

The Maven logo, featuring the word "Maven" in a bold, black, sans-serif font. The letter "v" is stylized with a red and orange feather-like graphic element.The Gradle logo, featuring a dark green elephant icon to the left of the word "Gradle" in a bold, black, sans-serif font.

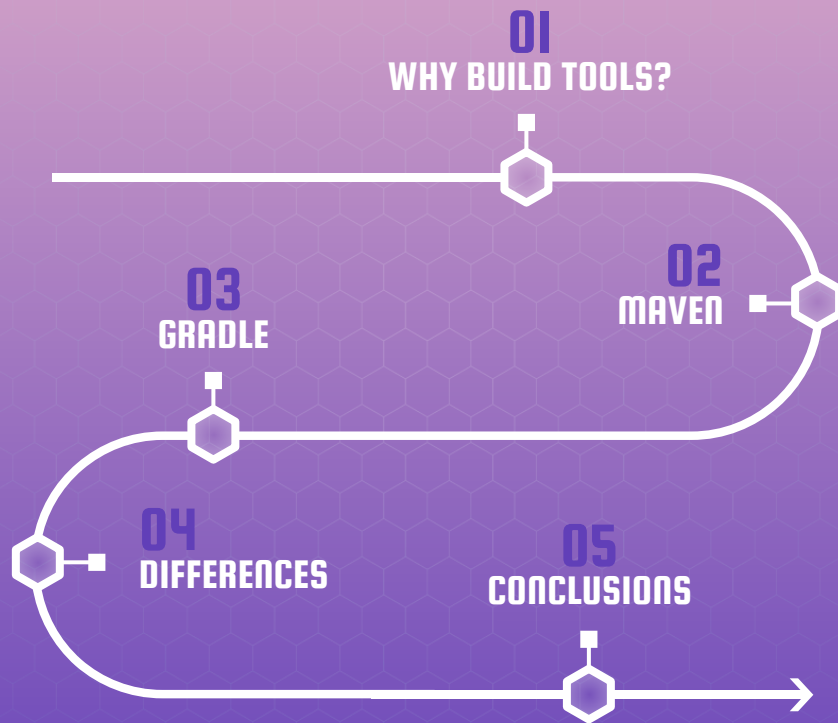
MAVEN AND GRADLE

THE BATTLE OF THE BUILD TOOLS

Maja Tennander <majate@kth.se>

Axel Elmarsson <axeelm@kth.se>

AGENDA



WHY BUILD TOOLS?



WHY BUILD TOOLS?

CONFIGURE ONCE

One config file in the project and everyone can build on their machine



HANDLES DEPENDENCIES

Automatically updates and downloads dependencies



BUILD AUTOMATION

Handles the build process for you



CI COMPATIBILITY

The automated build process can easily be put in a CI pipeline



The Maven logo is positioned in the upper left corner. It features the word "Maven" in a bold, black, sans-serif font, with a small trademark symbol (TM) to its upper right. A small, stylized graphic of a bird or a leaf is integrated into the letter 'v'. The background of the slide is a gradient of purple and blue, decorated with a pattern of hexagons. Some hexagons are solid, while others are outlined, creating a geometric, crystalline effect.

Maven™

MAVEN

The Maven logo, featuring the word "Maven" in a bold, sans-serif font with a red dot over the 'v'.

MAVEN

RELEASED

Early 2000's

Created by Apache with
an open source license

LANGUAGE

XML



CONFIG FILE

pom.xml



```
1 <project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
2   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0 http://maven.apache.org/xsd/maven-4.0.0.xsd">
3   <modelVersion>4.0.0</modelVersion>
4
5   <groupId>com.mycompany.app</groupId>
6   <artifactId>my-app</artifactId>
7   <version>1.0-SNAPSHOT</version>
8
9   <properties>
10     <maven.compiler.source>1.7</maven.compiler.source>
11     <maven.compiler.target>1.7</maven.compiler.target>
12   </properties>
13
14   <dependencies>
15     <dependency>
16       <groupId>junit</groupId>
17       <artifactId>junit</artifactId>
18       <version>4.12</version>
19       <scope>test</scope>
20     </dependency>
21   </dependencies>
22 </project>
```

