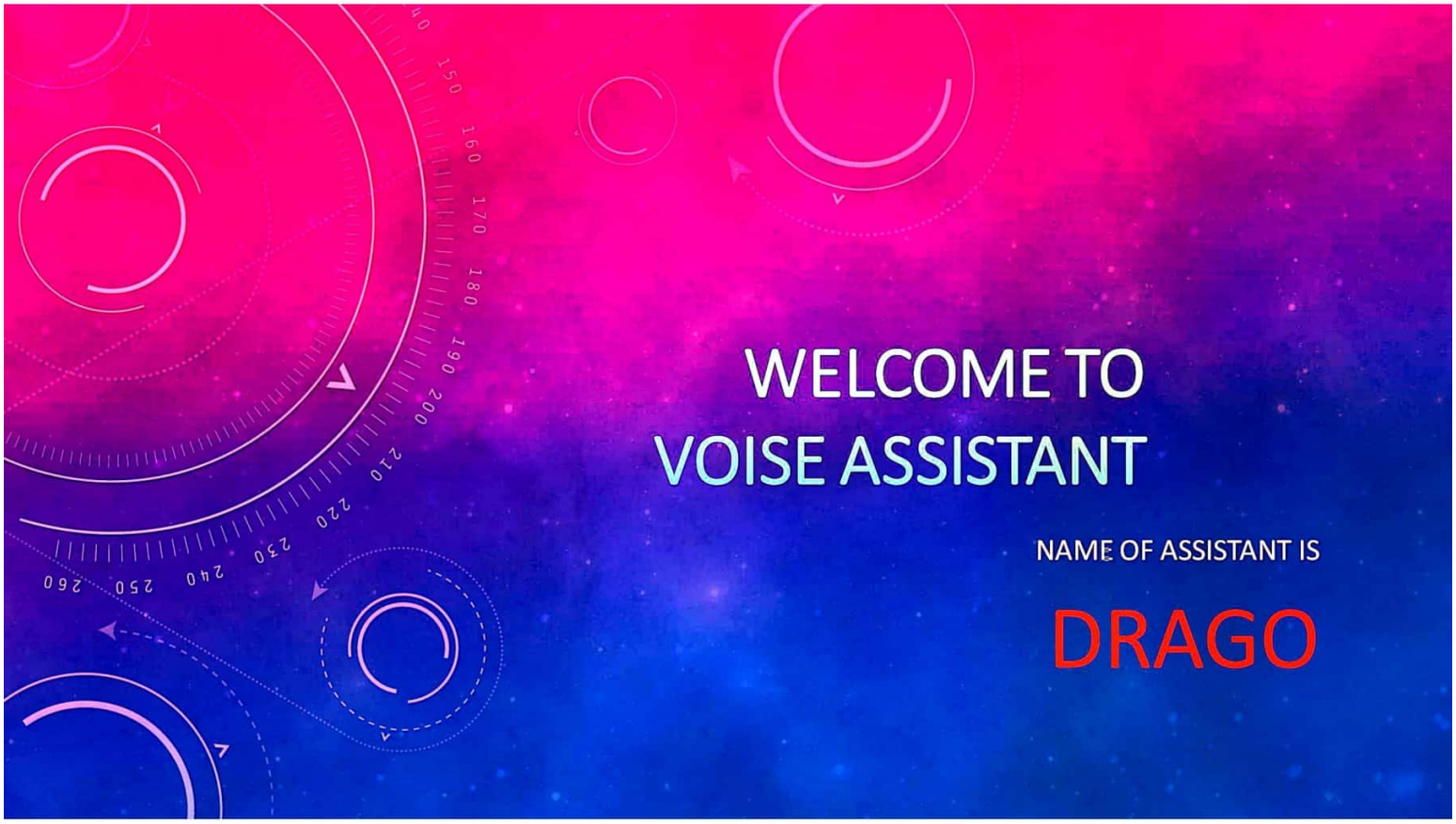

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VIOSE ASSISTAINT

- **What are Voice Assistants?**

- Voice Assistants have become synonymous with Google Home and Amazon Echo. This perception cannot be more incorrect. The underlying technology powering both these smart speakers are **the actual voice assistants**, Google Assistant and Amazon Alexa, respectively.

  Today voice assistants are not limited just to smart speakers but are also available in cars, household devices, smartphones, and several apps.

