Outline of JPO’s Activities for Using AI

May 2018
Japan Patent Office
1. Purposes and Activities

3 purposes of using AI

(1) Developing more sophisticated and efficient business operations for administrating IP
(2) Improvement of its services to users
(3) Promoting work style reforms for JPO’s employees

AI is aiming to support the following 6 activities:

(1) Responding to questions from users (LV.3)
(2) Digitizing filing procedures (LV.3)
(3) Assigning patent classifications (LV.3-4)
(4) Conducting searches on prior patent art (LV.4)
(5) Conducting searches on prior figurative trademarks (LV.3)
(6) Assigning trademark classifications to unclear designated goods and services (LV.3-4)
## 2. Schedule

<table>
<thead>
<tr>
<th>Activity</th>
<th>FY 2017</th>
<th>FY 2018</th>
<th>FY 2019</th>
<th>FY 2020</th>
<th>FY 2021</th>
<th>FY 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Responding to questions from users</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Launch the system as standard procedure</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
<tr>
<td>(2) Digitizing filing procedures</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Launch the system as standard procedure</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
<tr>
<td>(3) Assigning patent classifications</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Consider whether to launch</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
<tr>
<td>(4) Conducting searches on prior patent art</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Consider whether to launch</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
<tr>
<td>(5) Conducting searches on prior figurative trademarks</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Launch the system as standard procedure</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
<tr>
<td>(6) Assigning trademark classifications</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
<td>System demonstration</td>
<td>Launch the system as standard procedure</td>
<td>System demonstration</td>
<td>Launch on a trial basis</td>
</tr>
</tbody>
</table>

The plan may be changed depending on the ongoing progress
3-1. Responding to questions from users

- Target:
  A) Support for responding to questions from users
     • AI system will give possible answers to the JPO staff
  B) Automatic answering function
     • AI system will answer questions submitted by e-mails, chat messages, or voice messages

- Training data:
  • 14,000 questions and answers by human.
3-2. Digitizing Filing Procedures

- **Target:**
  - Function to convert already filed data into text data by using AI-based character-recognition

- **Training data:**
  - Data of images and texts of paper filings

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**Digitizing Filing Procedures**

- AI-based character-recognition function

**Handwritten Paper filings**

AI

- Reduce the workload of visual checking?
- Shorten working hours?
3-3. Assigning Patent Classifications

- **Target:**
  - Assigning patent classifications and its grounds based on AI making suggestions
    - F-terms for patent classifications
    - Paragraphs for its grounds (paragraphs)
- **Training data:**
  - Text data of filed documents (patent classifications were assigned)
3-4. Conducting Searches on Prior Patent Art

- **Target:**
  - Suggesting keywords and patent classifications in search queries
- **Training data:**
  - Text data from examined patent documents
  - Retrieval history of search queries used in examinations

### Conducting Searches on prior patent art

- Analyze information about applications and suggest keywords/patent classifications included in search queries

<table>
<thead>
<tr>
<th>Keywords to search</th>
<th>Patent classifications</th>
<th>Degree of priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>○○、●●</td>
<td>AA07, BB02</td>
<td>○○、●●</td>
</tr>
<tr>
<td>○●、■ ●</td>
<td>BB04, DB06</td>
<td>○●、■ ●</td>
</tr>
<tr>
<td>○▲、▼ ●</td>
<td>CB04</td>
<td>○▲、▼ ●</td>
</tr>
</tbody>
</table>
3-5. Conducting Searches on Prior Figurative Trademarks

- Target:
  - Retrieving prior figurative trademarks to be identical with, or similar to, the claimed trademarks

- Training data:
  - Past results of searches on prior figurative trademarks, to enable AI to learn processes.
3-6. Assigning trademark classification to unclear designated goods and services

- Target:
  - Assigning tentative similar-group codes to unclear designated goods and services in trademark applications

- Training data:
  - Reference materials such as the Examination Guidelines for Similar Goods and Services

Assigning tentative similar-group codes

Applications / Amendments

Cold medicine?

Drug?

Accurate?

AI

Cold medicine

Drug

DB

Medicine 01A01
Threonine 01B01

Assigning tentative similar-group codes
Thank you