Portfolio

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Applied in

Cloud Technical Solutions Engineer

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PORTFOLIO

SAMS

SECURITY AWARENESS MANAGEMENT SYSTEM

보안의식관리시스템

SAMS
(Security Awareness Management System)

Period
Sep. 2019 – Nov. 2019 (3 months)

Role
Project Manager

Job
Planning, Architect, Designer, Sever Engineer
QA Engineer, Business Developer, CEO.

Goals
- Provide security technical solutions for large-enterprise.
- Visualize security awareness of employees with pattern analysis of web logs.

Result
- Goal 100%

Language : Python, C#, SQL, PHP
Framework : AWS EC2, MySQL, Jquery, Bootstrap

SAMS
(Security Awareness Management System)

Process

Audit	Analysis	Visualize	Solution
• Security Awareness • Ethical Awareness	• Web logs • Quantitative Analysis with log and audit data.	• Web dashboard • Server and DB Module • Client System(Log Parser)	• Auto-making solutions on checklist. • Matching solutions to employees. • Monthly mail report.

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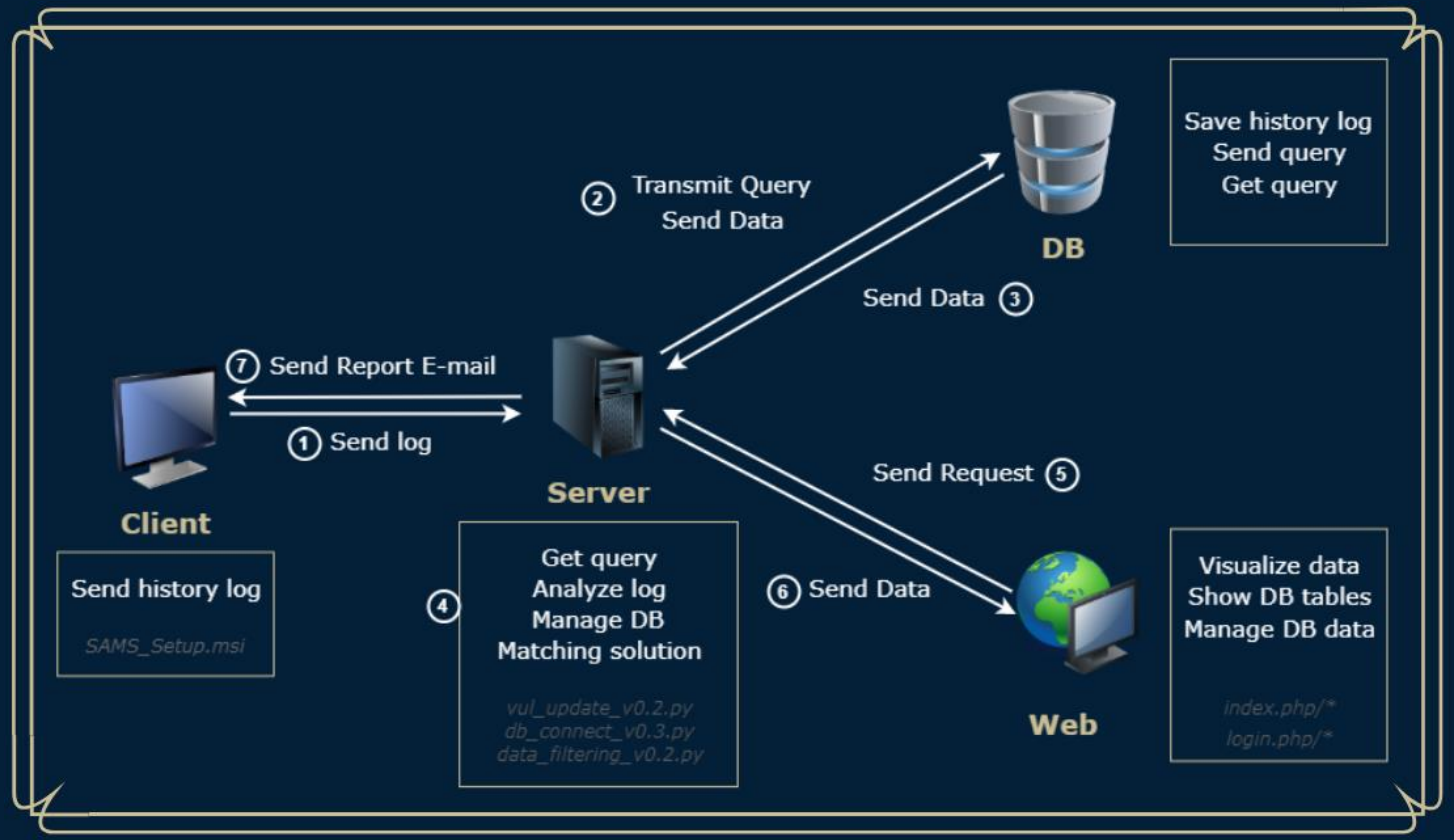
Architecture



① Transport logs to server twice in a month.