  Voice Assistants are a subset of Virtual Assistants or Intelligent Personal Assistants. These virtual assistants can take inputs in many different ways:

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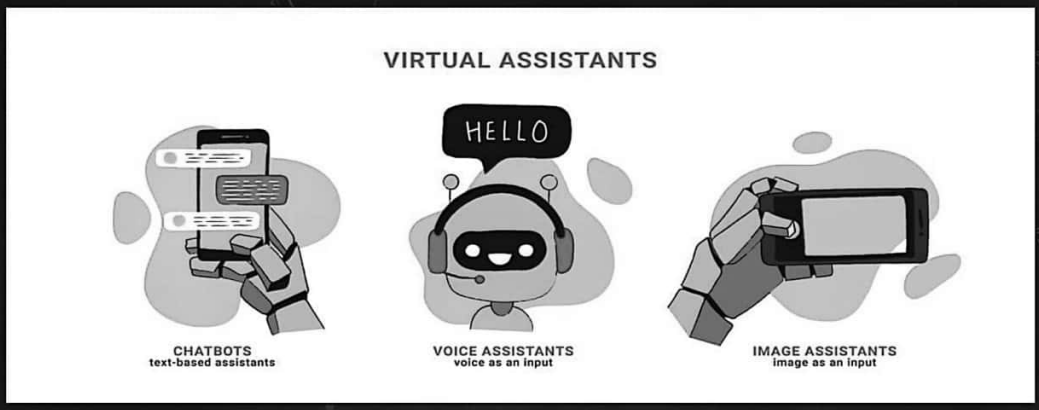

Text - Such Intelligent virtual assistants called chatbots are text-based assistants.

Voice:- These types of assistants are called Voice Assistants.

Image:- These assistants take an image as an input, e.g. Google Lens, Bixby Vision

We will leave the chatbots and Image-based assistant to other experts. Let's get back to Voice assistants.

A Voice Assistant is a virtual assistant that uses speech recognition, natural language processing and speech synthesis to take actions to help its users.

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HOW DO VOICE ASSISTANTS WORK?

- Do you ever wonder how a single command like 'Alexa, how is the weather outside ?' is interpreted by your smart speaker. Don't worry. We will break it down for you to understand how this magic happens. We have abstracted out the nuances of this works and simplified it to help you understand:
- Automatic Speech Recognition (ASR)
- Natural Language Processing (NLP)
- Desired business logic via hooks
- Text To Speech (TTS)

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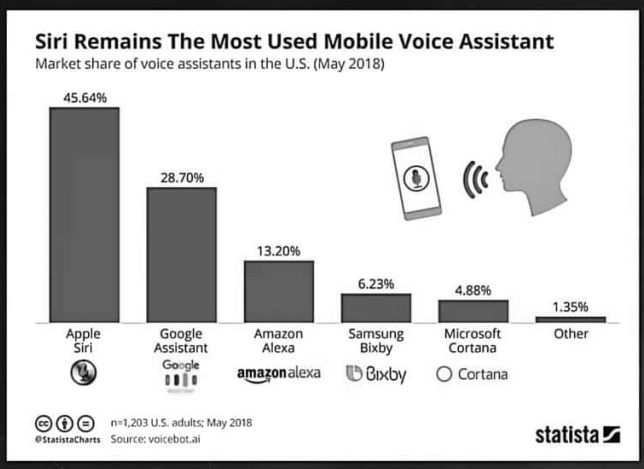
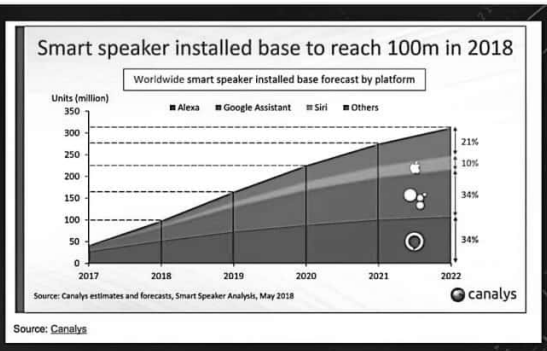
REPORT





Source: Canalys

- According to Juniper Research, this number will only grow by three times over the coming years. Interestingly, the firm also states there will be around 8 billion digital voice assistants in use by 2023, which is a significant increase from 2.5 billion assistants in use at the end of 2018.

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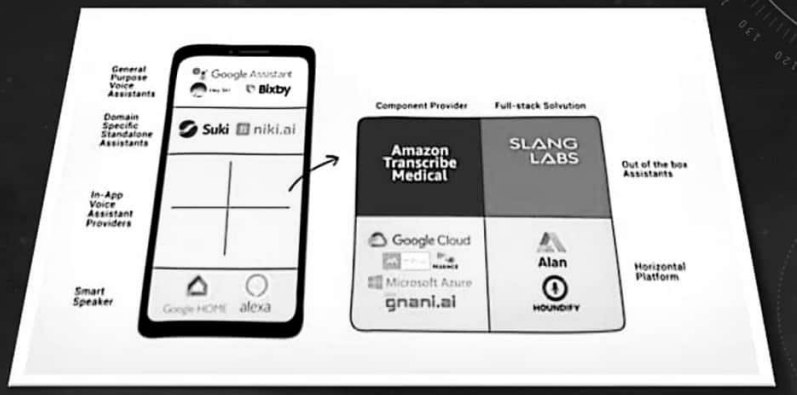
TYPES OF VOICE ASSISTANTS

If we try to understand the type of VA's available, there are broadly three categories into which we can divide them.:



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GENERAL PURPOSE VOICE ASSISTANTS

Google Assistant, Siri, Bixby in Android, iPhone and Samsung devices, respectively, are great examples of General purpose Voice Assistant present on smartphones, smart speakers and other smart devices.

