ccPortal + Recent Projects

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Introduction & Background

I am member of the KEKCC Group.

My responsibilities are:
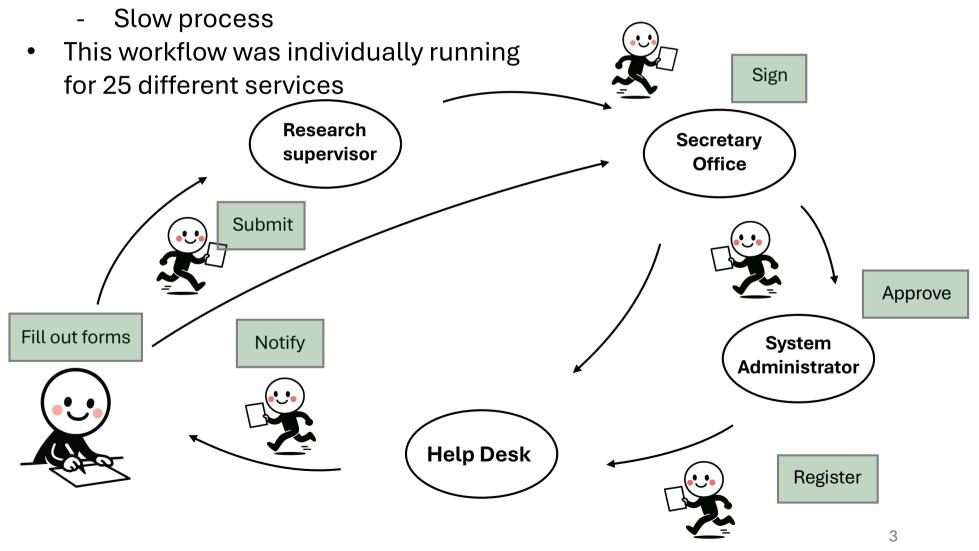
🌐 **Updating the KEKCC website with MkDocs**

📈 **Improving monitoring tools**

🚀 **Developing ccPortal**

Motivation: Before ccPortal

- Paper process was troublesome for both user and system administrators.
  - No traceability
  - Slow process
- This workflow was individually running for 25 different services

Sign

Research supervisor

Secretary Office

Submit

Approve

Fill out forms

Notify

System Administrator

Help Desk

Register
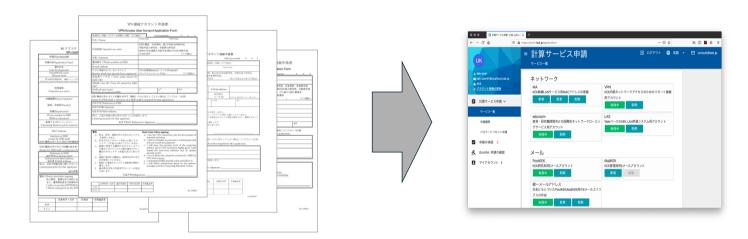
ccPortal - A Single Registration Platform

Digital Transformation (DX)

25 different service applications into one system.
It was designed to improve usability for both user and system administrartor.

One Portal
Many services are in one portal. Easy to manage.

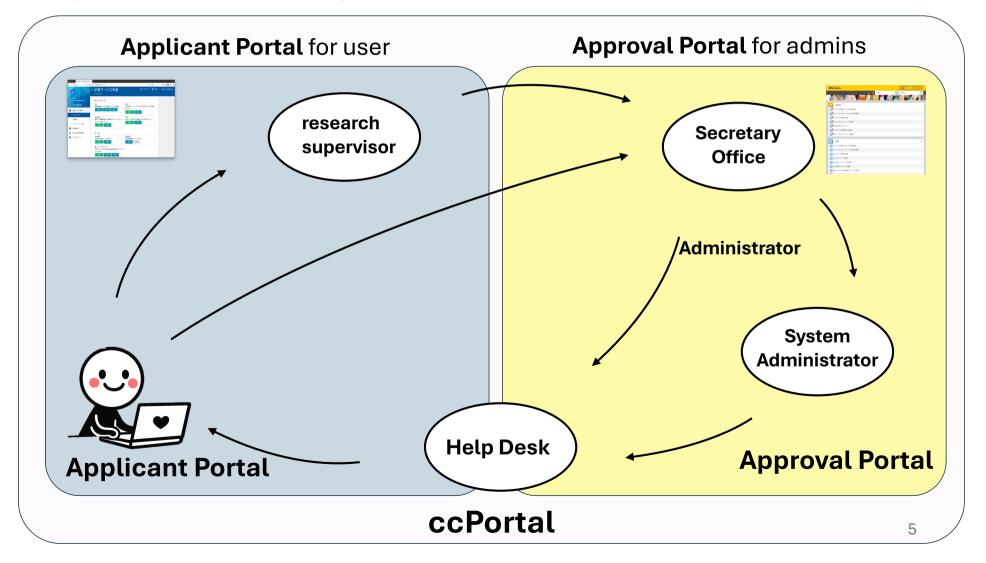**Workload Transformation**
Workflows are simple. Less work, more speed.

