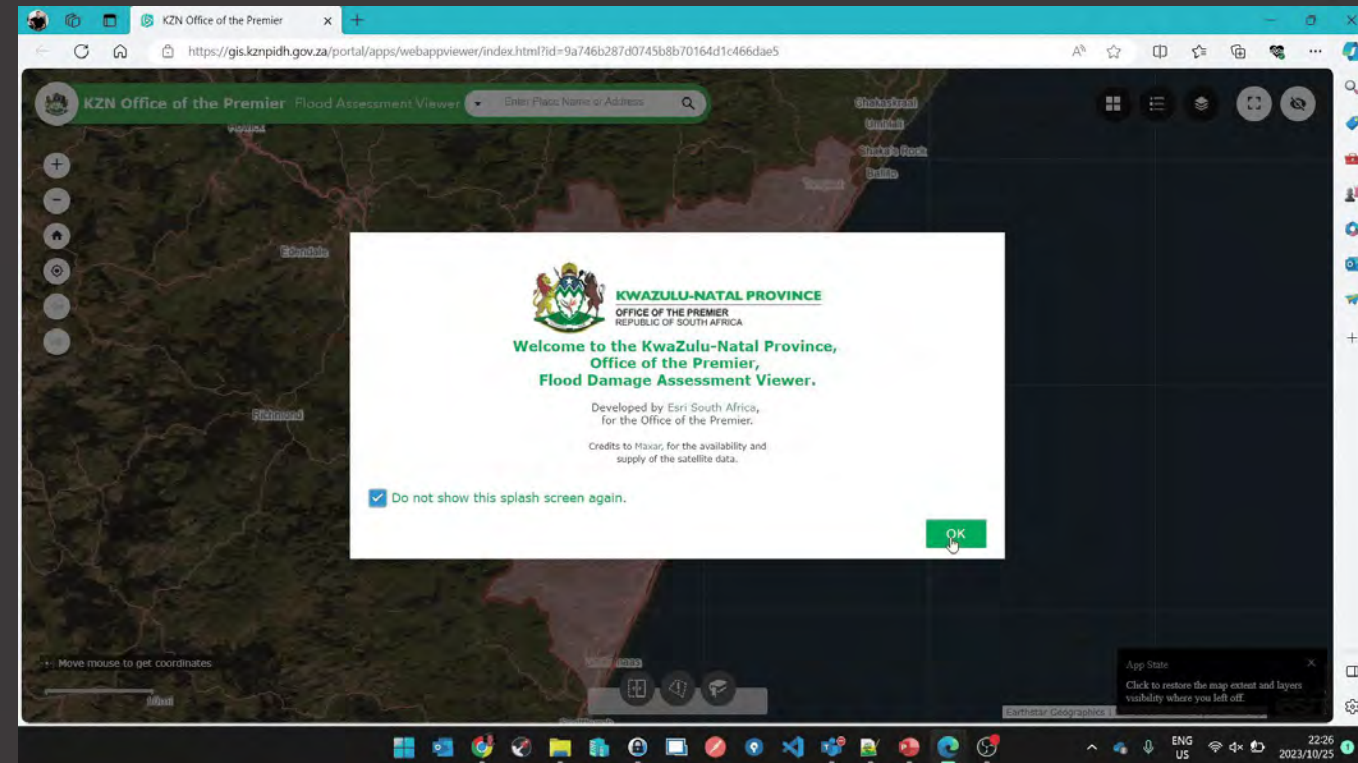
- Landing Page
 - Sites vs Custom
- Time vs Productivity
- Single access point