All of these Voice assistants help you with general things like setting the alarm, scheduling events, making calls, launching apps, amongst others.

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IN-APP VOICE ASSISTANTS

Witnessing the popularity of Voice Assistants, some brands have started adding Voice Assistant to the primary mode of communication - their apps and websites. Trainman, Flipkart, Amazon, Bank of America have added in-app voice assistants, and yuyiii.com has added a Voice Assistant to their website.

These voice assistants are present in an app to ease or elevate the customer experience

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OWNED

These in-app Voice Assistants are built in-house by businesses mostly using the service provided by component providers like Nuance, Google Cloud and others.

Some of the companies which have launched their in-app voice assistants are Bank of America with Erica, Capital One with Eno, Flipkart and YouTube.

In Dec 2019, Erica had more than 10 million users and was on track to complete 100 million client requests. In 2020, It added 1 million users per month from March to May.

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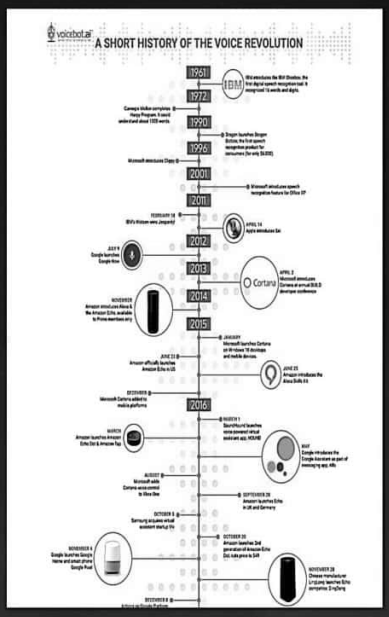
SHORT HISTORY

- Voice assistant integration has taken two different routes - one is on the smartphone, and the other is on smart speakers (and other connected devices). Apple, Google and Amazon have been focused on making their Voice Assistants ubiquitous through general-purpose assistants.

  Apple has taken the route of getting Siri on all Apple devices. They even launched the Homepod, a smart speaker without much traction.

  Google is uniquely positioned to catapult the adoption of Google Assistant by making it available almost mandatory across all android smartphones and finding success in the smart speaker market with the Google Home lineup.

  Amazon had an early mover advantage in the world of smart speakers where they were almost two years ahead of Google and found success with Alexa in Echo devices.



