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Entity access for lists

A crucially missing piece of the puzzle

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Senior Drupal developer

 @Magentix



Kristiaan Van den Eynde

- Work at Factorial GmbH in Hamburg
- Live near Antwerp, Belgium
- Group module maintainer
- Happily married, recently a dad
- Highly sensitive person



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Definition of list access

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- Checks access **before** entities are loaded

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- Supported by Views



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“
**But we already have that,
so what's the big deal?**”

Someone in the audience



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Current implementation

The node grants system

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- Alters queries tagged with `node_access` to check for access against this saved business logic
- Also used as fallback if regular access checks are indecisive

- Bad metaphor: Locks and keys
- Better metaphor: Bouncers at a night club

What's wrong with node grants?



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- Only work for "content" (aka nodes)
- Only work for view, update and delete actions
- As a result does not scale well for other entities
- Might try and store extremely complex access logic in the DB

Can it be fixed?



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Can it be fixed?

- Not really, the concept is past its due date
- Would either require a new column on existing table or one table per entity type, both are far from ideal
- Would require a new column per supported operation, which again would lead to unwieldy (and buggy) code



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Intermezzo

Possible approaches

Keep altering queries

Pros and cons

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Pros and cons

- Pro: We already have ENTITY_TYPE_access query tags
- Pro: People are already used to this approach
- Con: Complicated use cases may find themselves limited by SQL

Scalable pagination

Access checks in code



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Scalable pagination

Access checks in code

- Proposed by catch early 2017
- Based on a Four Kitchens blog post from 2009
- <https://www.fourkitchens.com/blog/article/anticipate-scalable-pagination-especially-acls/>

Scalable pagination explained



Scalable pagination explained



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Scalable pagination explained

- You ask for more results than you need and pull them through your access logic
- If you do not have enough results, go back to the database for more
- Keep track of the first and last item and use them for paging
- Works best on sites where most content is accessible to everyone

Scalable pagination

Pros and cons



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Scalable pagination

Pros and cons

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- Con: Poor performance on sites with more complex access set-ups
- Con: No indication of amount of possible results
- Con: People are not familiar with this approach



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“
**You don't seem to be a fan of
scalable pagination**”

Someone else in the audience



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Query altering: Part Deux

A summary of previous work



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- Extend the entity access system with a new grants API (and deprecate the query-alter-based node grants API)
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- Entity access policies
https://www.drupal.org/project/entity_access_policies
- Implement a query-level entity access API
<https://www.drupal.org/project/entity/issues/2909970>

Entity access policies



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- A collection of access plugin, e.g.: is_published
- Used in policy config entities that list which entity types and operations they apply to
- When an entity query is launched, this system kicks in, finds all applicable policies and compiles them into one query alter
- You can build a UI showing all of the active access policies for your website and even allowing you to edit them

Entity access policies

Pros and cons

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- Con: Too big of a change at once to go into core
- Con: Loads a list of config entities to decide access to another list of entities
- Con: Nowhere near finished

A query-level entity access API

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- Generates conditions based on the user's permissions which are ultimately added to the query
- Fires an event to alter the conditions (so before query alter)
- Works for Views and entity queries

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- Con: Relies on a permission handler that hasn't made it to core yet
- Con: Hard to alter or prevent another module's access logic



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Good news everyone

Roadmap

- Work on query access handler to be committed to Entity API within a week
- Permission handler on a fast-track to be added to core
<https://www.drupal.org/node/2809177>
- This paves the way for adding the query access handlers to core
- Likely in Drupal 8.7.0

Become a Drupal contributor

Friday from 9am

- First timers workshop
- Mentored contribution
- General contribution



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Thank you!



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Questions?
