**SCHOOLABLE TAGS AND TAGGING SYSTM**

The tagging system is modeled as a directed graph as shown below:

A

C

D

B

E

F

G

H

Each (circular) nodes represents tags (and the labels represents tag-names). The direction of the arrow shows the **parent-child** relationship. For example, Tag F has parents C, D, E etc.

**Tag**

A tag is pictorially depicted as:

Input

Input

Input

Output

T

**Input:** is either Entity (i.e, the thing that is being tagged or grouped) OR another tag.

**Output:** is mainly (a resolved) entities.

A more elaborate view would be:

A

B

T

Entities

Aside from the pictorial view shown above, a tag (technically) consist of the following:

1. Groups
2. Templates
3. Intents

**Groups:** The tagging system primary groups objects (or any kind or type). You can create as many groups (or tags) as you want, and it can even contain as many levels of depths as you it pleases you:

**Templates:** *Provides a way for you to generate entities based on laid down rules (i.e, the templates).*

When you create a group, you may have some properties you want the group members to have in common. For example, consider the scenario below:

*All students in primary class of a school should pay for the following items: tuition fee, lesson fee, and school development fee. But then, the students in primary 5 should additionally pay for: common entrance fee, and passport photograph fee.*

You can create a single invoice **Template** (and then attached this template to a group called **primary-students**) that will be used to generate invoice for all the students in the primary section, and then create another **Template** (and also attaching it to the group called primary-5) that will be used to generate for students in primary 5 only. *And finally, you make primary-5 a subgroup of primary-students.*

**Intents:** Intents (short for **Intentions**), is used to execute some form of (actions or) intentions on a group. In the scenario above, the intention of the school owner would be to **generate** invoices (based on the templates) for students. The intents, is in charge of generating the invoices described above. Another non trivial intents might be to *filter users based on organization (or other criteria).*

*Each services that uses the tagging system will have to write their own rules or business logic (expressed in terms of templates and intents) as regards grouping of entities.*

**Proposed Tag service API:**

*// this will be how to create tags*

***userTag = tagService.createTag(“users”)***

***employeeTag = tagService.createTag(“employee”)***

*// this will be how to link tags together*

***employeeTag.linkTo(userTag)***

*// or you can do it like this*

***userTag.addChild(employeeTag)***

The above code snippet makes the EmployeeTag tag a subtag of UserTag.

*// set template and execute intent on a group*

userTag.setTemplate(“my template Id”)

await adminUsersTag.executeIntent({

resolveFn: () => { ... },

Intent: () => { ... }

})

**This is how to Query tags**

**employeeTag = tagService.query(“users:employee”)**

**schoolableTag = tagService.query(“users:organisations:schoolable”)**