Simple
pom.xml



GRADLE





GRADLE

RELEASED

2007

Is open source



Official build tool
for Android



LANGUAGE

Groovy

CONFIG FILE

build.gradle



GRADLE

```
1  apply plugin: 'java'
2  apply plugin: 'checkstyle'
3  apply plugin: 'findbugs'
4  apply plugin: 'pmd'
5
6  version = '1.0'
7
8  repositories {
9      mavenCentral()
10 }
11
12 dependencies {
13     testCompile group: 'junit', name: 'junit', version: '4.11'
14     testCompile group: 'org.hamcrest', name: 'hamcrest-all', version: '1.3'
15 }
```

**Simple
build.gradle**

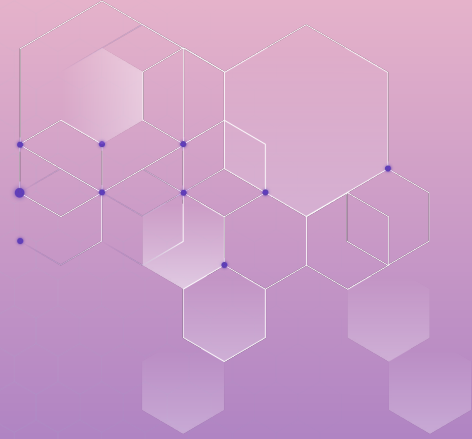
slido

Which one do you think is better? Gradle or Maven?

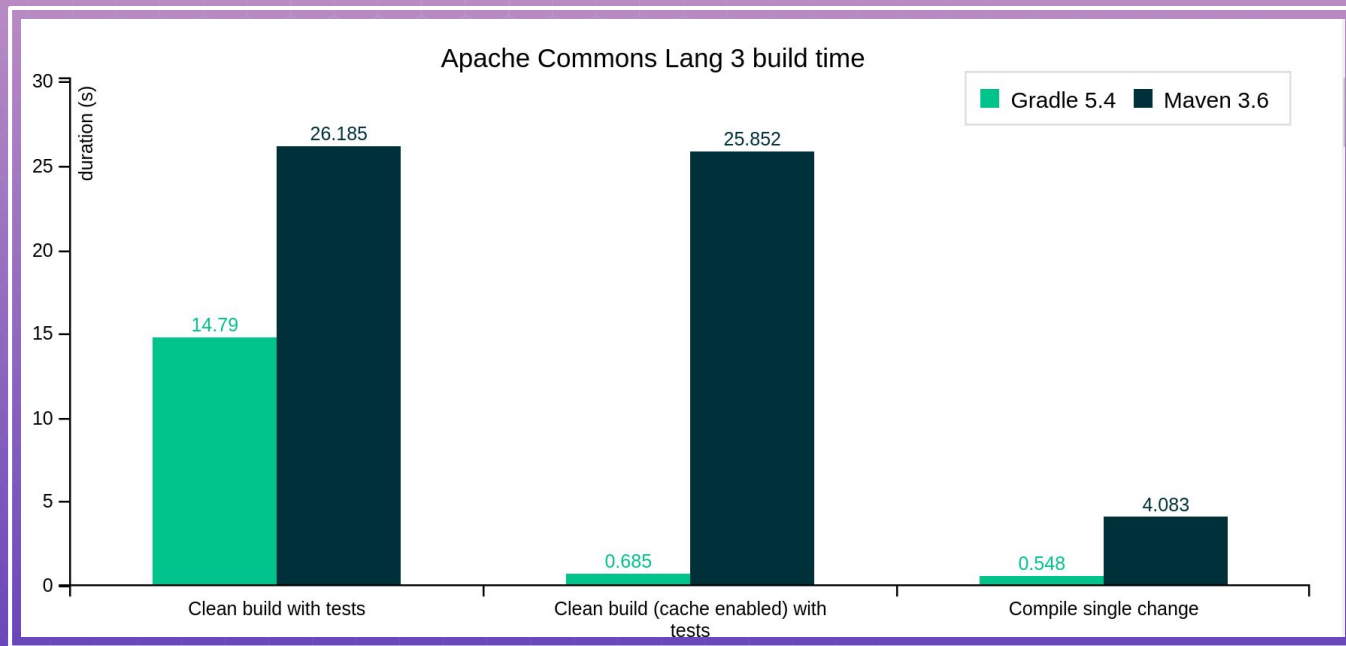
 Start presenting to display the poll results on this slide.

