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Artificial Intelligence in Microsoft SharePoint using Azure Cognitive Services

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Abstract: ***In a period where information develops with great amount regularly, it's getting harder to look and find pictures, their suppositions, visual articles, individuals, and so forth of decision in SharePoint in view of the way that they are once in a while looked with the record name that they were spared with. Any client with contribute rights on a Picture Library could transfer any substance, even Grown-up or Suggestive substance. Such substance must be physically filtered and managed, acquiring colossal endeavors and cost. Likewise ordinarily, pictures contain visual writings and this data can never be looked until clients themselves update the metadata with that text, which is seldom a case. To solve these problems, we can use Artificial Intelligence with the help of Azure Cognitive Services such which includes- Computer Vision, Text Analysis, and Content Moderator with MS Flows in SharePoint.***

Keywords: OCR, API, AI, Microsoft SharePoint, Azure

I. INTRODUCTION

In an era where data grows exponentially, it's getting harder to search and locate images, their sentiments, visual objects, people, etc. of choice in SharePoint because of the fact that they are rarely searched with the file name that they were saved with. Once the files, images are saved at particular place then because of enormous data saved, it get very difficult to find that file to the place where it is saved. Any user with contribute rights on an Image Library could upload any content, even Adult or Racy content. Such contents had to be manually scanned & administered, incurring huge efforts & cost. Also Many times, images contain visual texts and this information can never be searched until users themselves update the metadata with that text, which is rarely a case. This is one of the main issue regarding quality and security of the data which is getting saved. Here, we can use Artificial Intelligence. Computer Vision API, Content Moderator API and Text Analytics API are the cognitive services provided by Azure. These services provides the access to advanced algorithms, which processes images, pictures, videos and returns the information based on and extracted from the visual features you want. Using this information administrator can decline or accept the image or any other data that user want to upload. These Azure services can be used within the MS flows in SharePoint.

II. LITURATURE SURVEY

Paper 1: Scattered figuring a massive change to web age; it felt the invigorating impact from the upstream of the industry to clients. Windows Azure gives an Aperture figuring and control condition inside the cloud. In this paper, we find that how they go up against request/perceiving insistence get into the universe of current advancement. By and large the upsides of the usage of going up against API inside the Microsoft Azure that how it makes things present day. Microsoft's Windows Azure make with its foundation and stages affiliations will help & steer the improvement culture move from on-begin application makers to cloud engineers. Azure gives an orchestrating and constraint condition inside the distributor. The Windows Azure programming show can be obliging for anyone who should make less unpredictable to immediate, increasingly accessible, and progressively flexible applications.

III.SYSTEM OVERVIEW

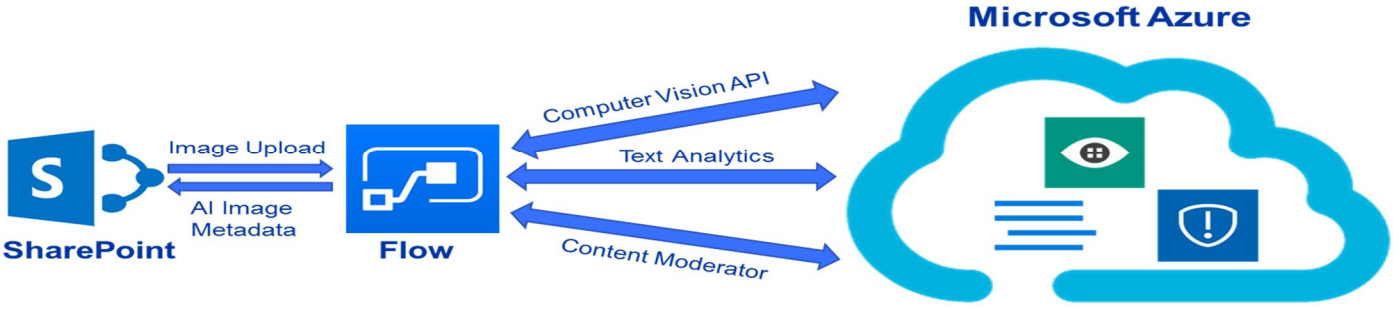


Fig 2.2: System Overview

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The system contains 3 main technologies:

1) *Microsoft SharePoint:* Whenever the data such as text, images, videos or any other data is stored in the library of the SharePoint, It will trigger the MS flow.
2) *MS Flows:* After flow is triggered, it will call the azure service APIs i.e. Computer Vision API. Text analytics APT and Content Moderator API.
3) *Azure Cognitive Services:* These API are used to analyse the uploaded data and return the required visuals, allows us to detect potentially offensive or unwanted data content, and if text is found this API identifies the language, sentiment and key phrases.

In this way system will help to prevent unwanted and uncensored data to be added in the library. This also improves security of the data by doing this.

IV. PROPOSED SYSTEM ARCHITECTURE

A. *Technical Flow of the system*

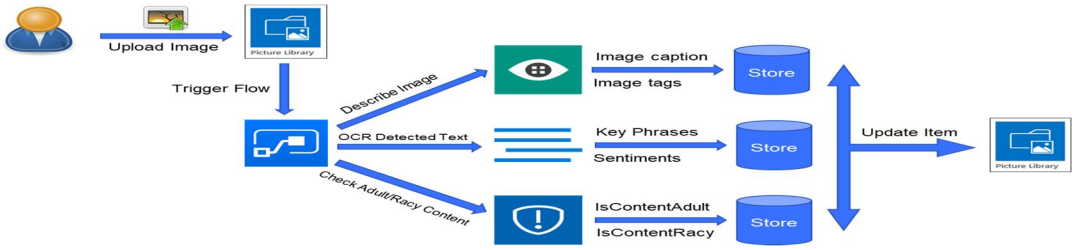


Fig 2.1: System Architecture

B. *System Implementation Details*

1) When any SharePoint user add or upload any data containing any text, image or video in the library, the MS flow will get triggered.
2) If the data is an image or a video, Computer Vision API analyses the uploaded content and returns tags, visual features in the content. If the uploaded image contains any text data, then this API extracts the text using OCR (Optical Character Recognition). Then this data is stored in the storage of the SharePoint.

a) *OCR:* Computer Vision includes new deep-learning-based Optical Character Recognition (OCR) capabilities that extract printed or handwritten text from images and PDF documents. Computer Vision extracts text from both analogue documents (images, scanned documents) and digitized documents.

