

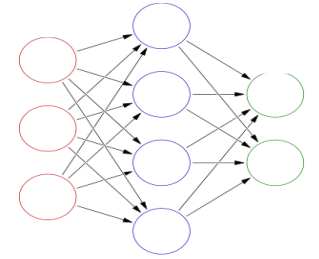


WIPO Translate and other AI tool in WIPO

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SCP 31
use of AI for the examination of patent applications session
3 Nov 2019

Artificial Intelligence?



AI usually means “Deep supervised machine learning”¹

We use multi layer artificial neural network

We learn from **human** generated data

We learn from data
“bottom-up approach”

¹ Yann LeCun

Summary of WIPO AI-based Tools and Applications

■ Text processing:

- WIPO Translate (Neural Machine Translation)
- Classification & Transliteration*
- Chatbots*

■ Image similarity processing:

- Image classification (logos)
- [Image-based search](#)

■ Speech processing:

- Speech to text
- Search in video-audio*
- Speech to translated text*

Disclaimer: Any machine translation or speech processing tool, including WIPO's, is NOT designed to replace the need for human intervention – It is just a “tool”, to aid humans in making their intervention more effective and efficient

* In development

WIPO Translate

- Since 2011, using neural networks since 2016
- Available as part of Patentscope
- Provides instant quality translation in 10 languages

<http://patentscope.wipo.int/translate>

Live demo

Note: Text based on automatic Optical Character Recognition processes. Please use the PDF version for legal matters

一种Monkey测试系统

技术领域

本实用新型涉及终端测试技术领域，尤其涉及一种Monkey测试系统。

背景技术

Monkey测试(Monkey Test)也称为搞怪测试，即使用稀奇古怪的测试方法去测试被测系统系统的稳定性。

Monkey是Android中的一个命令行工具，可以运行在模拟器或实际的测试设备中。它向系统发送伪随机的用户事件流(如按键输入、触屏输入和手势输入等)，实现对正在开发的应用程序进行测试。Monkey测试是Android自动化测试的一种手段，是测试软件健壮性、稳定性的快速有效方法。

当终端用户触发了例如按键输入、触屏输入和手势输入或一系列系统级别的事件时，它会产生随机脉冲，因此可以用Monkey随机重复的方法去负荷测试对应软件。

中国专利(CN104063324A)公开了一种Monkey测试方法和系统，包括有Java测试平台，安装读取模块，Java Table控件模块，选取模块，Java List类模块，测试执行模块，通过各模块依次执行完成对智能终端系统的测试。进而通过软件模拟人手触发按键事件，完成对手机等移动终端的Monkey测试。

在上述专利中，单纯的使用软件去模拟人手触发事件，并不能真实的模拟用户使用环境，测试人员得花大量时间进行重复性的测试工作，降低了工作效率。

因此，提供一种新型的Monkey测试设备以取代纯软件模拟操作的手段成为本领域技术人员研究的方向。

实用新型内容

鉴于现有技术中的不足和缺陷，本实用新型提供了一种Monkey测试系统，使其在原有Monkey测试方法的基础上进行兼容与扩展，结合机械手臂，更加逼真的去模拟用户点击触摸屏且可以运行设置好的测试脚本，减少测试人员重复性工作，在产品测试阶段找出软件中存在的问题并定位。

本实用新型解决上述技术问题所采用的技术方案为：

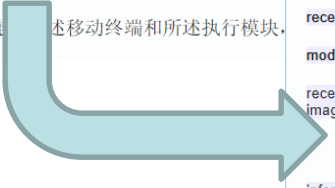
一种Monkey测试系统，其中，应用于对Android系统的移动终端的Monkey测试中，所述系统包括：

承载装置，活动设置于一平台主体上，且固定有所述移动终端；

执行模块，固定设置在所述平台主体上，且与所述承载装置通信连接，用于接收测试指令并控制所述承载装置进行运动；

控制平台，存储有所述移动终端的第一图像，且分别与所述移动终端和所述执行模块通信连接，用于发送测试指令；

Live demo



Note: Text-based on-automatic-automatic interpretation process. The pallase uses the pencease version for legal matters.

