# Design and Implementation of the Cisco Webex System based on self-service sign-up using G Suite for rapid deployment

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## Transition to "Online Class" from Face-to-face-Class

- For the countermeasure of stopping the spreading of COVID-19
  - Reducing the person-to-person contact
  - ↳ Advancement of Online Class Tools
    - Web Conferencing Tool
      - Google Meet, Webex, Zoom, MS Teams, ...
    - Learning Management System (LMS)
      - Google Classroom, moodle, bb9, ...

## Each Service Provider's Case in Japan

Many free services for Educational Institutions provided

- Google Meet
  - Premium features included in G Suite Enterprise for Education, the ability to have a large meeting, recording, and live streaming, will be available for free until the end of September 2020.
- Webex
  - Free Webex services to educational institutions in Japan. This is a joint offering with the NII and Cisco Systems, which offered free use of Webex Academic Offer Program for 180 days.
- Zoom
  - As part of the "Manatome Program" (Future Classroom Program that Never Stops Learning), Zoom has provided free licenses to educational institutions in Japan until April 30th 2020.

## Our University's Case

- University's Policy
  - Classes in the first semester (April to September) were made online classes in principle.
    - Since the widespread request to refrain from going out under the declared state of emergency
- Measures after the declaration of the state of emergency
  - After June, classes will be online in principle, but face-to-face classes will also be available.
- Tools for Online Class
  - It was decided to use these as the main tools.
    - Google Meet as a web conference system
    - Google Classroom as LMS

## Supplementary Measures as Information Media Center

- Implementation as a supplementary tool of Webex service, which is available free of charge for 180 days (licensed user: 1000), considering the lack of educational functions in Google Meet.

## Self-service Sign-up based Webex Management System

- Requirement #1 : Rapid Implementation
  - The actual time to launch was less than one month (Classes started late, but mid-April).
    - We were impossible to hire a person to build the system.
    - We try to build a system that was possible in a very short time frame.
- Requirement #2 : Low Cost for Development
  - We don't have enough budget. The cusp of a new fiscal year, University budget cuts.
    - Therefore, it was necessary to develop the system with as few costs as possible.
- Requirement #3 : No Special Hardware or Equipment
  - We are trying reduce the number of servers used for system as much as possible.
    - Therefore, we considered a system that can be worked without having some devices at the university, for example, by using some serverless architecture.