DIFFERENCES

Performance



PERFORMANCE



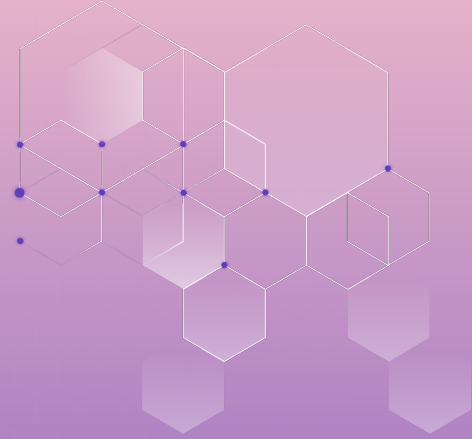
Source: <https://gradle.org/gradle-vs-maven-performance/>

DIFFERENCES

Performance



Readability



Maven™

76 lines

15 lines

 Gradle

```
1 <project xmlns="http://maven.apache.org/POM/4.0.0"
2   xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
3   xsi:schemaLocation="http://maven.apache.org/POM/4.0.0
4     http://maven.apache.org/maven-v4_0_0.xsd">
5
6   <modelVersion>4.0.0</modelVersion>
7   <groupId>com.technologyconversations</groupId>
8   <artifactId>java-build-tools</artifactId>
9   <packaging>jar</packaging>
10  <version>1.0</version>
11
12  <dependencies>
13    <dependency>
14      <groupId>junit</groupId>
15      <artifactId>junit</artifactId>
16      <version>4.11</version>
17    </dependency>
18    <dependency>
19      <groupId>org.hamcrest</groupId>
20      <artifactId>hamcrest-all</artifactId>
21      <version>1.3</version>
22    </dependency>
23  </dependencies>
24
25  <build>
26    <plugins>
27      <plugin>
28        <groupId>org.apache.maven.plugins</groupId>
29        <artifactId>maven-compiler-plugin</artifactId>
30        <version>2.3.2</version>
31      </plugin>
32      <plugin>
33        <groupId>org.apache.maven.plugins</groupId>
34        <artifactId>maven-checkstyle-plugin</artifactId>
35        <version>2.12.1</version>
36        <executions>
37          <execution>
38            <configuration>
39              <configuration>config/checkstyle/checkstyle.xml</configuration>
40              <consoleOutput>true</consoleOutput>
41              <failOnError>true</failOnError>
42            </configuration>
43            <goals>
44              <goal>check</goal>
45            </goals>
46          </execution>
47        </executions>
48      </plugin>
49      <plugin>
50        <groupId>org.codehaus.mojo</groupId>
51        <artifactId>findbugs-maven-plugin</artifactId>
52        <version>2.3.0</version>
53        <executions>
54          <execution>
55            <goals>
56              <goal>check</goal>
57            </goals>
58          </execution>
59        </executions>
60      </plugin>
61      <plugin>
62        <groupId>org.apache.maven.plugins</groupId>
63        <artifactId>maven-pmd-plugin</artifactId>
64        <version>2.11</version>
65        <executions>
66          <execution>
67            <goals>
68              <goal>check</goal>
69            </goals>
70          </execution>
71        </executions>
72      </plugin>
73    </plugins>
74  </build>
75
76 </project>
```

```
1 apply plugin: 'java'
2 apply plugin: 'checkstyle'
3 apply plugin: 'findbugs'
4 apply plugin: 'pmd'
5
6 version = '1.0'
7
8 repositories {
9   mavenCentral()
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12 dependencies {
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14   testCompile group: 'org.hamcrest', name: 'hamcrest-all', version: '1.3'
15 }
```