the invention discloses a monkey test system

technical field

the invention relates to the technical field of terminal testing, in particular to a monkey testing system

background technology

an onkey test (onkey TEST) is also referred to as a test to be tested, that is to say, a tested system is tested by using a test method of curiosity, so that the stability of the system is tested

the onkey is a command line tool in android, and can be operated in a simulator or an actual test device. The method sends a pseudo-random user event stream (such as key input, touch screen input, gesture input and the like) to the system) so as to realize the pressure testing on the application programs being developed... An onkey test is a means of android automatic test, and is a fast and effective method for testing the robustness and stability of software;

when a terminal user triggers events such as key input, touch screen input, and gesture input or series of system levels, so that a random pulse can be further generated, so that the load test corresponding software can be removed by means of a method of random repetition of the monkey;

the invention discloses a monkey testing method and system. The monkey testing method comprises an AVA testing platform, an installation package name reading module, an AVA table control module, a selecting module and an AVA list module, the test execution module is used for carrying out statement execution through the modules so as to complete the test of the intelligent terminal system. The method comprises the following steps: simulating a human hand to trigger a key event through software to complete a monkey test on a mobile terminal such as a mobile phone;

however, in the above patent, the single use software is used for simulating a human hand triggering event, and the user use environment cannot be really simulated, the test personnel can carry out repeated test work in a large amount of time, and the work efficiency is reduced.

therefore, a novel monkey testing device is provided to replace pure software simulation operation to become a person skilled in the art to research the direction of research.

practical novel content

in view of defects and defects in the prior art, the invention provides a monkey test system which is compatible and expanded on the basis of an original monkey test method and is combined with a mechanical arm, the touch screen of the user can be simulated more vividly, and a good test script can be automatically and repeatedly run, so that the repeated work of the test personnel is reduced; the problems existing in the software are found out in the product test stage and the problems are positioned;

according to the technical scheme, the technical scheme adopted by the invention is as follows:

the monkey test system is applied to a monkey test of a mobile terminal of an android system the system comprises:

the bearing device is movably arranged on a platform body and is fixed with the mobile terminal;

the execution module is fixedly arranged on the platform body and is in communication connection with the bearing device and used for receiving a test instruction and controlling the bearing device to move according to the test instruction;

the control platform is used for storing a first image of the mobile terminal and respectively connecting the mobile terminal and the execution module and used for sending a test instruction;

the execution module controls the bearing device to click a UI control of the mobile terminal so as to generate a pulse signal, the control platform receives the pulse signal to obtain a second image of the mobile terminal, and carrying out comparison analysis on the first image and the second image to complete a monkey test on the mobile terminal

preferably, the monkey test system is characterized in that the control platform comprises:

the upper computer module is used for storing a test script and a first image of the mobile terminal and used for sending driving information;

the lower computer module is connected with the upper computer module, the mobile terminal and the execution module, receives the drive information and sends the test instruction according to the drive information;

the lower computer module receives the pulse signal and acquires the second image, and the second image is fed back to the upper computer module so as to carry out comparison analysis on the first image and the second image

preferably, the monkey testing system is characterized in that the control platform further comprises a judging module;

the judging module is connected with the upper computer module so as to read comparison analysis results of the first image and the second image, and judging whether to restart the monkey test on the mobile terminal according to the comparison analysis result;

preferably, the monkey test system is characterized in that the control platform is connected with a USB port of the mobile terminal through a USB (universal serial bus) line so as to be connected with the mobile terminal

preferably, the monkey testing system is characterized in that the bearing device comprises:

the first linear module is arranged on the platform body;