### System Overview

1. User submits the application use request by self
   - The application form is made by Google Forms
   - This form is implemented the provisioning code by Google Apps Script (GAS)
2. Register account information in the database
   - All information will register in Google Spreadsheet
3. Create a Webex account using by GAS
   - GAS will try to provision to the Webex system to create user
   - Webex's People REST API (/v1/people) is implemented
4. Activation of Webex services by users
   - User will receive the welcome mail from Webex system
   - Also, Our system submits the confirmation mail to the user
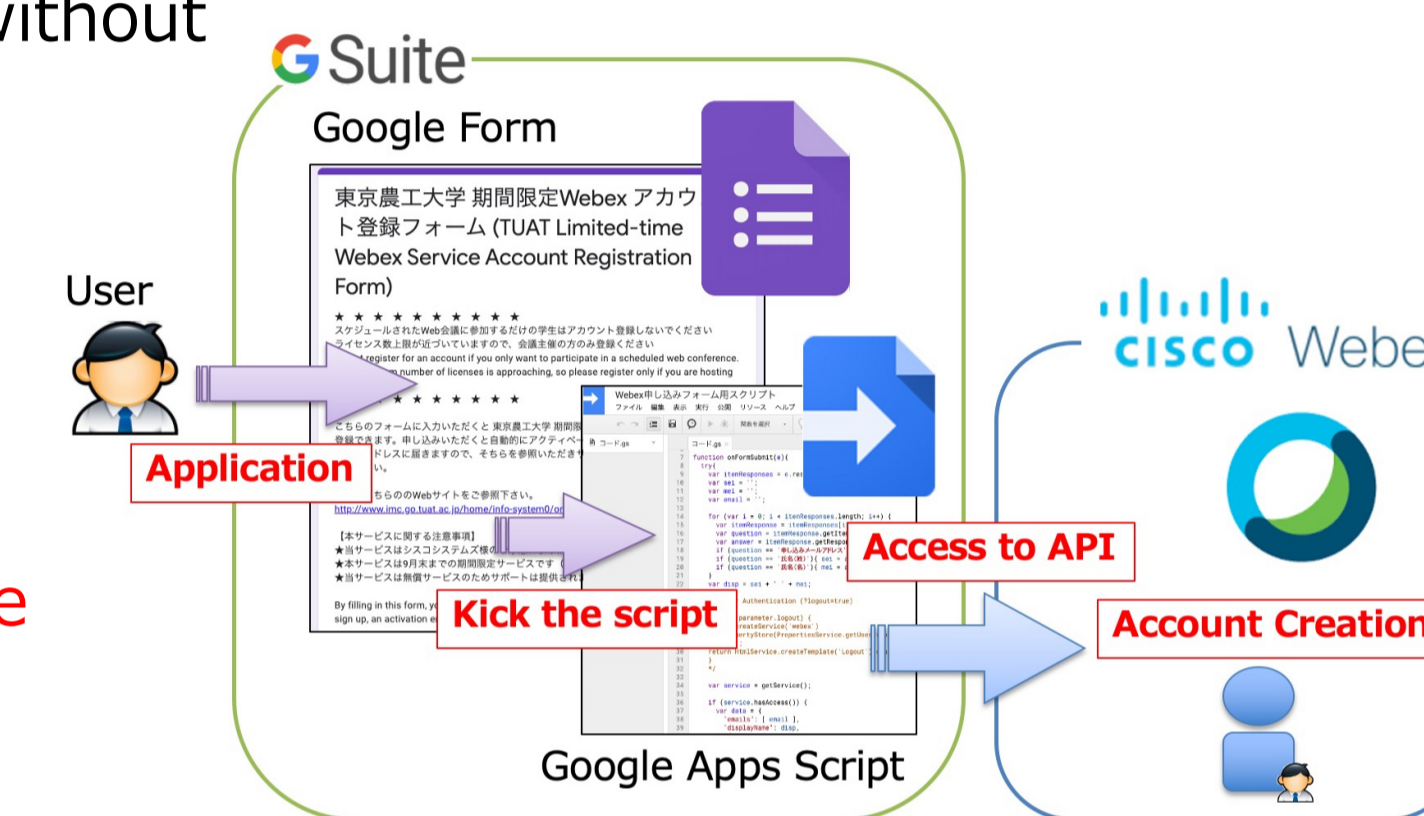   - User MUST make an activation following the welcome mail
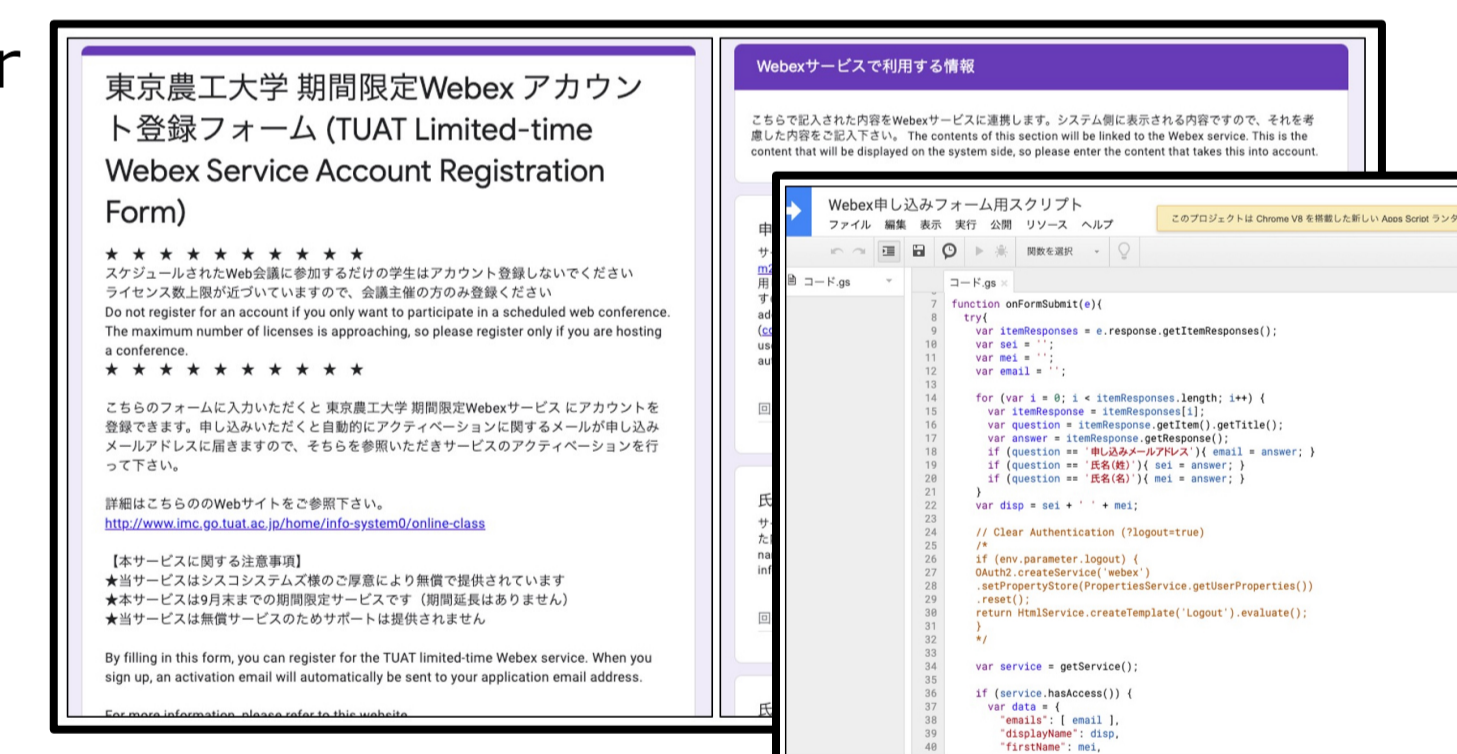


Fig: System Overview



Fig: Application Form and GAS

### Actual Implementation and Operation

- Up to the Launch of Operation
  - Coding (provisioning part): 1 day (3/26/2020)
  - UI implementation and testing: 3 days (3/27-29)
  - Service-in: 3/30

- Actual users (as of 8/8/2020): 667/1000
  - Growth of user application is the right figure.



Cumulative number of registrants

### Remaining Issue

- Account Life-cycle Management
  - In this system, the main focus is on account creation.
    - For this reason, account deletion is not automated.
    - The automation of account lifecycle management is the lack.

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