DIFFERENCES

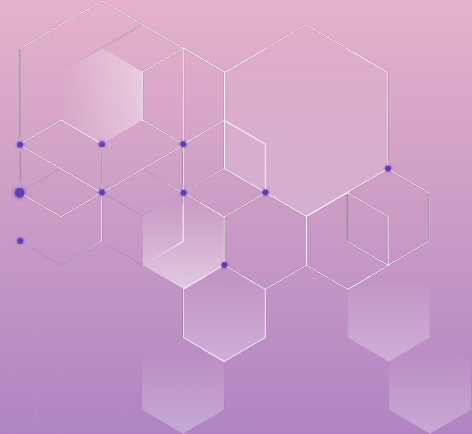
Performance



Readability



Complexity



CONCLUSIONS



There is no “best”
build tool



Build tools are great
for CI & CD

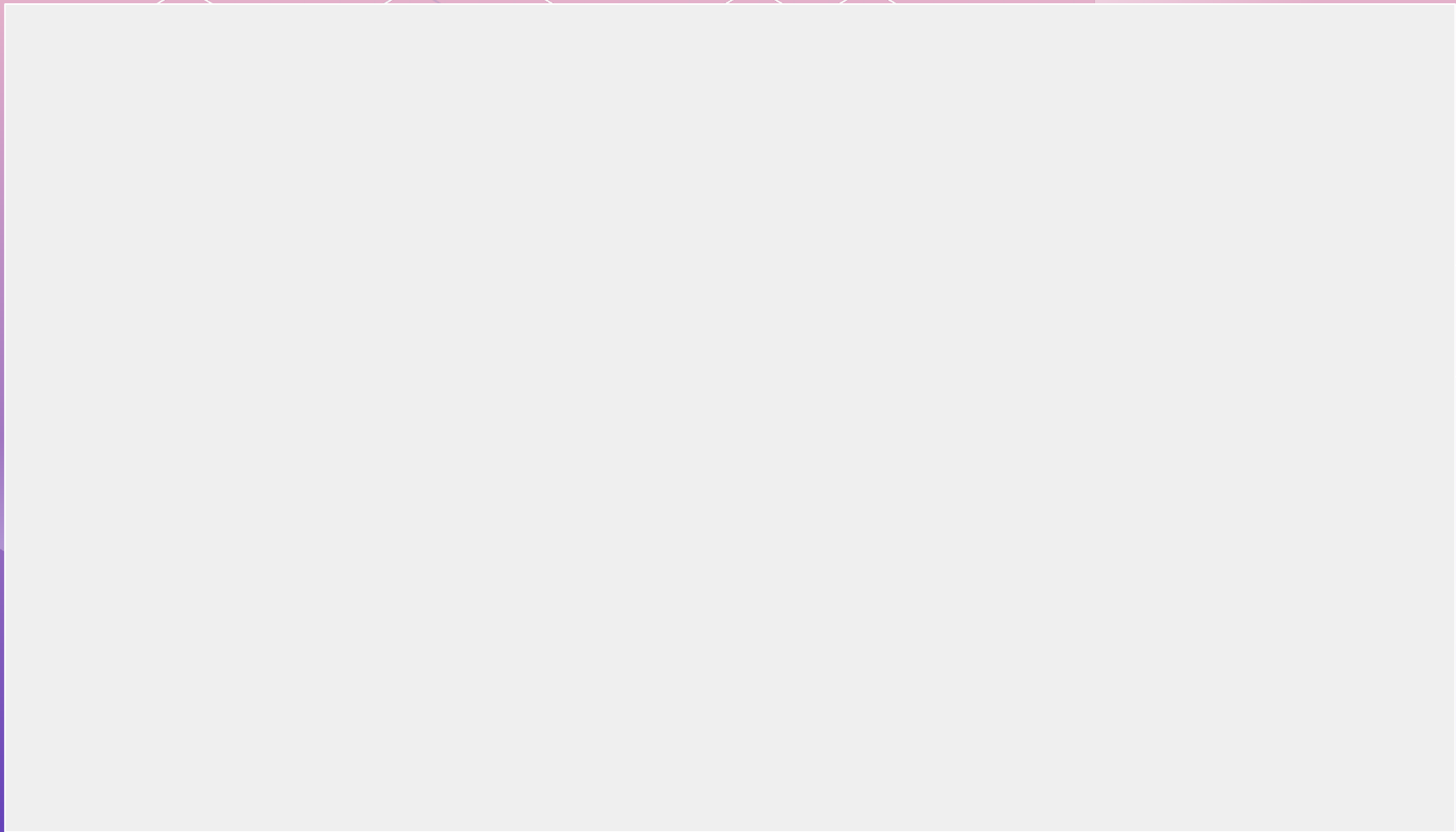


THANK YOU FOR LISTENING



REFERENCES

- ◀ <https://gradle.org/maven-vs-gradle/>
- ◀ <https://gradle.org/gradle-vs-maven-performance/>
- ◀ <https://stackify.com/gradle-vs-maven/>
- ◀ <https://technologyconversations.com/2014/06/18/build-tools/>
- ◀ <https://phauer.com/2018/moving-back-from-gradle-to-maven/>
- ◀ <https://www.baeldung.com/ant-maven-gradle>