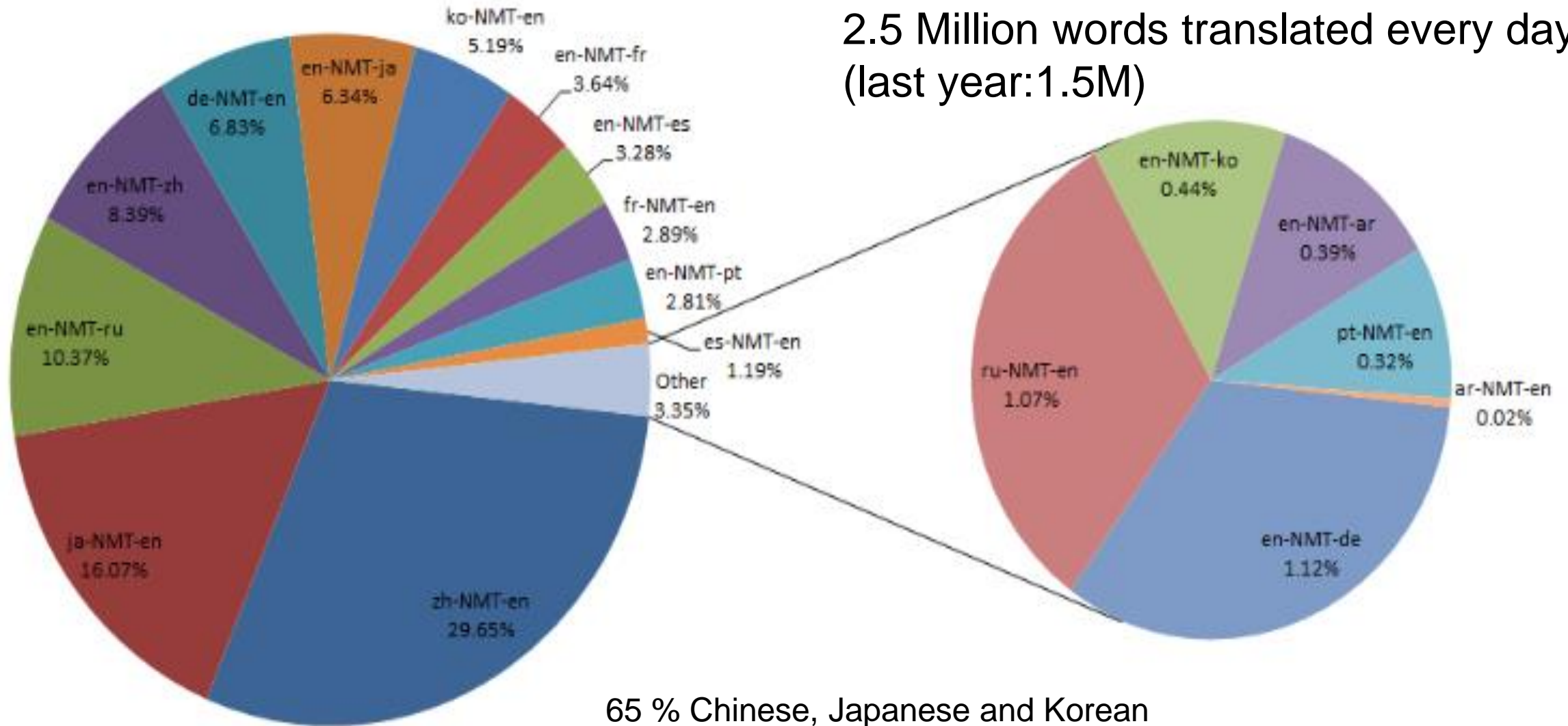
the second linear module is arranged on the platform body and is connected with the first linear module;

the air cylinder is arranged on the platform main body and is respectively connected with the first linear module and the second linear module;

wherein the execution module controls the first linear module, the second linear module and the air cylinder to move, and executes the click action through the air cylinder

WIPO Translate usage on Patentscope...