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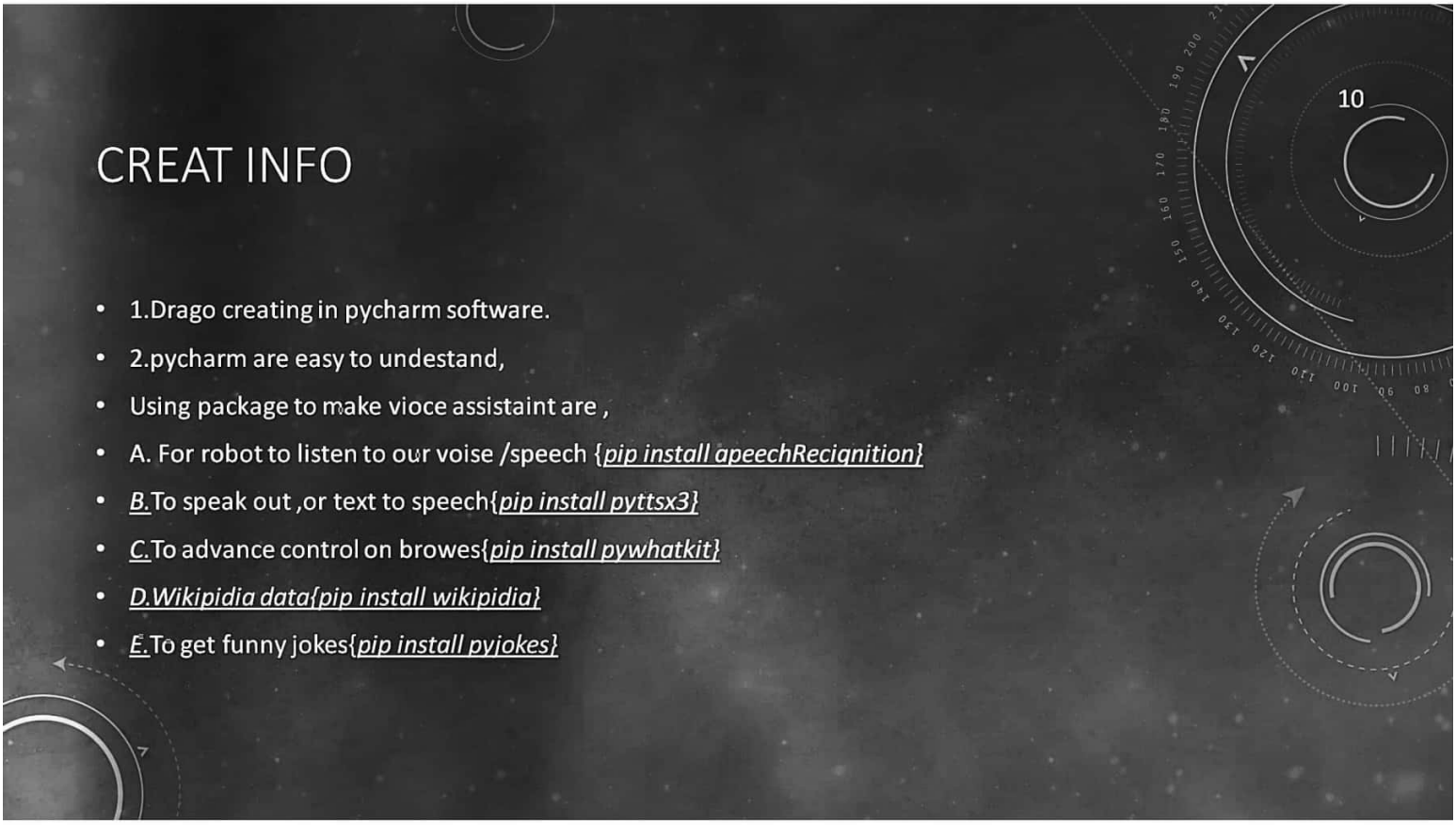

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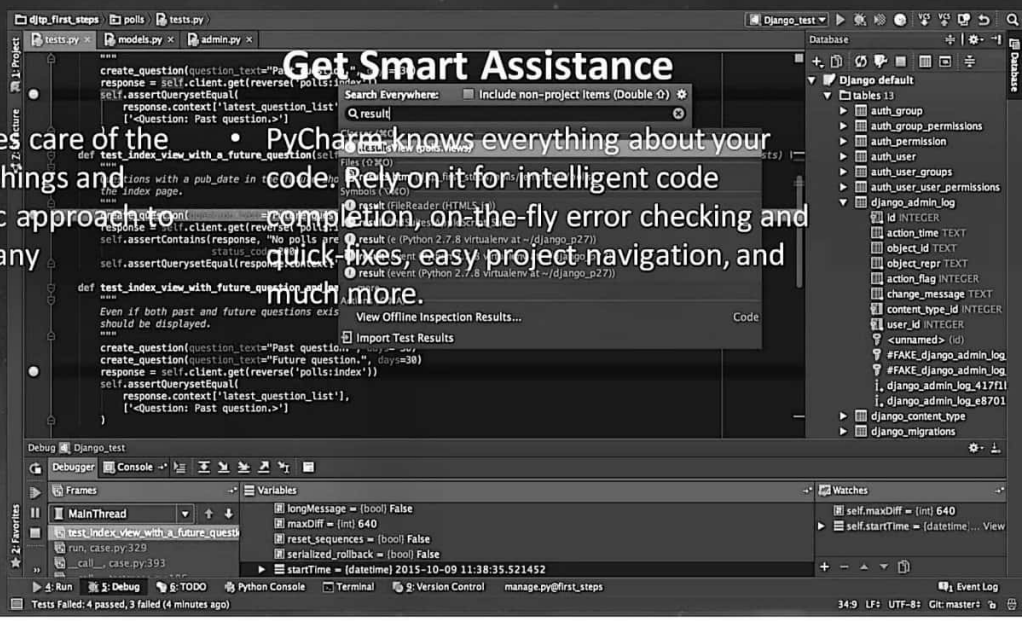
THE PYTHON TOOLS IN ONE PLACE

Be More Productive

- Save time while PyCharm takes care of the routine. Focus on the bigger things and embrace the keyboard-centric approach to get the most of PyCharm's many productivity features.

Get Smart Assistance

- PyCharm knows everything about your code. Rely on it for intelligent code completion, on-the-fly error checking and quick-fixes, easy project navigation, and much more.