3) If the uploaded text, image or video contain any inappropriate content such as potentially offensive or unwanted images, profane language and adult or racy content, then Content Moderator API detect this data and store as inappropriate in SP. It check and store ta uploaded content as IsContentAdult or IsContentRacy etc.
4) If a text is found by OCR, this API identifies the language, sentiment and key phrases.
5) After analyzing all the contents which are uploaded, these API stores the information to the SharePoint and SharePoint update the uploaded items using the MS Flows.
6) After end of the flow, user can see the updated data in the same library where it was stored. But now the data is more informative and secure. User also can see the content returned by Azure API.

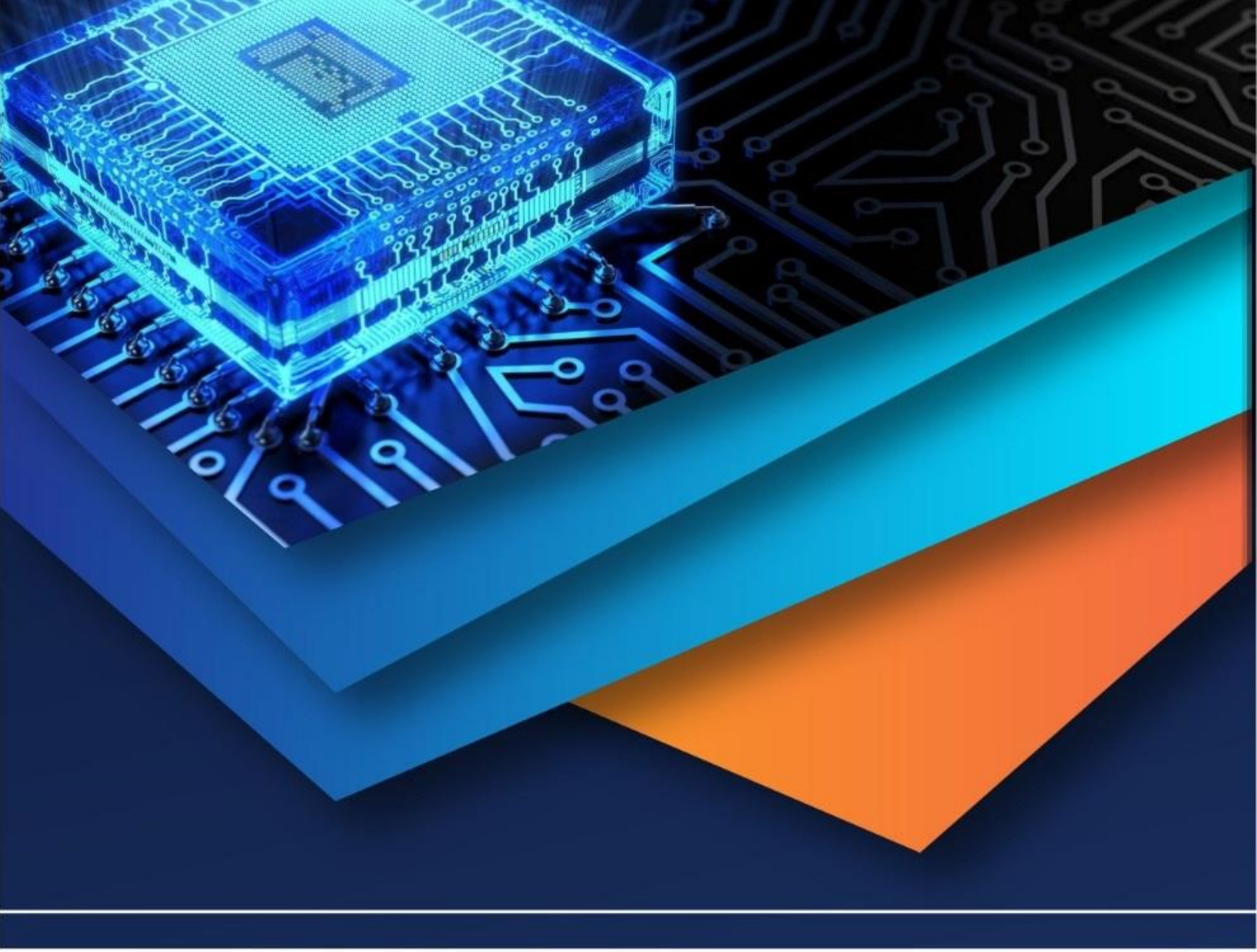
V. CONCLUSION

To prevent the storage of inappropriate and unwanted data such as potentially offensive or unwanted images or videos, profane language and adult or racy content in the SharePoint library, we can use the Artificial Intelligence Image and Data analysis. This can be done using MS flows in SharePoint and Some of the Azure cognitive Services such as Computer Vision, OCR. This is important for the data security and censored data storage with least manual efforts.

REFFERENCES

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