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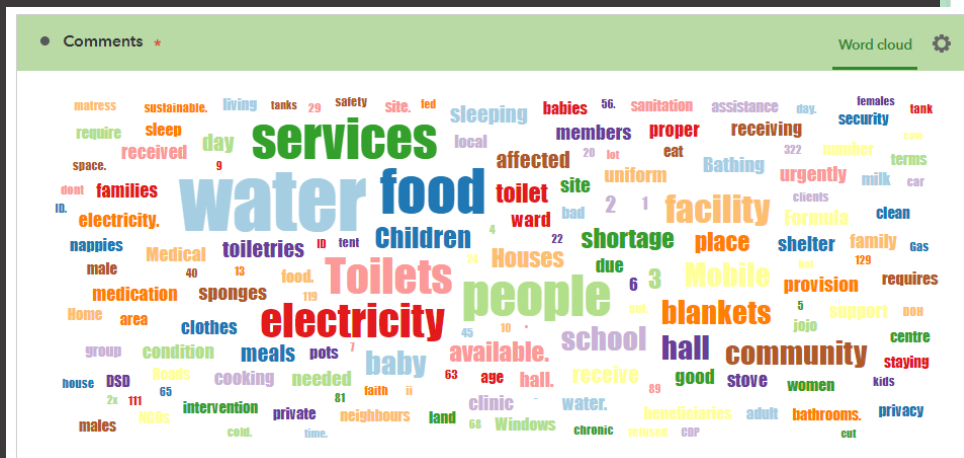
Flood Application Viewer

- Data availability from 14 April 2022
 - +/- 3 Days Post-Flood
 - Cloud cover a problem
- eThekwini main coverage (grey scale)
- Data provided by Maxar:
 - Open Data Offering
- Image tiles downloaded via script
- Mosaiced and cached
- Potential Reporting function



Field Capture and Reporting

- Shelter Surveys
 - Daily facility management
 - Potential Facilities and Readiness



Shelter/Facility Management and Readiness

This survey will take approximately 7 minutes to complete

Instructions/Iziyalezo

Before completing this survey form make sure that you turn on location services on your device.

Ngaphambi kokugcwalisa lelifomu qiniseka ukuthi iLocation Service kwidivayisi yakho i-on.

Daily Shelter Facility Management

- Facility Information
- Facility Demographics
- Facility Urgent Needs
- Received Goods and Services
- Covid 19 Preparedness
- Facility Coordinator Information

Please review our POPI policy, accessible here: [Esri South Africa POPI Policy](#)*

