



**Course:** IT485

**Project:** HawkinCloud

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## **REPORT #6**

### **Management Guidance:**

The purpose of the project could be achieved with this report, as we are aiming to establish a general concept with programmatic and ideological meaning. We have successfully developed a platform as a service project, declaring each progress through weekly presentations and reports. The complexity of the project has been further established by different group members, as mentioned in various weeks. The main purpose and goal of the project is a collaboration among team members, utilizing our collective knowledge. During this period, we have observed improvements in our learning methods and problem-solving skills, depending on the weekly requirements. In conclusion, with the guidance of management, we have formed a strong network and collaboration among group members, which has facilitated progress in meetings, discussions, and partnerships as a team.

< > Report & Presentation



I



II



III



IV



V



VI

### **Team Member participant:**

The most important aspect of our team is the strategy and development of the application model. However, we have highly recommended improving our communication level. In the leadership process, each member specifies their branches and helps create a roadmap toward our targets. Whenever our team faces challenges that hinder progress, we start sharing thoughts and reading more resources, with leadership playing a crucial role. We have developed contrast methods using present templates and real-time examples. Despite encountering faults and troubles, our solution methods have successfully resolved issues within 24 hours. Now, we are preparing for the final presentation with confidence and

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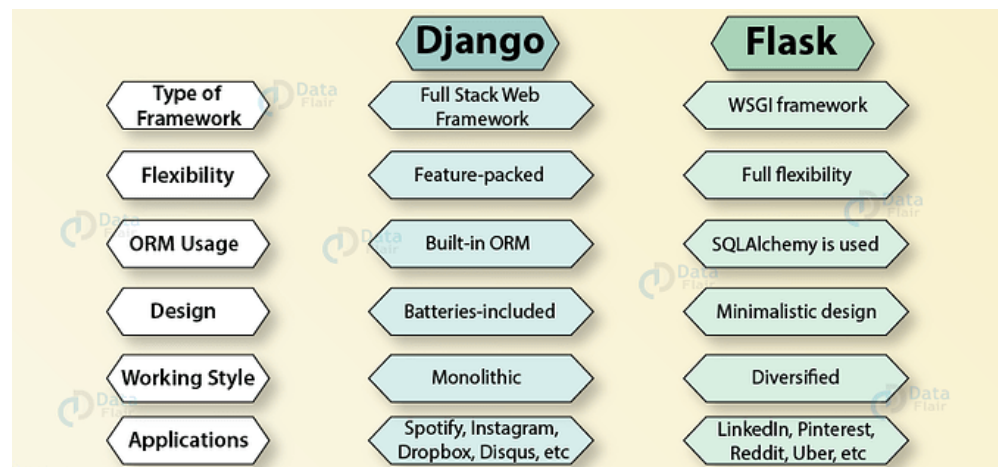
knowledge. In conclusion, any methods or improvements in our communication level within the HAWKinCloud team will be beneficial for our future academic and career portfolios, as working with teams and sharing project networking is essential.

### Output Deliverables:

#### Project Environment

The great milestone of our project started on the first day with the configuration of software using a programmatic approach, from basic knowledge to senior level. The focus has been on the use case of the Python programming language, including important frameworks and libraries. In this process, Flask environment has been highly recommended for creating development applications with WSGI to minimize complexity. This approach allows for easy conversion of any programming language to be rendered in a Flask environment.

Furthermore, this setup will make it easier for us to switch to the Django framework in the future, as the configuration and progress from Flask to Django can be done smoothly based on our settings. We have followed the official Flask library documentation requirements at each step, which has helped us to write more readable and well-organized code elements.

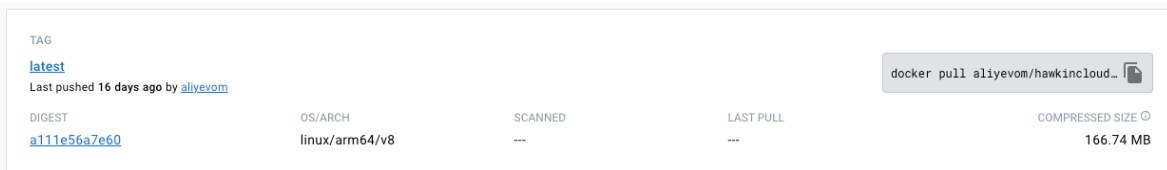


Additionally, we have utilized the wide range of application processes available in the AWS environment, which has been beneficial for both developers and SysOps administrators in our project. The use of Boto3, which is a powerful SDK tool, has greatly facilitated the adoption of Flask-to-Boto3 in our environment.