DIFFERENCES

Performance



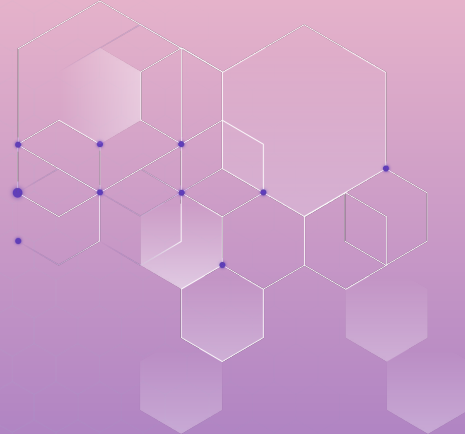
Readability



Language support



Complexity



CONCLUSIONS



There is no “best”
build tool



May change in the
future



Build tools are great
for CI & CD

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INTRODUCTION

Why is build tools useful?

02

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Here you could describe the topic of the section

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Here you could describe the topic of the section



INTRODUCTION

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than our Moon. The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury





YOUR LOGO

OUR COMPANY

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than our Moon. The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury



OUR TEAM



JENNA DOE

Here you could describe
who this person is



JOHN PATTERSON

Here you could describe
who this person is



HELENA JAMES

Here you could describe
who this person is



PROBLEM

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than our Moon. The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury





COMPETITIVE ADVANTAGE

THEM

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than our Moon. The planet's name has nothing to do with the liquid metal since it was named after the Roman messenger god, Mercury

US

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot—even hotter than Mercury—and its atmosphere is extremely poisonous. It's the second-brightest natural object in the night sky after the Moon



SOLUTION

Venus has a beautiful name and is the second planet from the Sun. It's terribly hot—even hotter than Mercury—and its atmosphere is extremely poisonous. It's the second-brightest natural object in the night sky after the Moon

SWOT ANALYSIS



S

STRENGTHS

Jupiter is the biggest planet in our Solar System



W

WEAKNESSES

Venus has a beautiful name, but it's terribly hot



O

OPPORTUNITIES

Neptune is the furthest planet from the Sun



T

THREATS

Mercury is the smallest planet in our Solar System

PRODUCT OVERVIEW



PLANS



You can explain your
product or your service

BASIC



You can explain your
product or your service

PRO



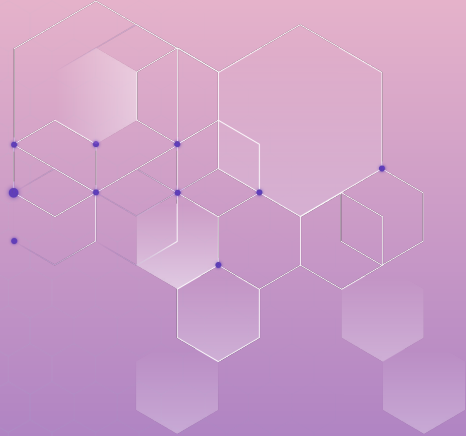
You can explain your
product or your service