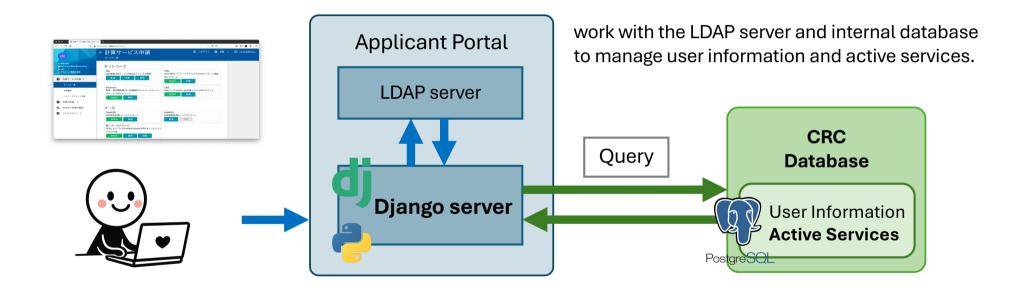**Enhanced User Experience**
All services within a single platform

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ccPortal Architecture

ccPortal is composed with a dual-portal architecture to satisfy the different requirements for user and system administrators.
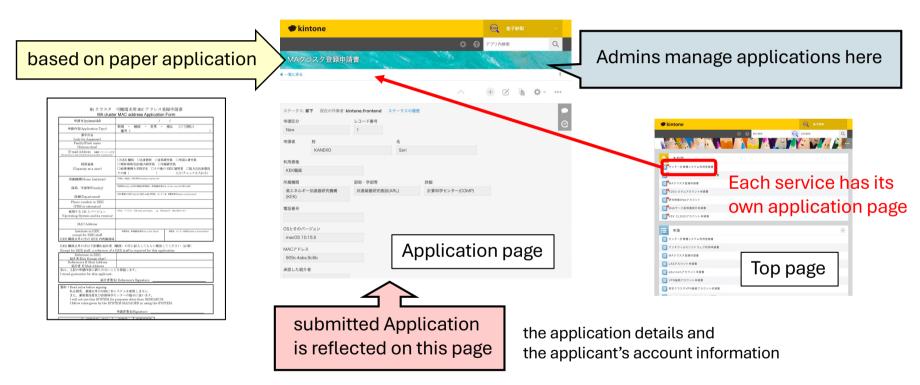

Applicant Portal for user

Approval Portal for admins

research supervisor

Secretary Office

Administrator

System Administrator

Applicant Portal

Help Desk

Approval Portal

ccPortal

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Applicant Portal

🐍 Built with Django

🛢️ Integrated with our internal DB

work with the LDAP server and internal database to manage user information and active services.

Users can trace the full of process flow

Approval Portal for system admins

Approval portal is built on external SaaS 🟡 **kintone**
It's used by system administrators to approve applications.

based on paper application

Admins manage applications here

Each service has its own application page

Application page

Top page

submitted Application is reflected on this page

the application details and the applicant's account information

➢ **No-code for flexible workflow design.**

➢ **REST API support**

Define custom application data and flows, and update them easily.

ccPortal in Production

Launched in January 2020
ccPortal has delivered numerous achievements and continues
to drive progress

✅ System Stability

The system has run smoothly and has supported research activities since launch.

🛡 Digital Transformation

During the pandemic, ccPortal maintained service.
It helped research to continue without interruption, even when people worked from home.

🕐 Productivity Improvement

The portal cut staff workload by centralizing user management.

AI-Powered Helpdesk

Recent Projects

> 🎓 **AI-Powered Helpdesk**
>
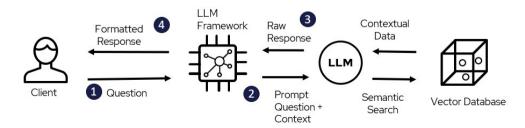> We have been exploring AI to develop the next generation of IT services, e.g. Helpdesk.
> For that purpose, we are holding regular LLM study sessions.
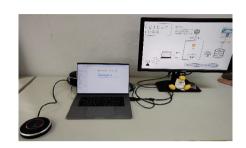
Retrieval-Augmented Generation (RAG)

RAG enables AI to search external sources and generate answers based on retrieved information.

1. It requires **existing data only, but no retraining.**
   - **Keeps models lightweight**
   - **Simple and low-cost maintenance**
2. Directory **access to domain-specific knowledge.**
3. **Provides source documents** behind its answers, making them easier to trust.

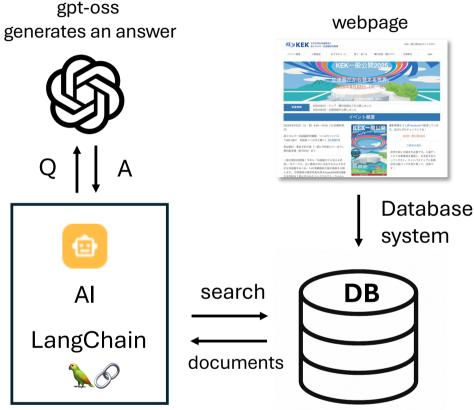Simple LLM Search Model (like ChatGPT)

Overview of the Demo at KEK Openhouse

gpt-oss
generates an answer

webpage

Voice Interaction Enabled
You can now ask questions
& receive answers by voice.

Q | A

Database
system

Ask a question

Q

A

AI

LangChain
🦜🔗

search

documents

DB

Q

A

retrieves relevant documents

Output as speech

All on a local network, no additional training required ✨

Looking ahead, we plan to apply this approach to create AI tools
replacing manual user supports

ずんだもんのデモなのだ

Let me show you a fun demo!

Summary and Future Prospects

- **DX with ccPortal**
  Successfully consolidated 25 different types of paper-based service applications into a single registration platform (ccPortal)
  - **Productivity Improvement**
    Extremely reduce the workload for both user and system administrators

- **ccPortal Looking Forward**
  - Without human intervention
  - Active account management
    - Accurate personal information
  - Integration with GakuNin (Identity Federation in Japan) for SSO and MFA

- **RAG AI Tool**
  Great tool for auto-searching manuals and reducing helpdesk workload