② Analysis logs and transport query from web to DB.

④ Solution matching with DB data.

⑦ Auto-making report based in black-list filtering.

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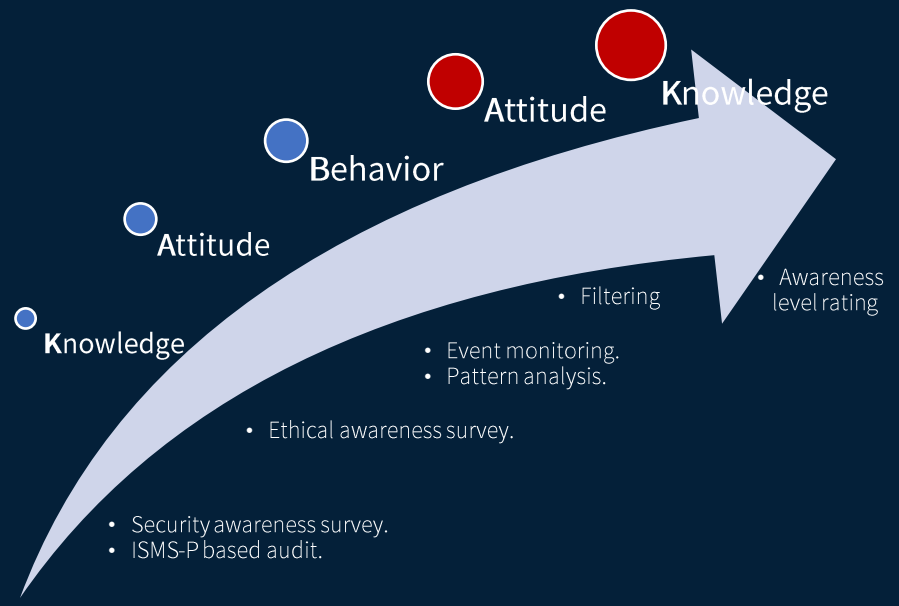
Algorithms



KAB*(Knowledge+Attitude+Behavior) + Reversing KAB

* Measuring Information Security Awareness:A West Africa Gold Mining Environment Case Study(HA Kruger and WD Kearney, 2005)
* Determining Employee Awareness Using the Human Aspects of Information Security Questionnaire(HAIS-Q, Kathryn Parsons 외 3인, 2014)

AHP
(Analytic Hierarchy Process)

Subject	Rate
Knowledge	30
Attitude	20
Behavior	50

Standard	Rate
History	40
Search Keyword	20
Downloads	40

Awareness Level		Alert
Good (80% ~ 100%)		=> Satisfactory – no need for action
Average (79% ~ 60%)		=> Monitor – potentially vulnerable
Poor (59% ~ 0%)		=> Unsatisfactory – action required

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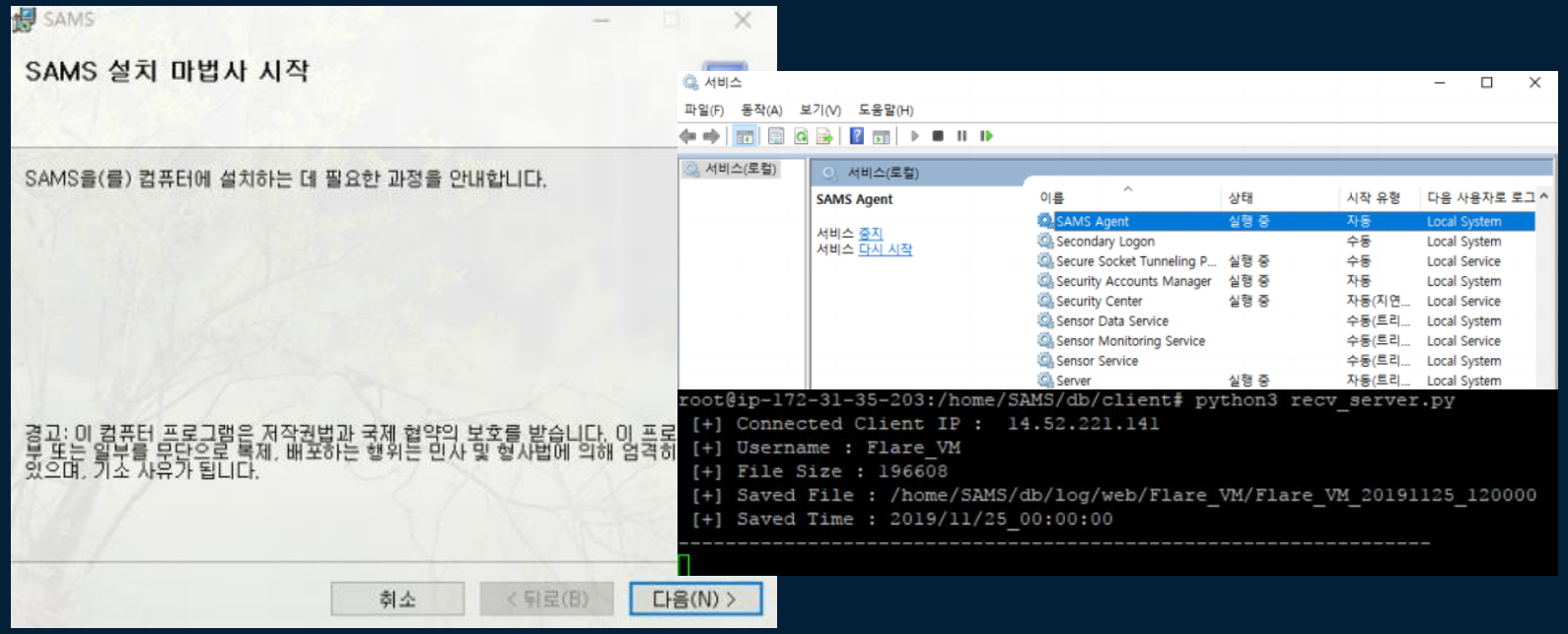
Client Agent