PREMIUM

DEMO



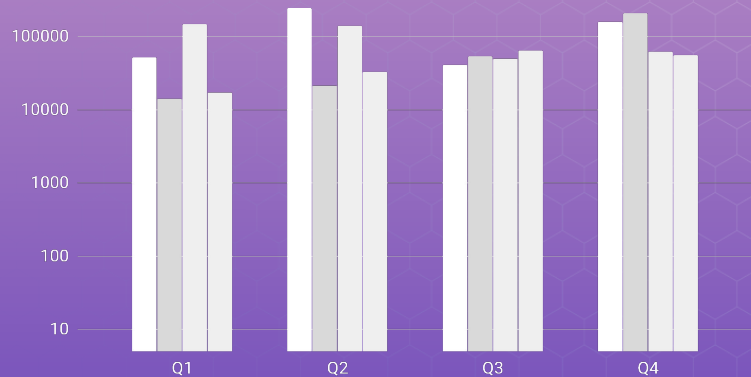
Insert your multimedia content here



TRACTION

150,000

Gross revenues in 2017-2018



140,000

Average user savings per deal

12,000

Registered businesses

2,200

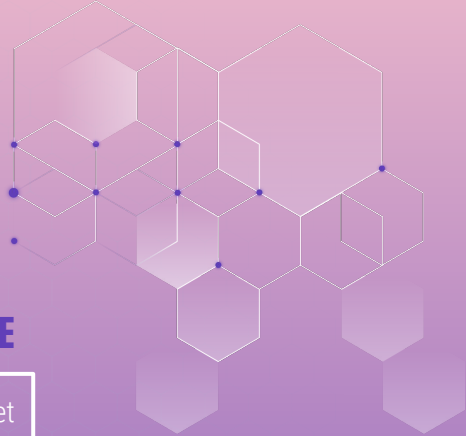
Daily number of users

15

Total app downloads

If you want to modify this graph, click on it, follow the link, change the data and replace it

