Creating Viable Online Communities with Community-Based Policy Management

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**Goal**
To provide a management system that enables online communities to be flexible, robust to change, support decentralised decision making and separate the management of the technology from the management of the organisation.

**Online Communities**
**Characteristics**
- More “bottom-up” with both user-generated and user-moderated content
- Self-forming groups - dynamic organisational structure
- Can expand quickly
- Uses the latest technologies to provide community with a richer user experience

**Problems**
- Current solutions are primarily content focused
- No support for modelling organisational structure internally
- Site administrator manages both the site and organisation
- Use role based access control (RBAC) - doesn’t lend itself well to user-generated/moderated content

**Drupal**
- Drupal is a free open-source web-based content management system
- Development framework that enables Drupal to be extended, customised and themed.
- Used by Nike, Ubuntu, Harvard, Second Life, 20th Century Fox, Eclipse and many others

**Community-Based Policy Management**
- Developed by KDEG at TCD
- Models organisation as a collection of units or “communities” e.g. divisions, departments, teams
- Communities are structured hierarchically with organisational root at top and more specific units at bottom
- Models resources and their relationship to communities

**Achievements**
- Integration of a CBPM system with a popular content management system (CMS)
- Enables CMS to support for more fine-grained access control
- Enables internal modeling of organisation
- Enables decentralised decision making
- Unified access control interface

**Evaluation**
**Use Case 1: Support default Drupal access control**
- User can only view content belonging to his/her communities
- User can only edit his/her own content

**Use Case 2: Inheritance**
- A member of a higher level community is permitted access to lower level communities

**Use Case 3: Fine-grained access control**
- Lecturer wishes to post exam result viewable by one student only
- Student name is contained in field in content
- Access control at field-level

**Conclusions**
- Replacing RBAC with CBPM enables CMSs to better support the requirements of modern online communities
- The complexity of integrating a CMS with a policy system is dependant on the modularity of the CMS architecture
- Distribution of decision making in online communities reduces workflow decision bottlenecks

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