SAMS_Setup.msi

- Language : C#
- Role :
  - > Log Parser
  - > Time stamp module
  - > Transport

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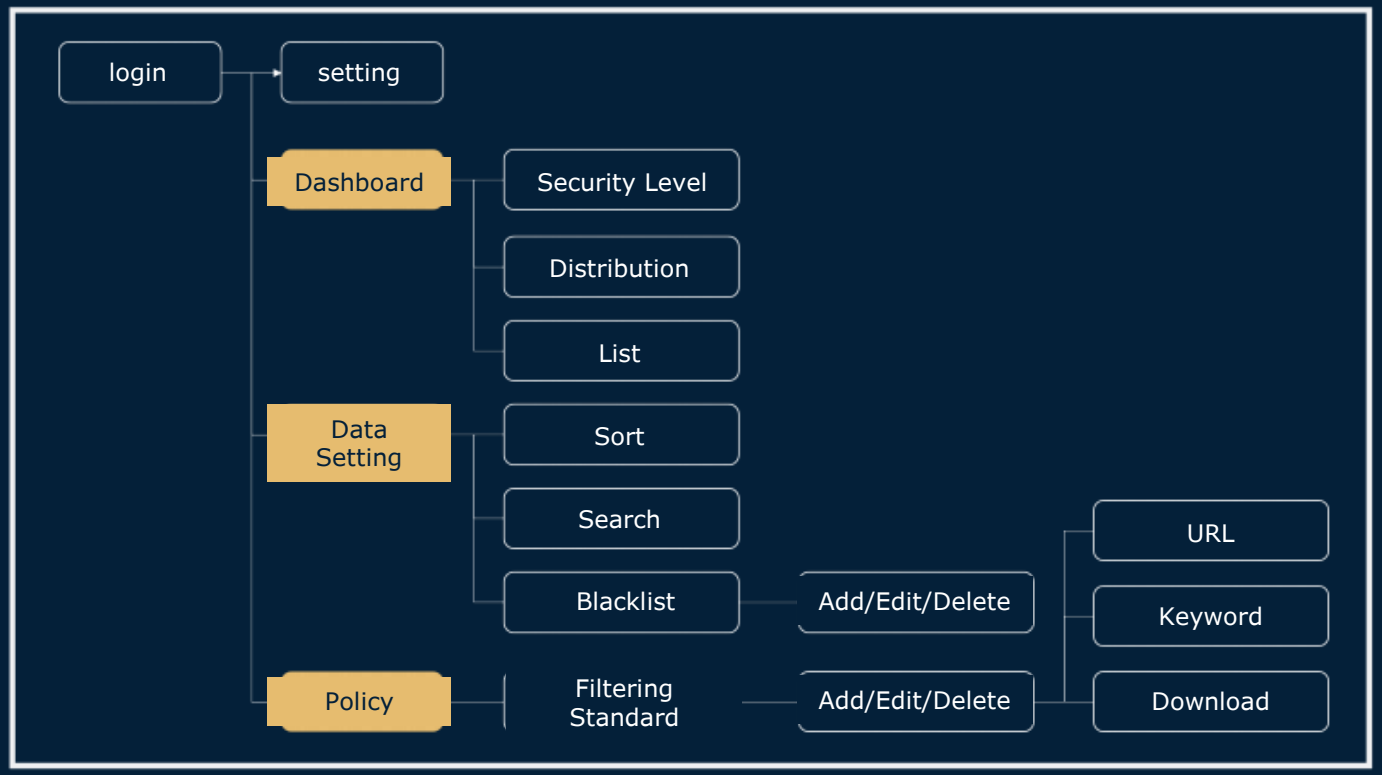
Web Channel