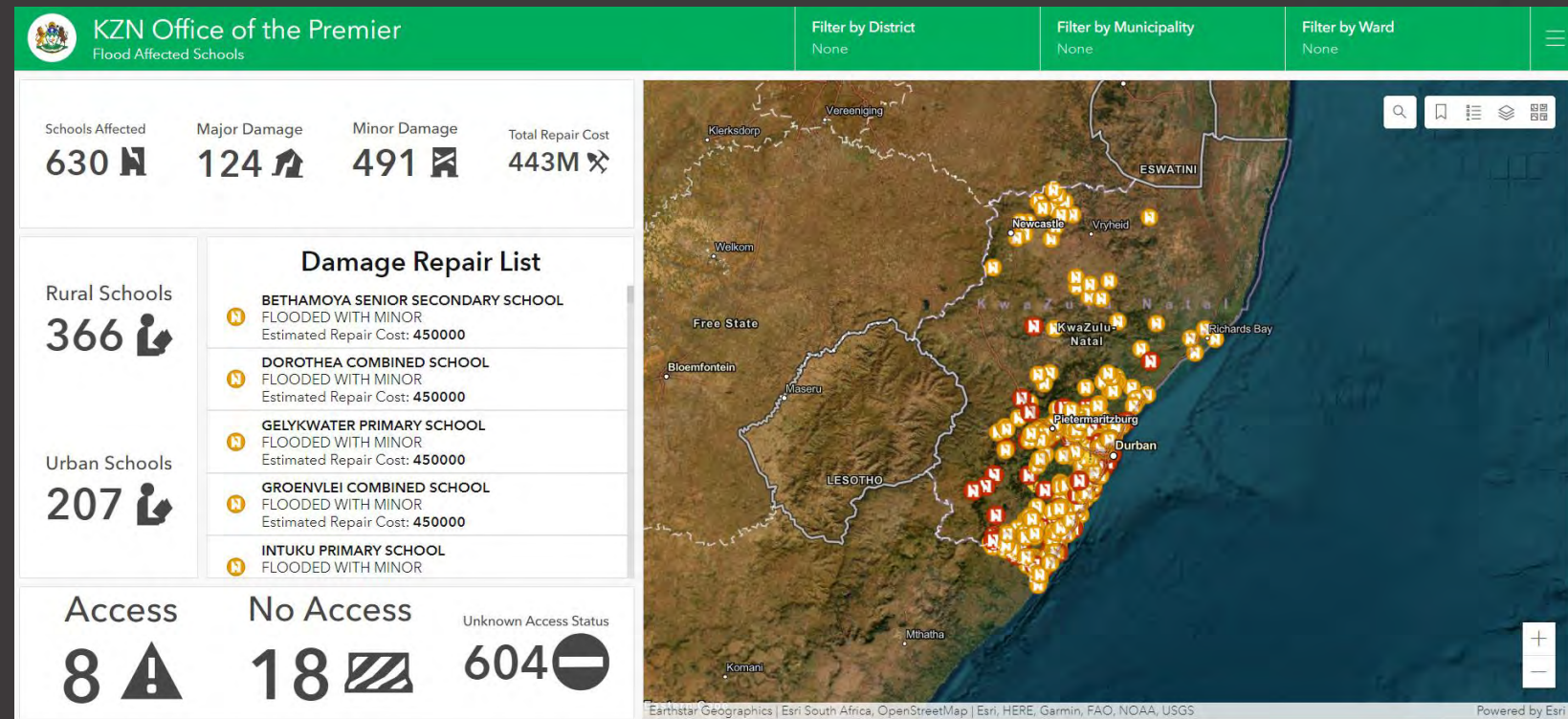
☐ I read the policy




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Field Capture and Reporting

- Shelter Surveys
- Shelter Dashboards
 - Shelter **Readiness**
 - Shelter **Management**
 - **Potential** Shelter Sites
- Damaged Infrastructure
 - **Roads**
 - **Schools**
 - **Health Facilities**
 - **Sports, Arts & Culture**
- Coastal Assessment



An abstract graphic design on the left side of a dark gray background. It features a variety of colorful geometric shapes and patterns, including a hexagonal grid in shades of blue, green, and red, a large red circle, and several curved, overlapping bands in orange, yellow, and red. The overall style is modern and dynamic.

