Build and activate customized data analytics assets for SK Hynix

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Agenda

○ *Introduction*

○ *Data Analytics Asset*

○ *JMP-Based Analytics Platform*

○ *Analytics Competency Training Process and Support*

○ *Summary*

Presenter

○ Present

- Data Scientist / SK Hynix Inc.

  Data Analytics, AI Engineering

○ History

- Data Scientist / PUBG(Krafton)

- Data Scientist, Data Engineer / Coupang

- Developer, Engineer / Others

Do-Hyeon Jin and Jon weisz, 2022 USA

■ Introduction

SK Hynix

○ Semiconductor Company

- SK Hynix Inc. is a South Korean supplier of dynamic random-access memory (DRAM) chips and flash memory chips. Hynix is the world's second-largest memory chipmaker and the world's third-largest semiconductor company. Founded as Hyundai Electronic Industrial Co., Ltd. In 1983.
  In 2012, when SK Telecom became its major shareholder, Hynix merged with SK Group.

○ With JMP

- 2017 ~ Head office : TELA(Total Employees Capped License Agreement)

- ~2016 : Head office and Other office : copy license

Data Analytics Asset

People & Culture Asset

○ Talented Citizen Data Scientist & Engineer

- The huge process of semiconductors and the analysis of various data require a group of experts with competent domain knowledge.

- A competent group of experts can well define their needs and problems, which is one of the most important parts of the analysis.

○ Sharing of analysis know-how

- An environment and culture where we can share the details of the analysis process and results and develop each other is the most important part.

■ Data Analytics Asset

Assets to increase analytical productivity

○ Add-In base on JSL

- Various analysis add-ins that combine data collection, pre-processing and analysis automation functions to easily share results.

○ Manual & Reports

- Documents that summarize the analysis process such as analysis report and initial analysis methodology.
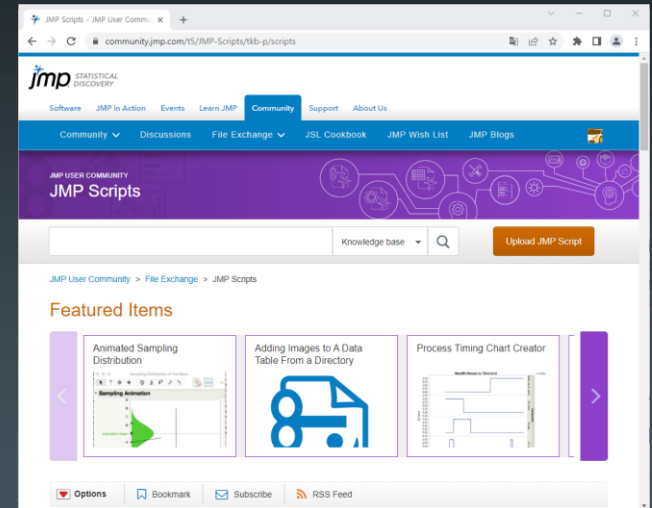
■ Data Analytics Asset

Processing & Computing

○ Data Processing Modules

- Structured and unstructured data acquisition, pre/post processing, and data storage for sharing analysis results.

- Management and sharing of processing logic and reference information data for business data marts, etc.

○ Computing Infrastructure

- Computing power for data analysis, server and scheduler for automation, batch service, etc.
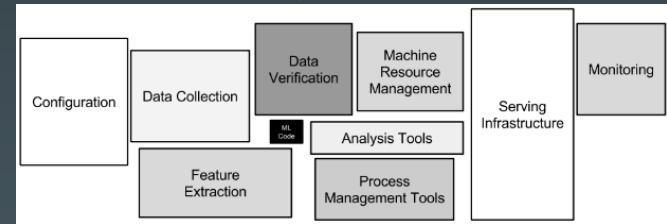
Google - Hidden Technical Debt in Machine Learning Systems

JMP-Based Analytics Platform

App Store

○ App Store for contents

- Our specialized service that anyone can produce and consume content.