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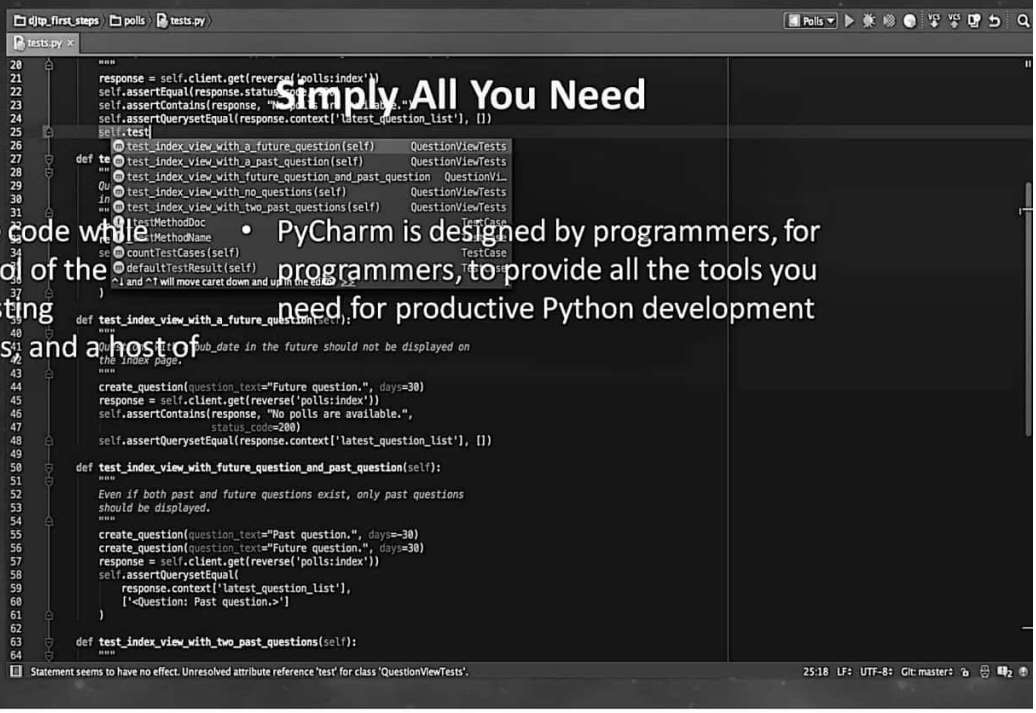
Boost Code Quality

- Write neat and maintainable code while the IDE helps you keep control of the quality with PEP8 checks, testing assistance, smart refactorings, and a host of inspections.

Simply All You Need

- PyCharm is designed by programmers, for programmers, to provide all the tools you need for productive Python development



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The Complete Package

- **Intelligent Python Assistance**
- PyCharm provides smart code completion, code inspections, on-the-fly error highlighting and quick-fixes, along with automated code refactorings and rich navigation capabilities.
- **Web Development Frameworks**
- PyCharm offers great framework-specific support for modern web development frameworks such as Django, Flask, Google App Engine, Pyramid, and web2py.
- **Scientific Tools**
- PyCharm integrates with IPython Notebook, has an interactive Python console, and supports Anaconda as well as multiple scientific packages including matplotlib and NumPy.
- **Cross-technology Development**
- In addition to Python, PyCharm supports JavaScript, CoffeeScript, TypeScript, Cython, SQL, HTML/CSS, template languages, AngularJS, Node.js, and more.
- **Remote Development Capabilities**
- Run, debug, test, and deploy applications on remote hosts or virtual machines, with remote interpreters, an integrated ssh terminal, and Docker and Vagrant integration.
- **Built-in Developer Tools**
- A huge collection of tools out of the box: an integrated debugger and test runner; Python profiler; a built-in terminal; and integration with major VCS and built-in

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What Is a Package?

- A package is a namespace that organizes a set of related classes and interfaces. Conceptually you can think of packages as being similar to different folders on your computer.
- Software written in the Java can be composed of hundreds of individual classes, it makes sense to keep things organized by placing related classes and interfaces into packages.
- The Java platform provides an enormous class library (a set of packages) suitable for use in your applications. This library is known as the "Application Programming Interface", or "API". Its packages represent the tasks most commonly associated with general-purpose programming.
- There are literally thousands of classes to choose from. This allows you, to focus on the design of your particular application, rather than the infrastructure required to make it work.