[그림 7] 웹구성-화면구성도

Page

Login.php – Login page

Updatedb.php – Transport log to DB

Index.php – Dashboard

Personal.php – Filtering result

Grade.php – Visualization logs

Set-Web-*.php – Blacklist settings

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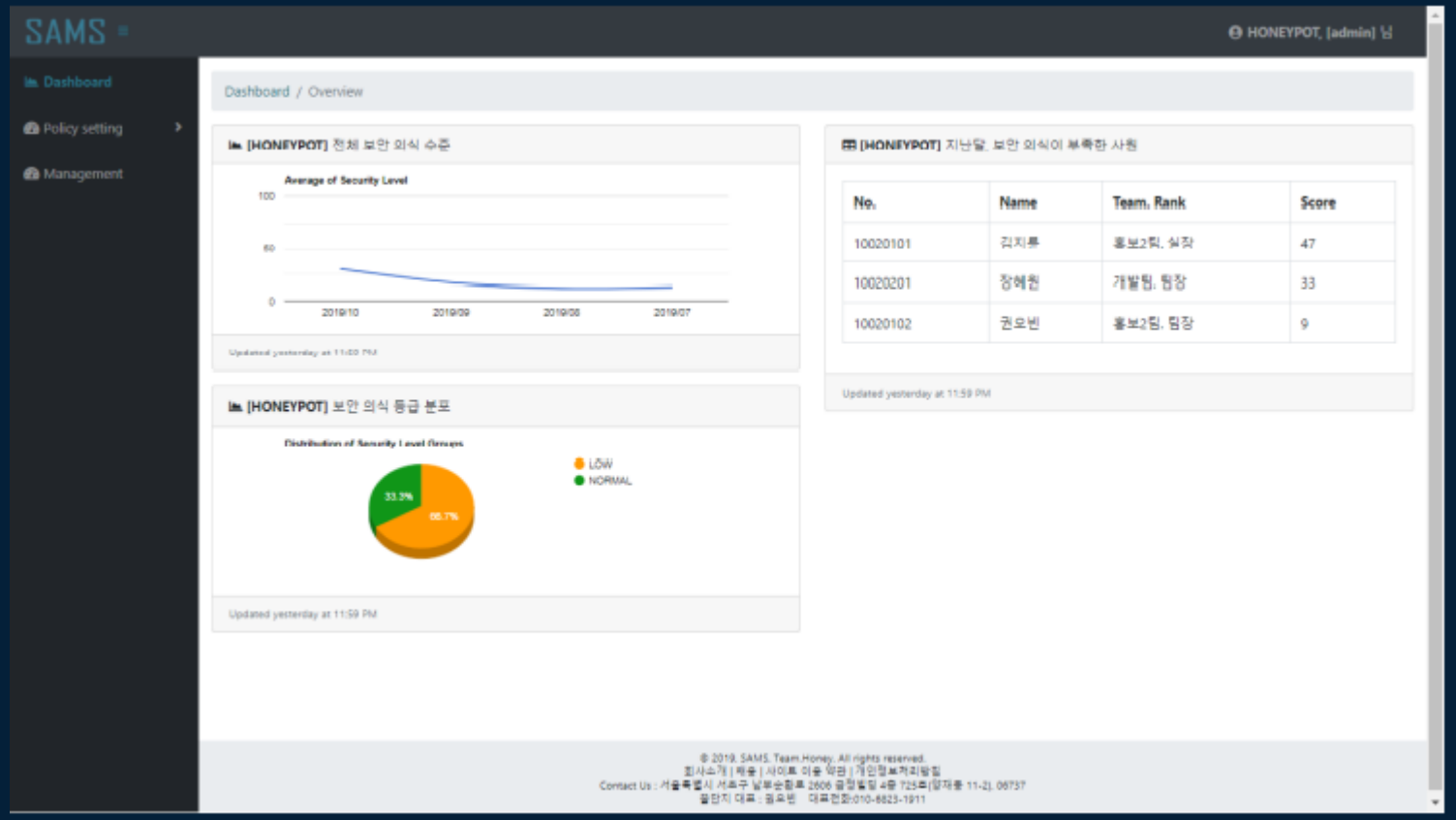
Web



1. Dashboard

- Average of security level
- Distribution with standard
- Employee list with security level