- Implement ready-to-run services by easily discovering and adding with one click without cumbersome installation
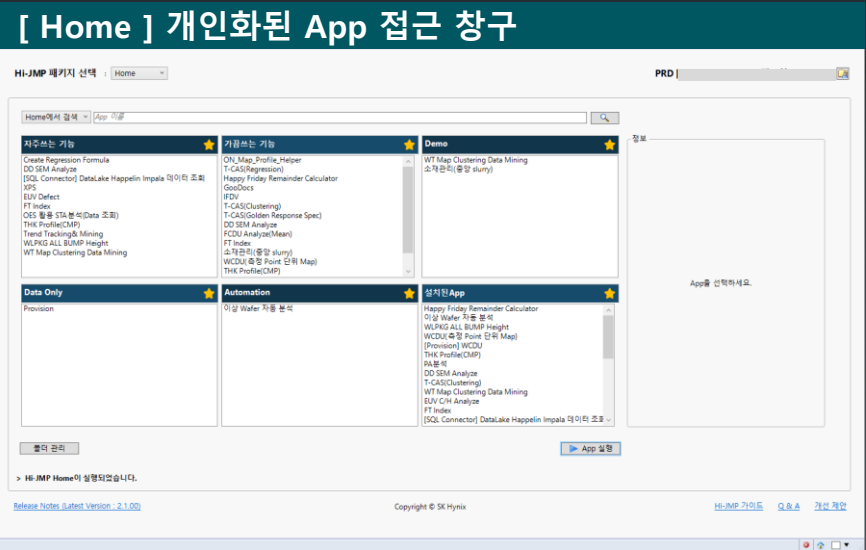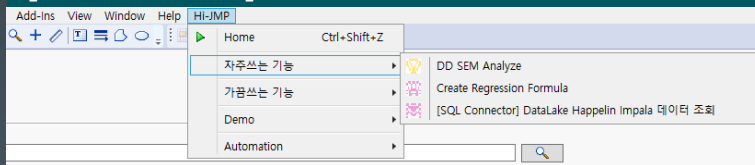
JMP-Based Analytics Platform

Personalization & Easy execution

○ Custom UI & Quick Menu

- Individual or group frequently used apps can be managed separately.

- Can be launched directly from the shortcut menu like an existing installation Add-In

[Quick Menu] 즐겨 찾기 설정을 통한 Quick 실행

[Home] 개인화된 App 접근 창구

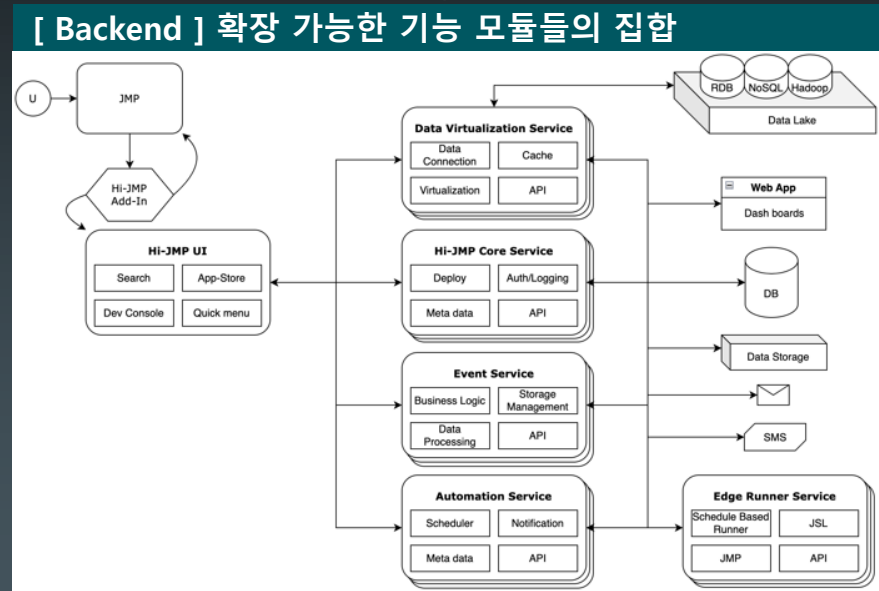# JMP-Based Analytics Platform

Deployment & Management Tool

○ Automatic deployment and management

- Easy updates and out-of-the-box
  configuration using script registration

- Provision of permission setting, user feedback
  management and monitoring service

- Improved reusability through common library
  and app implementation code sharing
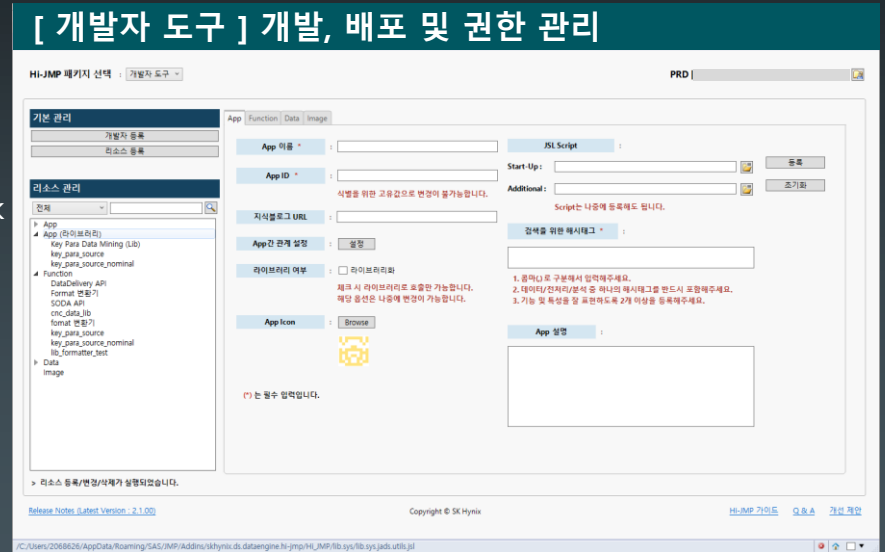
# JMP-Based Analytics Platform