2.5 Million words translated every day
(last year:1.5M)

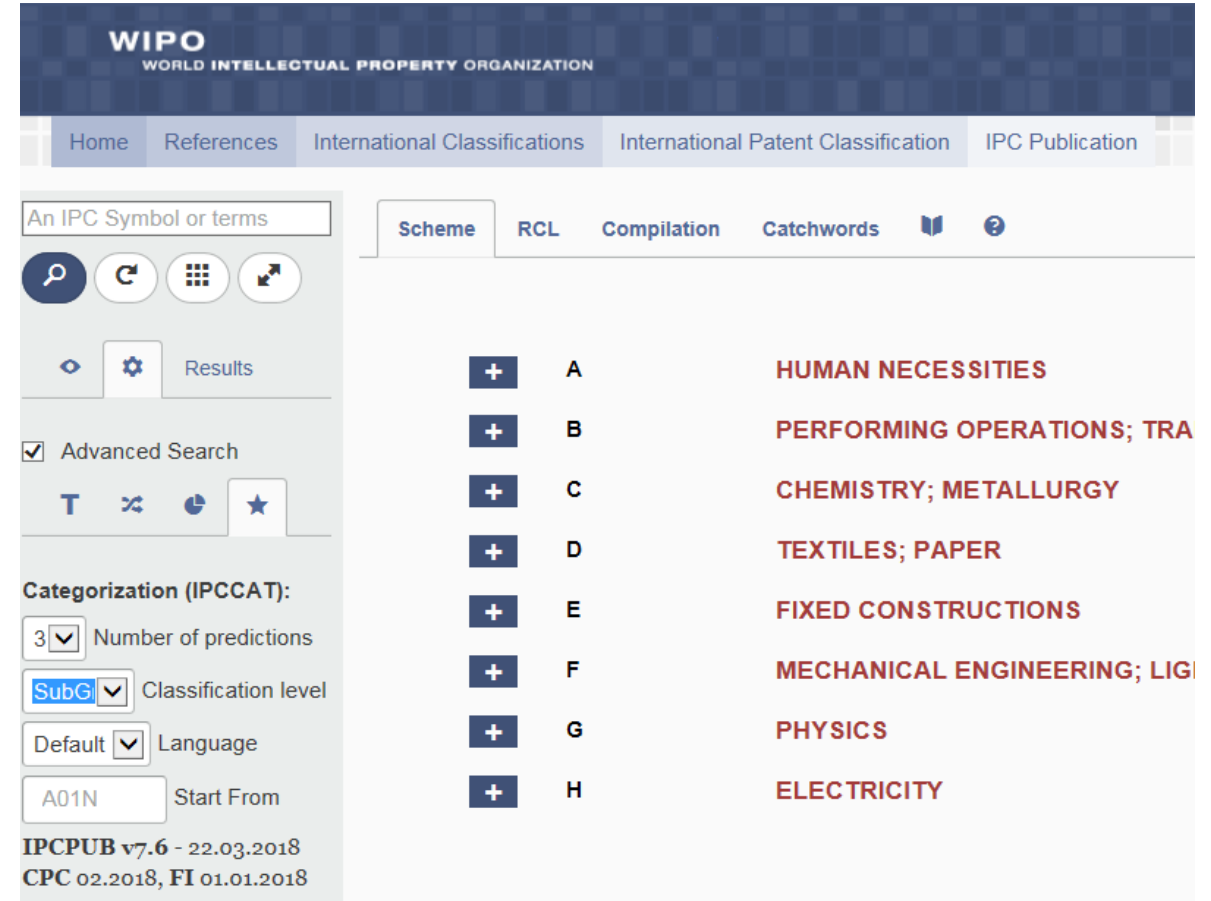


65 % Chinese, Japanese and Korean

Text classification: IPCCat-neural

- Automated IPC text classification
 - Automated routing of patent/technical documents
 - Improve consistency of classification
 - IPC reclassification
- Public web interface

www.wipo.int/ipcpub



The screenshot displays the WIPO International Patent Classification (IPC) web interface. The header includes the WIPO logo and navigation tabs for Home, References, International Classifications, International Patent Classification, and IPC Publication. The main content area shows the 'Scheme' tab selected, displaying a list of classification categories from A to H. Each category is preceded by a plus sign in a blue box. The categories and their descriptions are:


+	A	HUMAN NECESSITIES
+	B	PERFORMING OPERATIONS; TRANSPORTATION
+	C	CHEMISTRY; METALLURGY
+	D	TEXTILES; PAPER
+	E	FIXED CONSTRUCTIONS
+	F	MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; AMMUNITION
+	G	PHYSICS
+	H	ELECTRICITY

On the left side of the interface, there is a search bar labeled 'An IPC Symbol or terms' and a 'Results' button. Below the search bar, there are options for 'Advanced Search' (checked), 'T' (Text), 'x' (Cross), 'e' (Export), and a star icon. The 'Categorization (IPCCAT)' section includes dropdown menus for 'Number of predictions' (set to 3), 'Classification level' (set to SubG), and 'Language' (set to Default). There is also a 'Start From' field with 'A01N' entered. At the bottom, the version information is displayed: 'IPCPUB v7.6 - 22.03.2018' and 'CPC 02.2018, FI 01.01.2018'.