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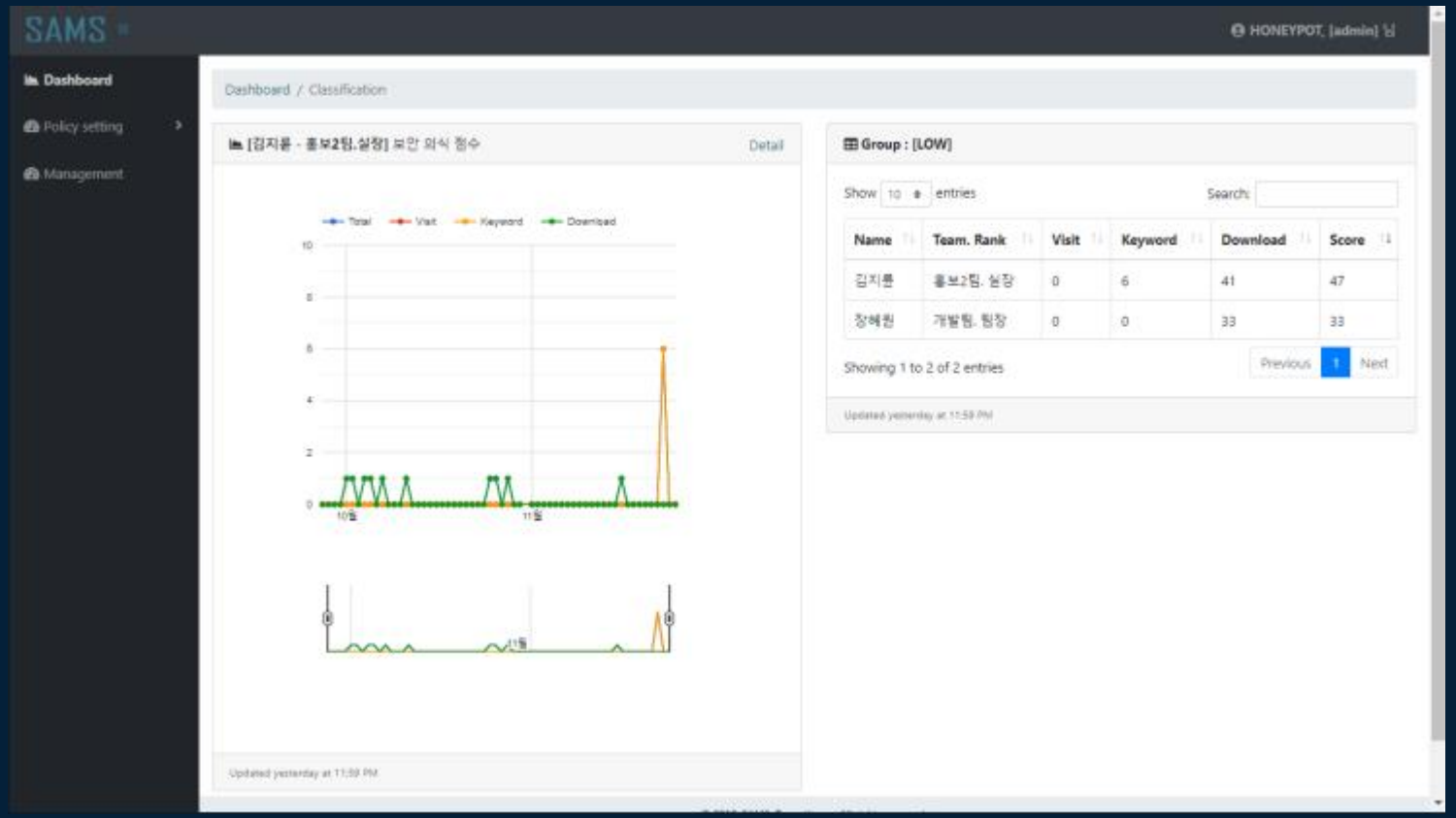
Web



2. Detail result

- Classification of security levels
- x-axis : period(monthly)
- Y-axis : filtering standard