Automation & Integration



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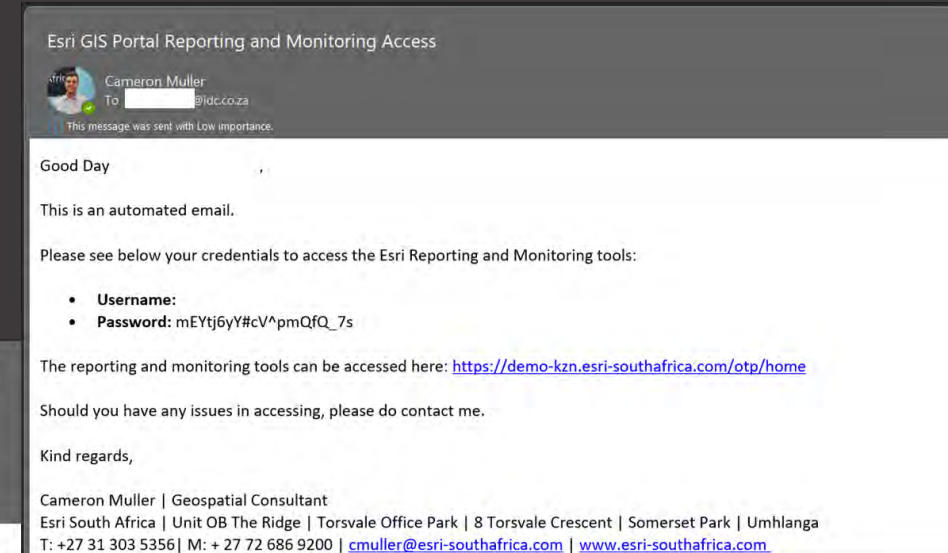
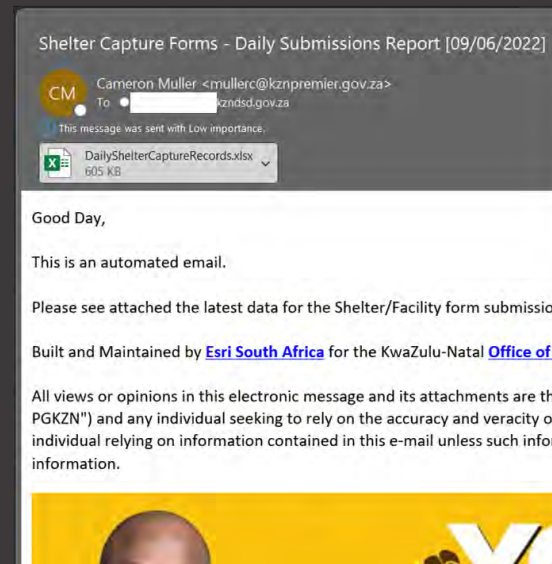
Integration & Automation – Data Extraction and Processing

- Python Workflows:
 - Imagery:
 - Downloading - 10332 Image tiles
 - Processing and caching
 - Survey123 content updates
 - Linked CSV lookups
 - Service geometry updates
 - Data validation

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Integration & Automation – End User Communication

- Power Automate Workflows
 - Connector built for ArcGIS Enterprise
 - Daily emails and summary spreadsheets
 - Portal user credential emails





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Integration & Automation – Data Analysis/Business Intelligence

- **Power BI** Integration
 - ArcGIS Maps for Power BI
 - **Custom** rest API feeds
- Survey123 service views:
 - Direct rest **API**
 - **Azure Data Factory** to **Azure Data Lake SQL**
 - Accessed via **Power BI Gateway**



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Closing Summary

- Default **disaster ready** datasets need to be captured and maintained
- Imagery data accessibility, daily datasets
- **Proactive** instead of **Reactive** System needed
- The future GIS Professional
 - Be **adaptable**
 - **Broaden** skill sets

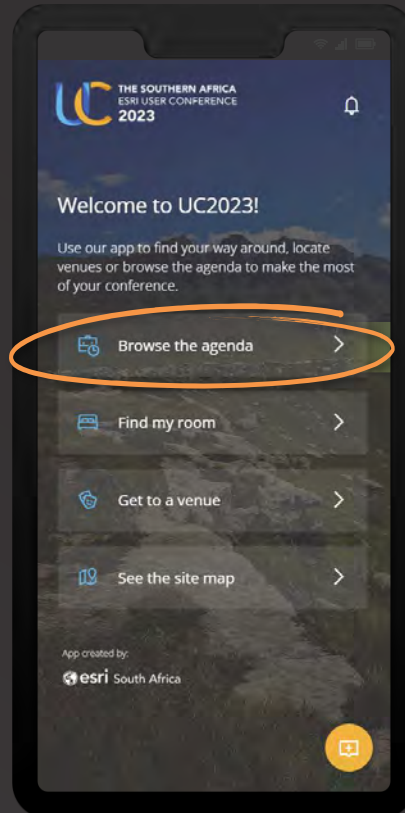
An abstract graphic design on the left side of a dark gray background. It features a complex arrangement of vibrant colors including magenta, blue, yellow, and orange. The design includes geometric patterns such as a hexagonal grid in shades of blue and magenta, and a series of concentric, overlapping curved bands in magenta, orange, and yellow. There are also smaller, scattered geometric shapes and dots in various colors, creating a dynamic and layered visual effect.