Extensible Backend Service

○ Cloud & Micro Service Architecture

- Designed in a structure that can scale out by maximizing internal cloud resources

- Establishment of database and storage for storage of analysis assets and automatic management of change history

- Provides data interface for data virtualization and batch service

[Backend] 확장 가능한 기능 모듈들의 집합

■ JMP-Based Analytics Platform

Extensible Backend Service

○   Automatic analysis and sharing

-    Implement iterative analysis automation

-    Easy web/mail/Message sharing of analysis
     results and reports

-    Computing service support that overcomes
     PC resource limitations
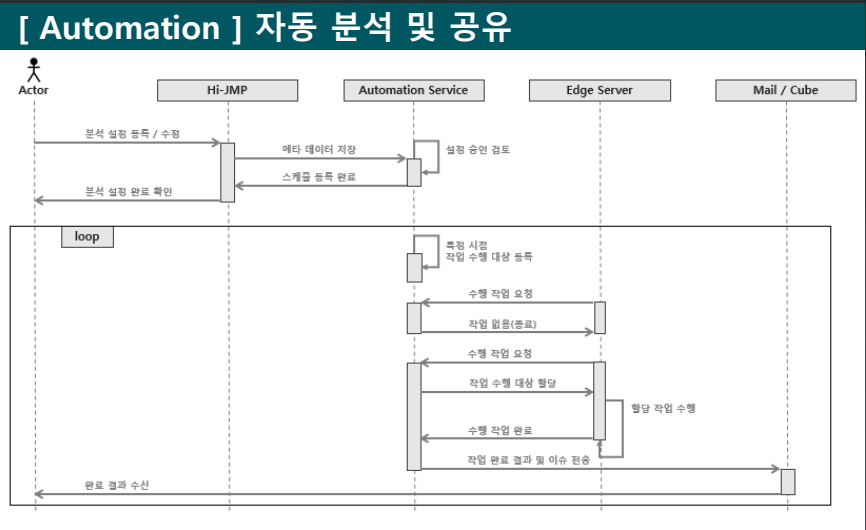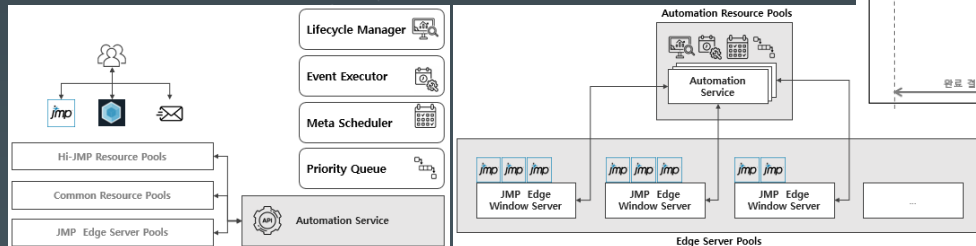
■ Analytics Competency Training Process and Support

Training and Support

○   Operation of in-house JMP council

- -   Unified License Renewal and Operation

- -   Activate communication
     between power users and engineers

- -   Common library discovery and
     development support

- -   VOC supports

[소통] 전사 JMP 협의체 운영 및 지원

모두가 참여 가능한 분석 생산성 개선 아이디어 모집

전사 JMP 활용 데이터 분석 과제 아이디어 상시 모집
- JMP 를 활용한 분석 Add-In 및 Custom 데이터 연결 아이디어
   Hi-JMP 플랫폼 및 UI 개선 아이디어

정기 JMP 매거진 참여
- JMP 분석 노하우 기고, 분석 Add-In 소개 및 업그레이드 기능 홍보

전사 JMP Q&A Cube 채널   바로가기   JMP 지식 블로그   바로가기

■ Analytics Competency Training Process and Support

Training and Support

○ Education and publicity

- Data analysis training support and analysis consulting and mentoring activities

- JSL internal training lectures and integrated technical support

- Analysis tool used for new employee's data analysis training

- Analysis Contest and Best Practice Award

- Publishing a magazine to share know-how

Summary

○ **AI service that can be applied to problem solving and actual manufacturing sites**

○ **Accumulation of professional know-how suitable for semiconductor characteristics**

○ **Improving data analysis capabilities required by each member**

○ **Building a culture where analysis know-how is accumulated, shared, and reused to develop synergy**

○ **Discover creative ideas and solutions by encouraging active communication**

KOREA 2022

Thank You