WIPO Image Similarity Search

FILTER BY Source **Image** Status Origin App. Year * Expiration *

Pick an image Pick a strategy Pick an image type



edit delete

Concept
 Shape
 Color
 Composite

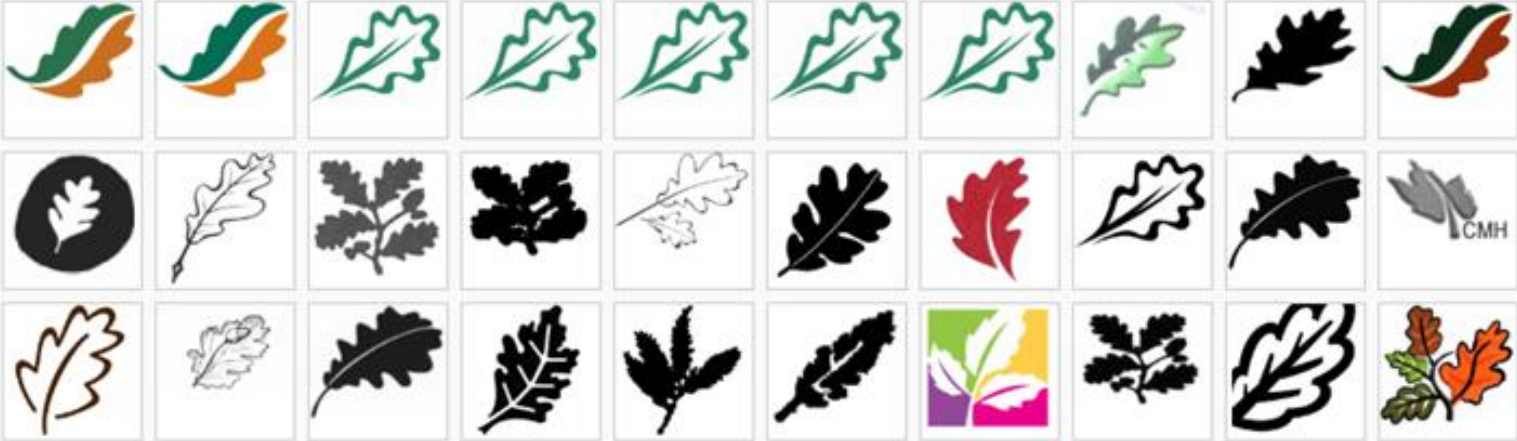
Verbal	0
Nonverbal	65,232
Combined	0
Unknown	0

filter

CURRENT FILTER
 ITY:Nonverbal * IMAGE:Concept *

Display: 100 per page options

Sort by Relevance - desc



Outlook: chatbot

- Ongoing project with WIPO service desks
- Collect historical emails
- Create AI “translation”
 - incoming question → answer
- Automated / AI approach not always suitable:

Question	Generated response	Reference response
Trademarks Sub-topic: Madrid Monitor Question: We dont see nor can manage our IRN 951238 in our WIPO Madrid Portfolio Manager. How to add our brand to our account?	It should be ok now	I have added this trademark to your portfolio. You should be able to view it under MPM from tomorrow morning
Intellectual Property Laws and Treaties Sub-topic: WIPO Lex (Laws) Question: where can I find place wipo in morocco	With reference to your question below I would like to inform you that the World Intellectual Property Organization ([1]WIPO) doesnt have any office in Morocco. Information and location of our [2]external offices is available at the relevant web page. You might have looked for the Moroccan Intellectual property Office, which is a National Office and which contact is available at the following address [3]URL holder	

WIPO Speech-to-text

- Not related to patents, an example of machine learning in house development based on WIPO conferences
- E.g. SCP31 conference is indexed at <http://www.wipo.int/s2t>

WIPO Speech-to-Text

Search WIPO meeting transcripts

Search WIPO meeting transcripts

English

ALL

Latest Speech-to-Text transcripts



Automatic transcription of the SCP31 session that took place on 02.12.2019 (morning)

Mon, 02 Dec 2019 14:01:12 CET

Speech-to-text: SCP31 example

■ Text is aligned with the video



Set playback speed: 2x 1.5x 1x

in the pre-grant and post-grant review, effective barriers and prevent
patent-based incentives and necessity

With the drilling force for triggering drug research and development
developing countries.

The TRIPS Agreement provides these countries with policy space.