Overall, the software configuration and programming language utilization in our project have been instrumental in achieving our goals and milestones. The Flask environment, along with the AWS application processes and Boto3 SDK, has enhanced our development process and contributed to the readability and efficiency of our code. Looking forward, these skills and experiences will be valuable in our academic and career portfolios, as we continue to work with teams and share project networking at a high level of proficiency.



### Docker documentation/Platform as the service

This method is widely known as Platform as a Service (PaaS), which is further specified in the Docker documentation. We have utilized this approach to develop and deploy our project in a Platform as a Service environment. This involves establishing direct connections to AWS data centers and servers, networking, storage events, and maintenance updates to Docker image formats. The use of this method requires an operating system to create digital containers that can run and build in the client host environment, ensuring a highly secured product.



<https://hub.docker.com/r/aliyevom/hawkincloud/tags>

Docker also provides tools for managing databases and developing custom configurations, including access to data backups in the hardware client environment. With various app developer services and portals available, we have been able to leverage open-source tools to improve development and access additional resources. This progress has enabled us to create a future-proof application-level AWS Platform as a Service, with the flexibility to utilize multiple features and make improvements based on evolving requirements.

Tag	OS	Type	Pulled	Pushed
 latest		Image	---	16 days ago

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This ecosystem has greatly contributed to the speed and runtime of our project, allowing for successful progress and continuous improvement. As a result, we have been able to achieve our development goals efficiently and effectively.

### Encryption

We have developed a protocol that aims to securely capture user credentials in an encrypted image format. To achieve this, we utilize an existing Docker encryption level based on a secure OS/ARCH from python:3.10.0-alpine3.15.

### Image hierarchy

FROM	alpine:3, 3.15, 3.15.0, latest	<a href="#">🔗</a>	🛡️
FROM	python:3-alpine, 3-alpine3.15, 3.10-al...	<a href="#">🔗</a>	🛡️
ALL	test-app:latest	<a href="#">🔗</a>	🛡️

As part of the configuration process, we recommend exposing the localhost environment when building the environment on LOCAL:4000. This allows for any caches related to AWS access\_key and secret\_key to be stored on a user-by-user basis through the command line.

To manually integrate their own credentials, users are required to input the following environment variables in the docker image:

**ENV AWS\_ACCESS\_KEY\_ID=<your-access-key-id>**


**ENV AWS\_SECRET\_ACCESS\_KEY=<your-secret-access-key>**

**ENV AWS\_DEFAULT\_REGION=<your-aws-region>**

These examples demonstrate how the credentials are fully encrypted within the docker image and execute commands on the C: drive disk, optimizing speed based on the hardware configuration of the HOST.

For further clarification on the build and run steps, users can refer to the readme.txt file, which can be edited using a text editor.

Name	Date Modified	Size	Kind
Dockerfile	Apr 6, 2023 at 2:57 AM	2 KB	Document
requirements.txt	Apr 7, 2023 at 2:37 AM	182 bytes	Plain Text
src	Today at 4:32 AM	--	Folder
__pycache__	Apr 6, 2023 at 3:21 AM	--	Folder
app.py	Apr 6, 2023 at 3:25 AM	10 KB	Python Source
config.py	Apr 1, 2023 at 3:38 AM	395 bytes	Python Source
database.db	Apr 1, 2023 at 2:02 AM	16 KB	Document
instance	Apr 2, 2023 at 2:31 AM	--	Folder
static	Today at 4:31 AM	--	Folder
templates	Today at 4:32 AM	--	Folder
test_app.py	Apr 1, 2023 at 3:13 AM	2 KB	Python Source
venv	Mar 31, 2023 at 9:38 PM	--	Folder
bin	Mar 31, 2023 at 9:38 PM	--	Folder
etc	Mar 31, 2023 at 9:38 PM	--	Folder
include	Mar 31, 2023 at 9:38 PM	--	Folder
lib	Mar 31, 2023 at 9:38 PM	--	Folder
pyvenv.cfg	Mar 5, 2023 at 1:36 AM	311 bytes	Document
share	Mar 31, 2023 at 9:38 PM	--	Folder
var	Mar 31, 2023 at 9:38 PM	--	Folder

**venv** 542.2 MB  
Modified: Today, 4:32 AM  
Add Tags...  
**General:**  
Kind: Folder  
Size: 542,234,688 bytes (702.5 MB on disk) for 40,568 items  
Where: iCloud Drive • Desktop • hawkincloud  
Created: Sunday, March 5, 2023 at 1:36 AM  
Modified: Saturday, April 22, 2023 at 4:32 AM  
☐ Shared folder  
☐ Locked  
**More Info:**  
Last opened: Saturday, April 22, 2023 at 5:24 PM  
**Name & Extension:**  
**Comments:**  
**Preview:**  
  
**Sharing & Permissions:**