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PIP INSTALL SPEECHRECOGNITION

- **Project description**
- Library for performing speech recognition, with support for several engines and APIs, online and offline.
- Speech recognition engine/API support:
- CMU Sphinx (works offline)
- Google Speech Recognition
- Google Cloud Speech API
- Wit.ai
- Microsoft Bing Voice Recognition
- Houndify API
- IBM Speech to Text
- Snowboy Hotword Detection (works offline

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> **Quickstart:** *pip install SpeechRecognition.* See the "Installing" section for more details.
>
> To quickly try it out, run python -m speech_recognition after installing

Installing

First, make sure you have all the requirements listed in the "Requirements" section.

The easiest way to install this is using *pip install SpeechRecognition*.

Otherwise, download the source distribution from PyPI, and extract the archive.

In the folder, run *python setup.py install*.

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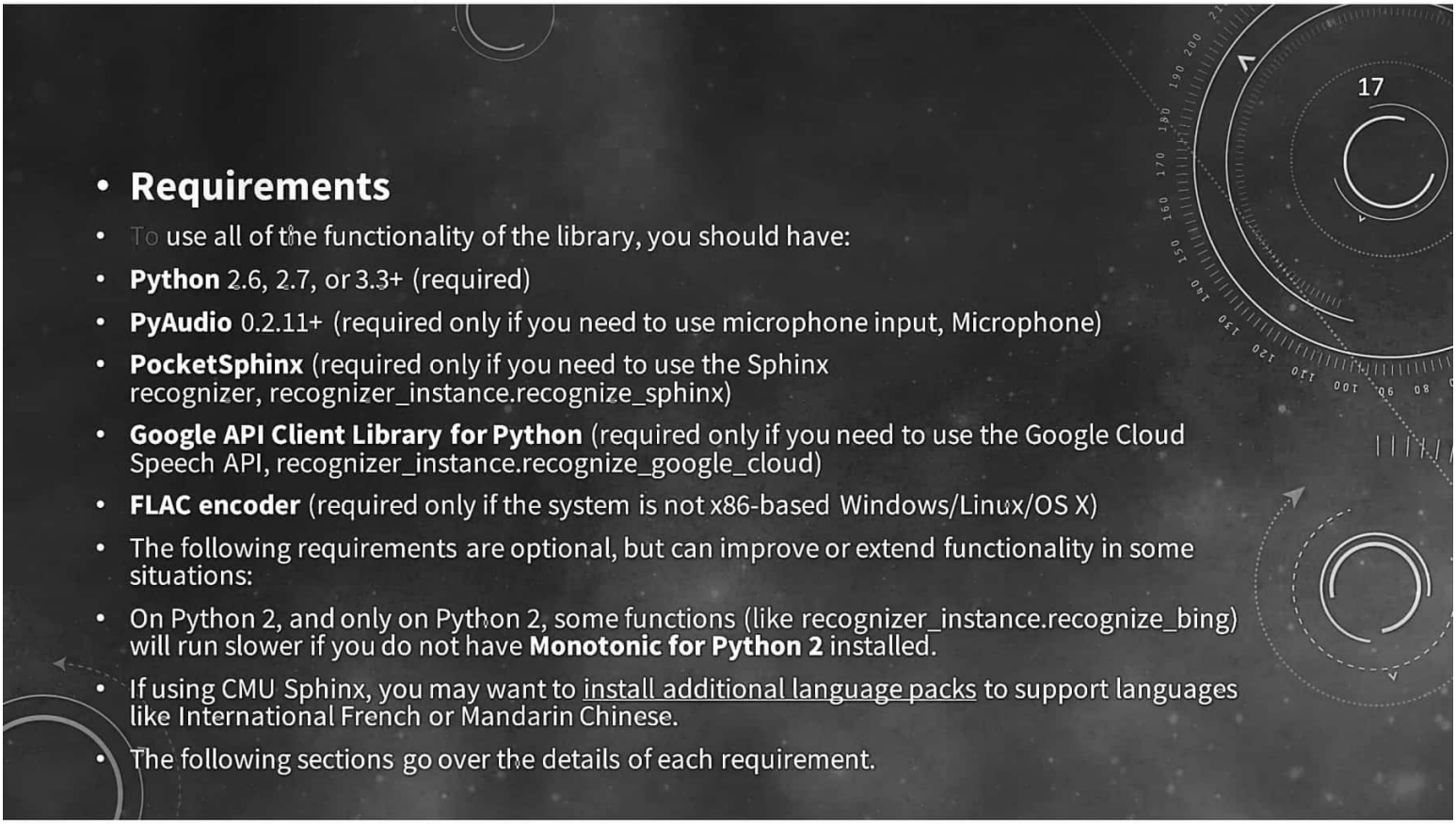

