Announcement
 Evgeny Shvarov · Jun 30, 2020

 Open Exchange

Posts and Tags problem for InterSystems IRIS AI contest

Hi Developers!

Here in Developers Community, we have posts, which are categorized by tags. Tags - are specific topics, which relate to InterSystems products, InterSystems services, or any concept related to software development, deployment, or maintenance etc.

Tag is a helpful thing because it gives the option to follow/subscribe to the tag, filter the search by the tag, understand how popular or not unpopular the topic and more.

And we have a problem!

Actually two problems. The tags for the post are selected by the author of the post, and we have the following issues: the author chooses wrong tags for a post, and the post lacks proper tags.

And we think this problem could be solved with AI/ML approach and so we suggest you solve it during the InterSystems IRIS AI Contest.

Here is the posts-and-tags repository, which uses the Python Gateway template, which contains two classes: Community.Post and Community.Tag.

Clone it or Fork it and run:

```
$ docker compose up -d
```

and it will build an InterSystems IRIS image and will load these two classes along with data from Post and Tag globals.

Community. Post class contains the data on all the developer community posts with fields:

- Name - for the post title,
- Text - for the post text,
- Tags - for the comma-separated list of tags.

You can get the data with the following SQL query:

```
select top 20 * from Community.post order by id desc
```

And you can get posts which have the particular tag with the query:

```
SELECT * FROM Community.Post WHERE ($LISTFIND($ListfromString(Tags,','),'Contest')>0)
 ORDER BY ID DESC
```

```
PYTHON:SQL > SELECT * FROM Community.Post WHERE ($LISTFIND($ListfromString(Tags,','),'Contest')>0) ORDER BY ID DESC
```

Tags	
Contest,IntegratedML,Machine Learning,Python,SQL,Video,InterSystems IRIS,Open Exchange,Announcement	Hi Developers, Please welcome the new video, specially recorded by @Zhong.Li for the I
AI,Contest,Events,IntegratedML,Machine Learning,Python,Webinar,InterSystems IRIS,Open Exchange,Announcement	Hi Community! We are pleased to invite all the developers to the upcoming InterSystems
AI,Contest,Docker,IntegratedML,Machine Learning,Python,InterSystems IRIS,Announcement	Hi developers! We are starting InterSystems AI Programming Contest next week, and acco
AI,Contest,IntegratedML,Machine Learning,InterSystems IRIS,Open Exchange,Announcement	Hey Developers! Join our next competition in creating open-source solutions using Inte
Contest,Events,Webinar,InterSystems IRIS,Announcement	Hi Community! We're pleased to invite you to the Online Meetup with the Winners of the
Contest,InterSystems IRIS,Open Exchange,Announcement	Hi Developers! The InterSystems IRIS Native API Contest is over. Thank you all for par

Community.Tag class contains tags and it descriptions:

```
PYTHON:SQL > select * from community.tag
```

ID	Description	Name
.NET	NET Framework (pronounced dot net) is a software framework developed by Microsoft that runs primarily on Microsoft Windows. Official site. .NET support in InterSystems Data Platform.	.NET
.NET Experience	InterSystems .NET Experience reveals the options of interoperability between .NET and InterSystems IRIS Data Platform. See more details here. .NET official site	.NET Experience
AI	Artificial Intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning (the acquisition of information and rules for using the information), reasoning (using rules to reach approximate or definite conclusions) and self-correction. Learn more.	AI
API	Application Programming Interface (API) is a set of subroutine definitions, protocols, and tools for building application software. In general terms, it is a set of clearly defined methods of communication between various software components. Learn more.	API
AWS	Amazon Web Services (AWS) is a secure cloud services platform, offering compute power, database storage, content delivery and other functionality to help businesses scale and grow. Learn more.	AWS
Alerts		Alerts
Analytics	This tag relates to the discussions on the development of analytics and business intelligence solutions, visualization, KPI and other business metrics management.	Analytics
Analyzer	DeepSee Analyzer is a WYSIWYG editor for MDX queries which are the data sources for DeepSee interactive widgets	Analyzer
Angular	Angular (or AngularJS)is a JavaScript-based open-source front-end web application framework mainly maintained by Google and by a community of individuals and corporations to address many of the challenges encountered in developing single-page applications. Official site.	Angular
Angular2	AngularJS framework with versions from 2 and higher.	Angular2
Apple macOS	macOS is a series of graphical operating systems developed and marketed by Apple Inc.	Apple macOS
Application	An application server is a software framework that provides both facilities to create web applications and a server environment to	Application

The task

Find the optimal set of tags, for every post which matches the text of the post.

Two hypotheses how this could be solved:

1. Find a matching tag for the post upon the tag description. Every tag has a description, which could match the title and content of the post.

2. Find proper tags considering that the majority of choices from authors are the right choices. So if text similar to some post, it can have similar tags.

Looks like a typical data categorization problem, right?

Also, it would be great to introduce new tags which we probably missed but we have posts which could be represented by these tags.

I'm not a data scientist so probably this problem can be solved with some professional approach. Maybe iKnow - InterSystems NLP engine can be used here too.

Anyway: we have the problem, we have the data, and possibly we could find a solution using InterSystems IRIS.

We are looking forward to see your solutions!

#Artificial Intelligence (AI) #Contest #Machine Learning (ML) #InterSystems IRIS #Open Exchange
Check the related application on InterSystems Open Exchange

Source URL:https://community.intersystems.com/post/posts-and-tags-problem-intersystems-iris-ai-contest