■ Search example:

WIPO Speech-to-Text search

trips English SCP31
Search WIPO meeting transcripts

Search results

Text snippet result	Conference	Date	Media timestamp
The TRIPS Agreement provides these countries with policy space.	SCP31	2019-12-02	56 minutes, 20 seconds
In spite of different national laws the flexibilities enshrined in the TRIPS Agreement.	SCP31	2019-12-02	2 hours, 16 minutes, 23 seconds
And especially LDCs on the understanding and use of flexibilities contained in the TRIPS Agreement.	SCP31	2019-12-02	2 hours, 31 minutes, 44 seconds
The effective use of compulsory licensing within TRIPS flexibilities has.	SCP31	2019-12-02	2 hours, 42 minutes, 57 seconds
TRIPS flexibilities.	SCP31	2019-12-02	2 hours, 31 minutes, 59 seconds
Of the TRIPS Agreement which is already in force in Brazil and this will be until Thirty first December	SCP31	2019-12-02	2 hours, 38 minutes, 7 seconds
And the mechanisms and the use of the flexible possibilities of the patent system are set out in TRIPS	SCP31	2019-12-02	23 minutes, 33 seconds
The major international patent instruments including the Paris Convention and the third TRIPS Agreement	SCP31	2019-12-02	2 hours, 30 minutes, 28 seconds
We find that this particular exception should be used within the rules provided in the TRIPS Agreement	SCP31	2019-12-02	2 hours, 37 minutes, 36 seconds
The significance of TRIPS flexibilities in the design of domestic patent laws is critical and provides	SCP31	2019-12-02	54 minutes, 47 seconds

https://www.wipo.int/s2t/search.html?conf_id=SCP31&language=en&search

https://www.wipo.int/s2t/SCP31/SCP_31_2019-12-02_AM_1_mp4.html?start_time=3380.97

AI and patents, ongoing/future work

- Extend WIPO Translate
 - To other languages
 - To other language pairs
 - To written opinion/international search reports
- Markush search
- Search by text similarity
- Name transliteration (cleaning and standardization...)
- ...

Our strategy, what makes successful projects

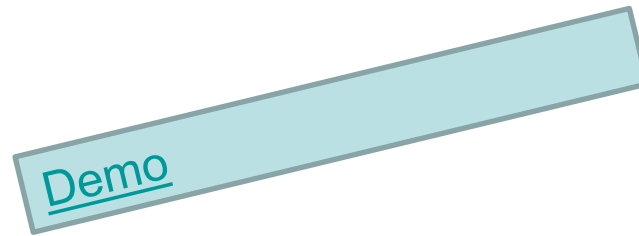
- Careful choice of potentially successful projects (accept risk and expected quality)
- Business driven - importance of integration
- Quick prototyping **“fail fast to innovate faster”**
- Technological survey, academic network
- Open source technologies
- Gather data, data filtering, data cleaning

Expanding our AI footprint to assist IPOs and users of IP systems globally

- WIPO's advances and innovations in AI are valuable externally
 - IP industry, and Science and Tech community;
 - Member states and national/regional IP Offices;
 - UN-family organizations, and other international institutions.
- WIPO is mindful of the growing global digital divide and thus committed to providing inclusive access to WIPO AI tools
- Currently following a demand-driven approach in licensing our AI tools
- WIPO continues to drive inter-IPO cooperation on AI by;
 - Organizing conferences and workshops, and running surveys;
 - Championing data and AI-tool sharing through collaboration.

Proper names: classification

- “guess” country of a person name:
 - HAN, Guydon => KR
 - CHEN, Lili => CN
 - Viswanathan, Anand=>IN
 - Wojtaszek, Radoslaw=>PL
 - ...
- Proper name classification (company or person?):
 - Metal Paris => Company
 - Paris Overton => Person



Proper name transliteration



Demo

- Similar to machine translation
 - “translation” from/to different scripts
- “learn” from existing transliterations:
- “guess” possible spelling in different script
 - LI, Lili => 李丽丽
 - Francis Gurry=>弗朗西斯·古里
 - 埃米·安·瓦兰斯基 => Emy Ann Walanski
 - 可口可乐 => Coca-Cola

Applicants:	Boditechmed Inc. 韩国帕克特生物科技有限公司
Inventors:	Choi Euiyeol 崔义烈 Nam Kibong 南基凤 Kim Jaehoon 金载勳 Jung Dongseok 郑东锡 Park Sangyeol 朴相烈 Moon Jungdae 文政大 Jung Jinha 郑震河 Kim Youngmin 金永敏 Jung Soyoung 郑素映 Park Aekyung 朴爱京 Kim Byoungchul 金丙澈 Kim Sungjoong 金成中