- **Requirements**
- To use all of the functionality of the library, you should have:
- **Python** 2.6, 2.7, or 3.3+ (required)
- **PyAudio** 0.2.11+ (required only if you need to use microphone input, Microphone)
- **PocketSphinx** (required only if you need to use the Sphinx recognizer, recognizer_instance.recognize_sphinx)
- **Google API Client Library for Python** (required only if you need to use the Google Cloud Speech API, recognizer_instance.recognize_google_cloud)
- **FLAC encoder** (required only if the system is not x86-based Windows/Linux/OS X)
- The following requirements are optional, but can improve or extend functionality in some situations:
- On Python 2, and only on Python 2, some functions (like recognizer_instance.recognize_bing) will run slower if you do not have **Monotonic for Python 2** installed.
- If using CMU Sphinx, you may want to install additional language packs to support languages like International French or Mandarin Chinese.
- The following sections go over the details of each requirement.

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PIP INSTALL PYTTSX3

- **Project description**
- pyttsx3 is a text-to-speech conversion library in Python. Unlike alternative libraries, it works offline, and is compatible with both Python 2 and 3.

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INSTALLATION

pip install pyttsx3 If you recieve errors such as No module named win32com.client, No module named win32, or No module named win32api, you will need to additionally install pypiwin32.

Usage :

```
import pyttsx3 engine = pyttsx3.init()
engine.say("I will speak this text")
engine.runAndWait()
```


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CHANGING VOICE , RATE AND VOLUME :

- import pyttsx3 engine = pyttsx3.init() # object creation """ RATE""" rate = engine.getProperty('rate') # getting details of current speaking rate print (rate) #printing current voice rate engine.setProperty('rate', 125) # setting up new voice rate """VOLUME""" volume = engine.getProperty('volume') #getting to know current volume level (min=0 and max=1) print (volume) #printing current volume level engine.setProperty('volume',1.0) # setting up volume level between 0 and 1 """VOICE""" voices = engine.getProperty('voices') #getting details of current voice #engine.setProperty('voice', voices[0].id) #changing index, changes voices. o for male engine.setProperty('voice', voices[1].id) #changing index, changes voices. 1 for female engine.say("Hello World!") engine.say('My current speaking rate is ' + str(rate)) engine.runAndWait() engine.stop() """Saving Voice to a file""" # On linux make sure that 'espeak' and 'ffmpeg' are installed engine.save_to_file('Hello World', 'test.mp3') engine.runAndWait()

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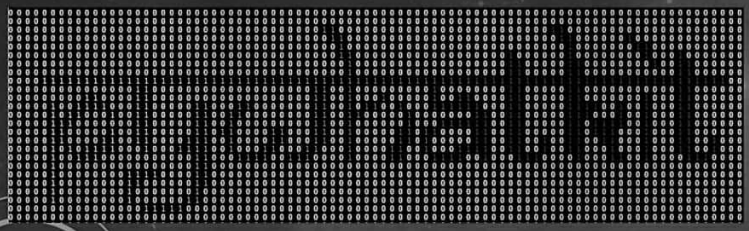
PIP INSTALL PYWHATKIT

- **Project description**



- PyWhatKit is a Python library with various helpful features. It's easy-to-use and does not require you to do any additional setup. Currently, it has about 300k+ downloads and counting. New updates are released frequently with new features and bug fixes

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INSTALLATION AND SUPPORTED VERSIONS

- PyWhatKit is available on PyPi:
- python3 -m pip install pywhatkit pip3 install pywhatkit PyWhatKit officially supports Python 3.8+.

- **Cloning the Repository**
- git clone https://github.com/Ankit404butfound/PyWhatKit.git **What's new in v5.3?**
- import pywahtkit pywhatkit.start_server()

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Features

Sending Message to a WhatsApp Group or Contact
Sending Image to a WhatsApp Group or Contact
Converting an Image to ASCII Art
Converting a String to Handwriting
Playing YouTube Videos
Sending Mails with HTML Code
Install and Use

License

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PIP INSTALL WIKIPEDIA

- **Wikipedia** is a Python library that makes it easy to access and parse data from Wikipedia.
- Search Wikipedia, get article summaries, get data like links and images from a page, and more. Wikipedia wraps the MediaWiki API so you can focus on using Wikipedia data, not getting it