Questions

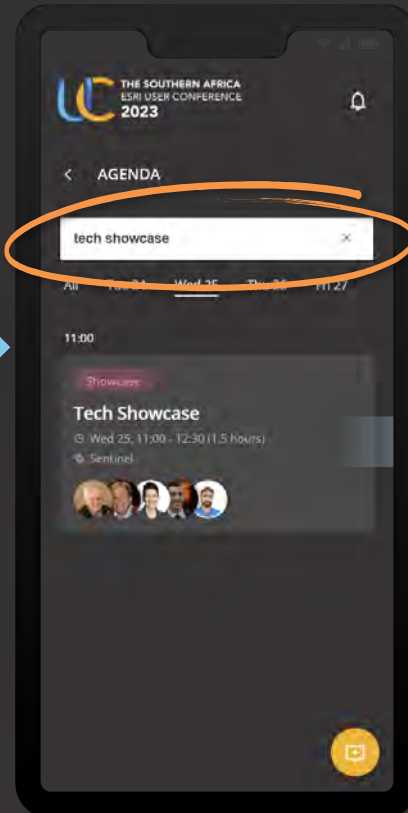
Please share your feedback in the UC2023 app



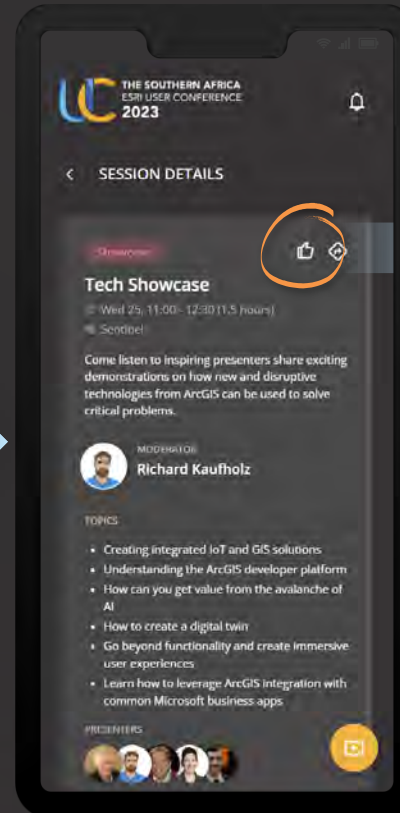
Open
uc2023.esri-southafrica.com
and browse the agenda



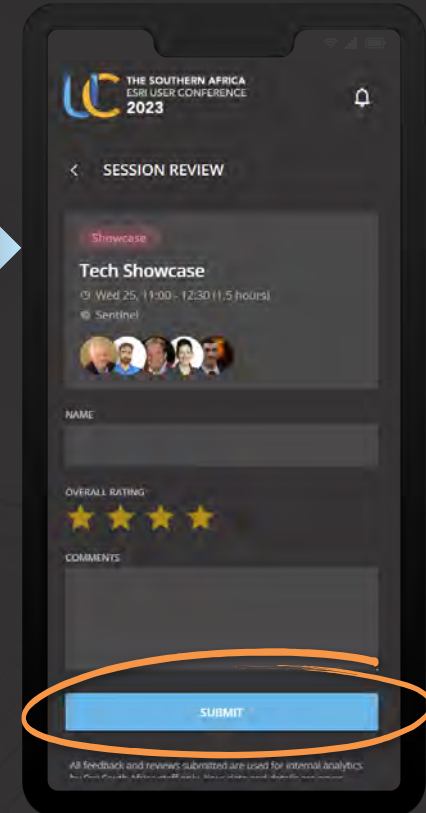
Search and select the
session you attended



Click the “thumbs up”
icon



Complete and submit
your review





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CONNECTING COMMUNITIES