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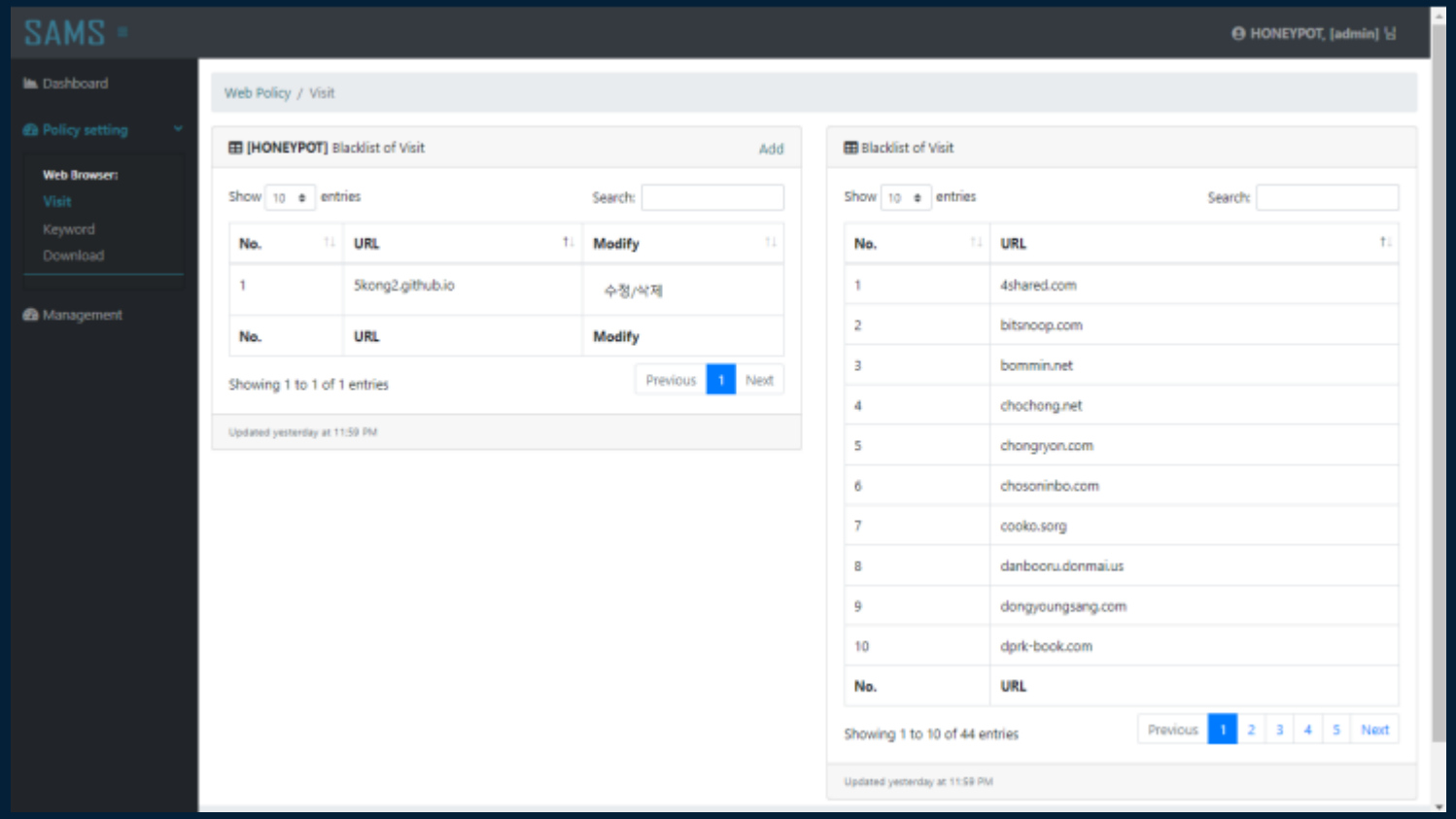
Web



3. Admin Page

- Blacklist settings
- Employee settings

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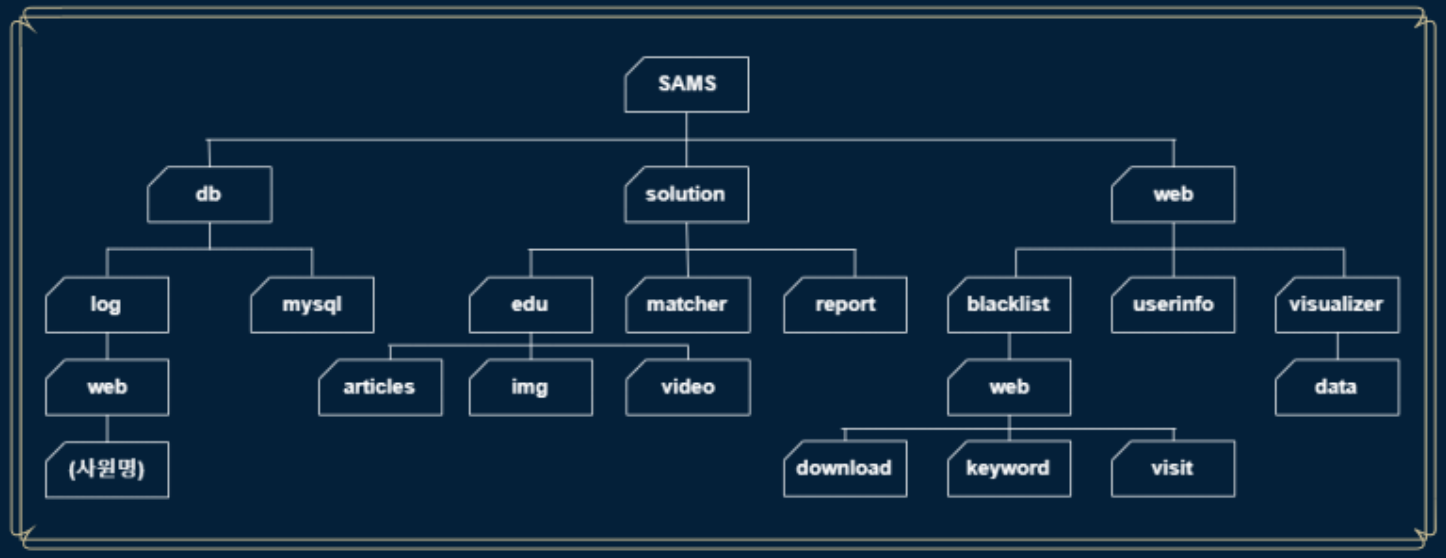
Server



[그림 14] 서버구성-디렉토리 구조

Modules

DB_connect.py : Analysis logs.