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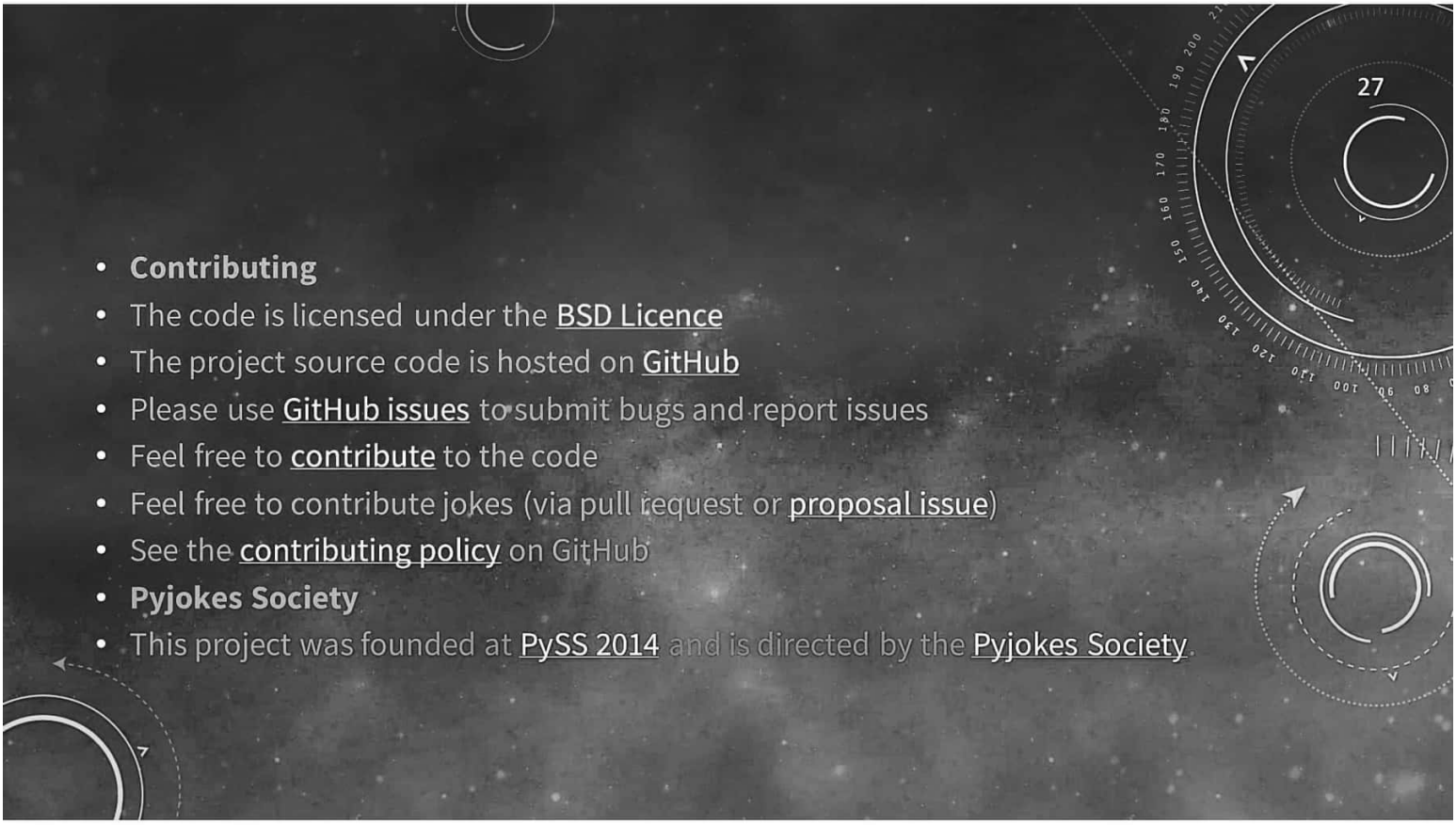

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CODE.


```
import speech_recognition as sr
import pyttsx3
import pywhatkit
import datetime
import wikipedia
import pyjokes
listener = sr.Recognizer()
engine = pyttsx3.init()
voices = engine.getProperty('voices')
engine.setProperty('voice', voices[1].id)
def talk(text):
engine.say(text)
engine.runAndWait()
def take_command():
try:
with sr.Microphone() as source:
print('listening...')
voice = listener.listen(source)
command = listener.recognize_google(voice)
```


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CODE.

```
command = command.lower()
if 'Drago' in command:
    command = command.replace('Drago', '')
    print(command)
except:
    pass
return command
    def run_Drago():
        command = take_command() print(command)
    if 'play' in command:
```


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CODE

```
song = command.replace('play', '')
    talk('playing ' + song) pywhatkit.playonyt(song)
  elif 'time' in command:
      time = datetime.datetime.now().strftime('%I:%M %p')
  talk('Current time is ' + time)
       elif 'who the heck is' in command:
       person = command.replace('who the heck is', '')
     info = wikipedia.summary(person, 1)
       print(info)
       talk(info)
          elif 'date' in command:
talk('sorry, I have a headache')
       elif 'are you single' in command:
        talk('I am in a relationship with wifi')
       elif 'joke' in command: talk(pyjokes.get_joke())
            else:
        talk('Please say the command again.')
       while True: run_alexa()
```


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THANK YOU.

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