Data_filtering.py : Filtering logs based in blacklist.

Vul_update.py : Extracting low level data from data_*.py.

Report_factory.py : Automated solution making.

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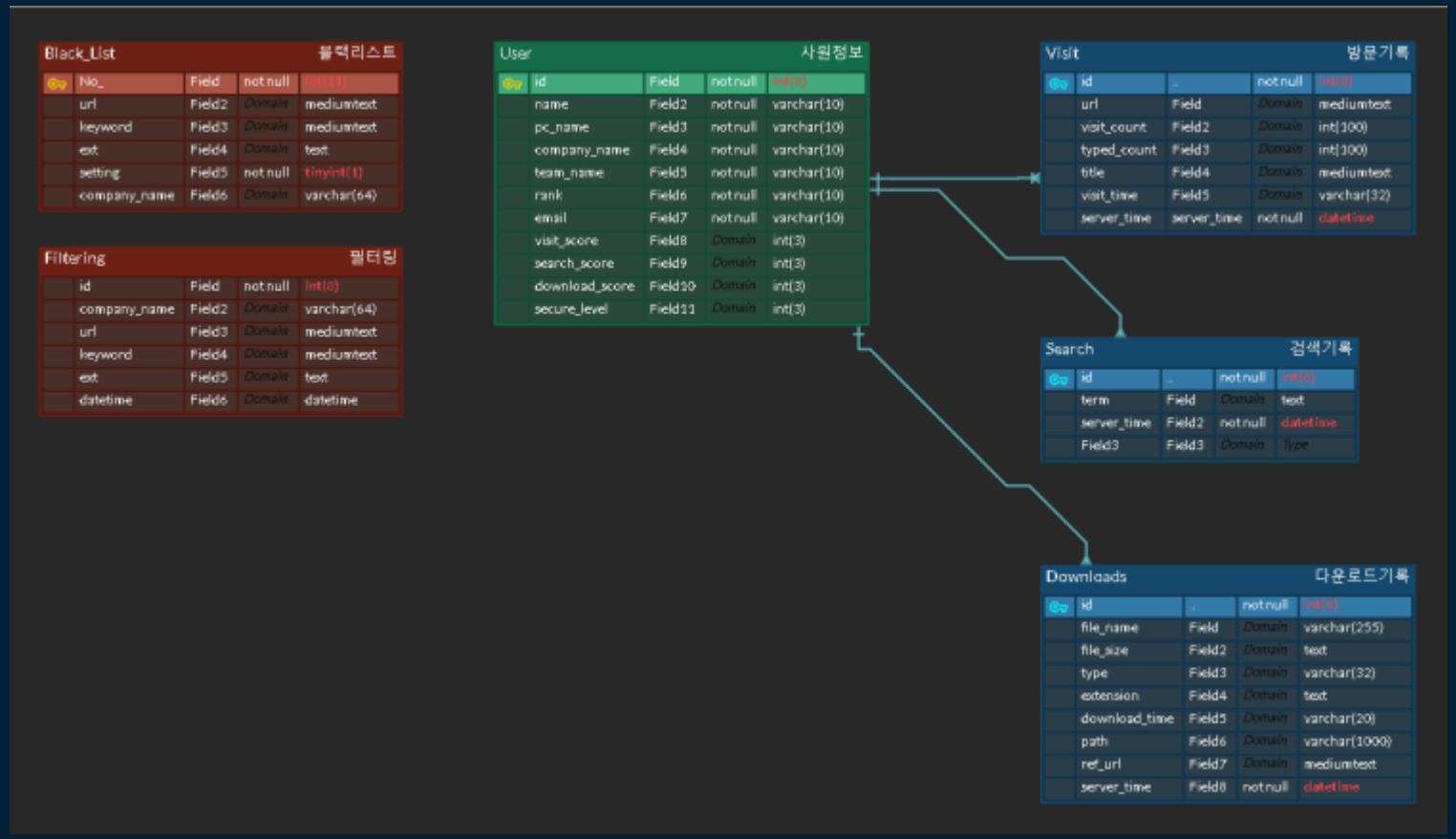
Server



DB

13 tables

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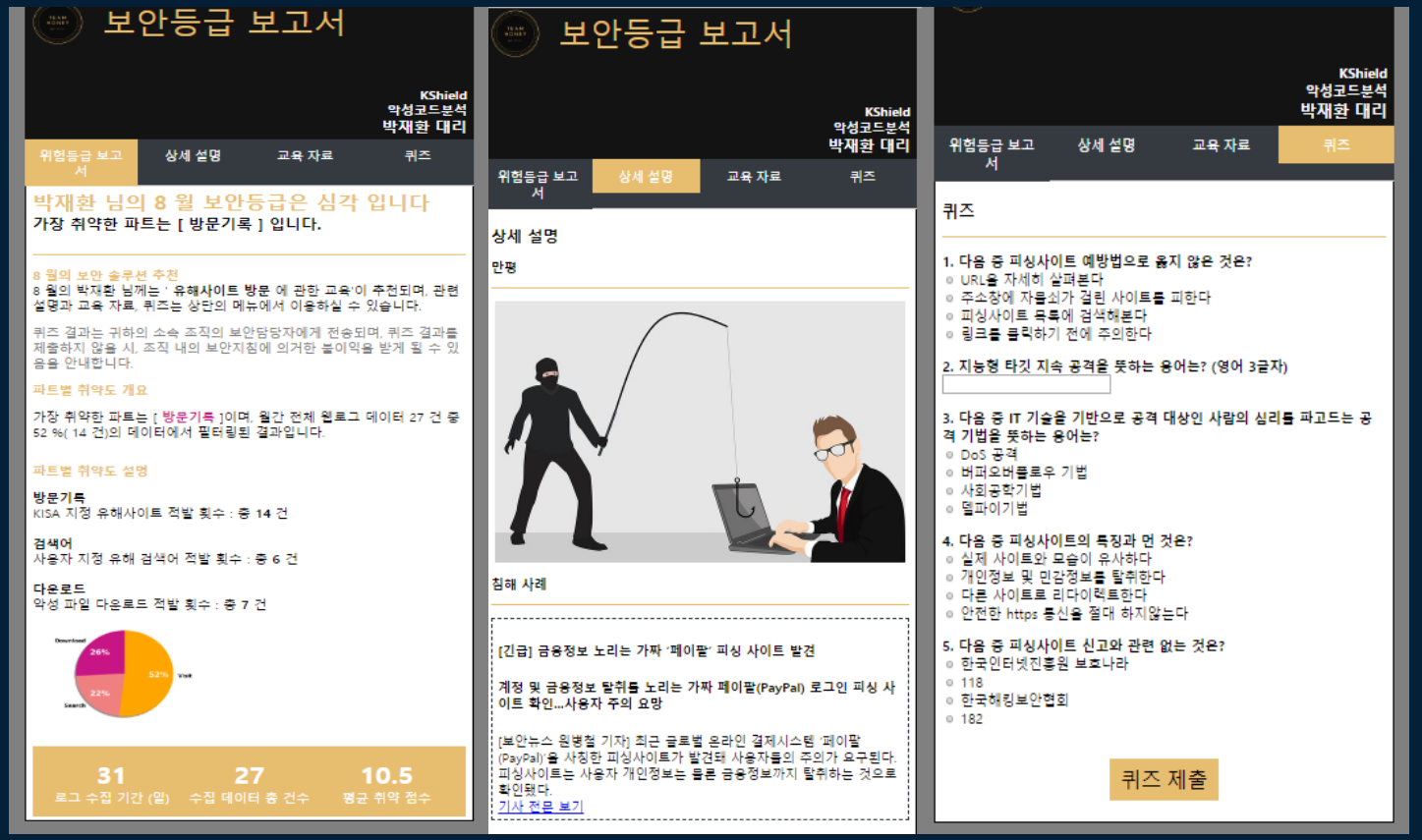
Solutions



Report_factory.py

- Analysis data from DB
- Column division
- Crawling security news
- Making HTML report files.
- AES256 Authorization

기업보안융합전공 산학협력프로젝트

YOUR LIGHT, PILL RIGHT

LAMPAS(IoT 2)

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Your light, Pill right

(IoT Application for prevention of drug abuse)

Period

Mar. 2018 – Nov. 2018 (1.5 months)

Role

Project Manager

Job

Planning, Architect, Designer, Cloud Engineer , ML Researcher, QA Engineer.

Goals

- Identifying medications with cameras.
- Crawling and matching drug information.
- Voice print information of drugs to blind or illiterate people.

Result

- Goal 90%

Language : Python, C, SQL

Framework : GCP, Vision API, Json

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Your light, Pill right

(IoT Application for prevention of drug abuse)

Process

Raspberry-pi

- Scan (Camera Module)
- Networking (LAN)
- TTS (Speaker Module)

GCP

- Cloud IoT Edge(TPU)
- IoT Networking
- Cloud Vision API
- Web-app hosting

Web

- Crawling from Korea pharmaceutical information center

More··· Codes in here 👇

Google Drive