CASE STUDY



CHALLENGE

Neptune is the farthest planet from the Sun

SOLUTION

Despite being red, Mars is a cold place, not hot

RESULTS

Venus has a beautiful name, but it's terribly hot



REVIEWS



CLIENT 1

HELENA JAMES, 21

Here you could
describe what this
client said about you



CLIENT 2

JENNA DOE, 52

Here you could
describe what this
client said about you



CLIENT 3

JOHN PATTERSON, 33

Here you could
describe what this
client said about you

AWARDS



MERCURY

Here you could talk about
this achievement



VENUS

Here you could talk about
this achievement



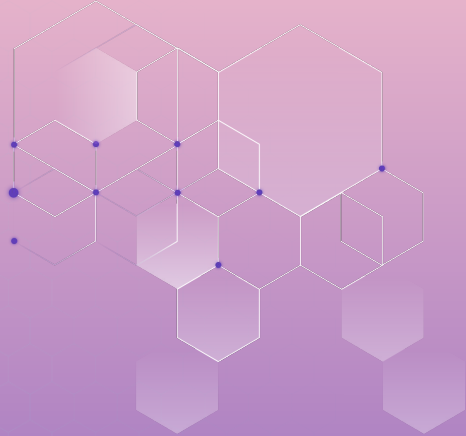
JUPITER

Here you could talk about
this achievement

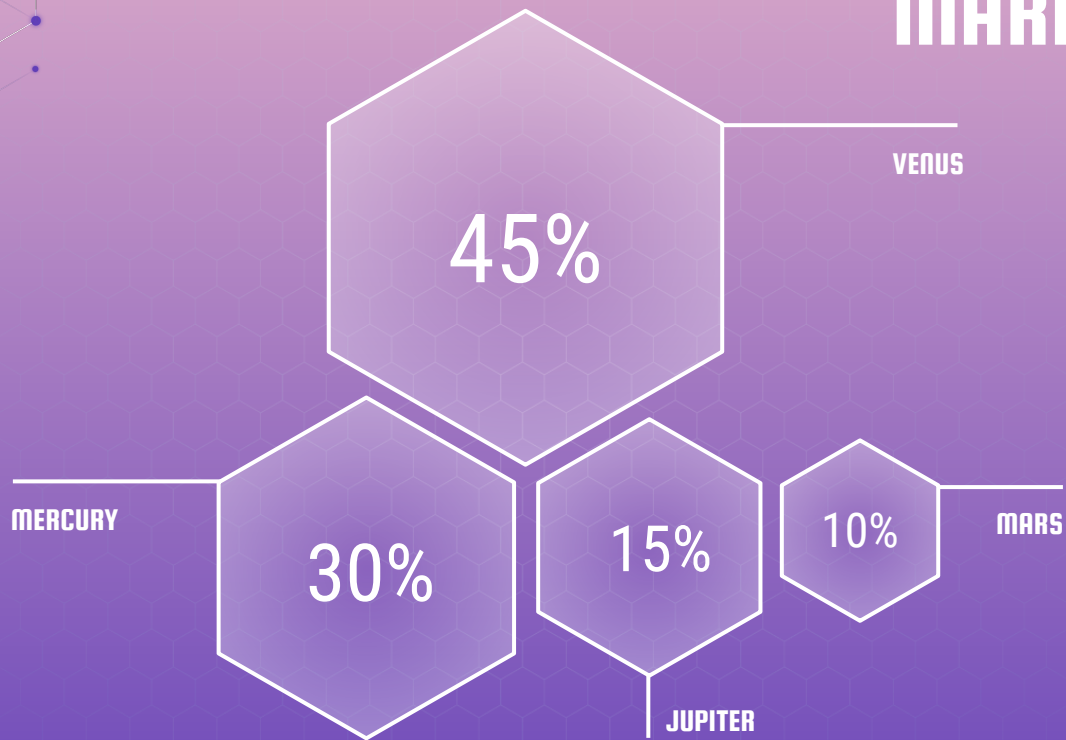


MARS

Here you could talk about
this achievement



MARKET SIZE



TARGET

40%



60%



GENDER



50,00

AVERAGE SPEND PER CUSTOMER

20 - 35

AGE



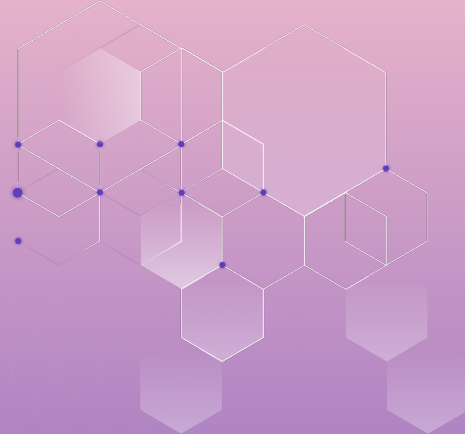
INTEREST 1



INTEREST 2



INTEREST 3



COMPETITORS



NEPTUNE

Neptune is the farthest planet from the Sun



MARS

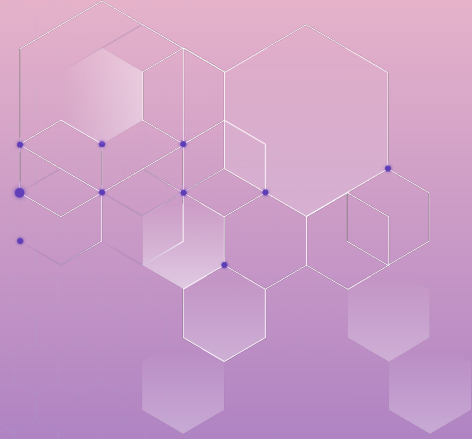
Despite being red, Mars is a cold place, not hot



MERCURY

Mercury is the closest planet to the Sun

BUSINESS MODEL



TIMING

DAY 1

Jupiter is a gas giant and the biggest planet in our Solar System

DAY 2

Venus has a beautiful name, but it's terribly hot

DAY 3

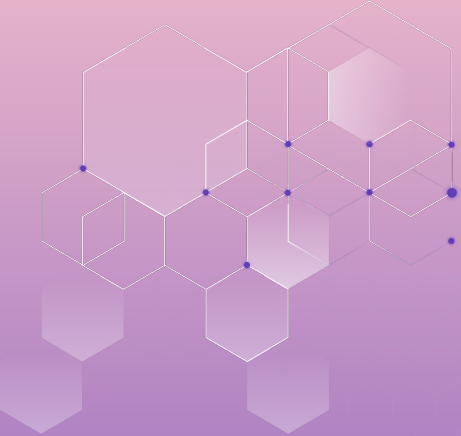
Despite being red, Mars is a cold place, not hot

DAY 5

Neptune is the fourth-largest planet in our Solar System

DAY 4

Mercury is the closest planet to the Sun



PREDICTED GROWTH

Jupiter is a gas giant and the biggest planet in our Solar System



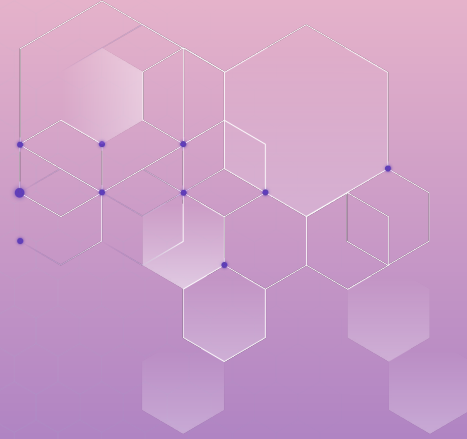
Neptune is the farthest planet from the Sun



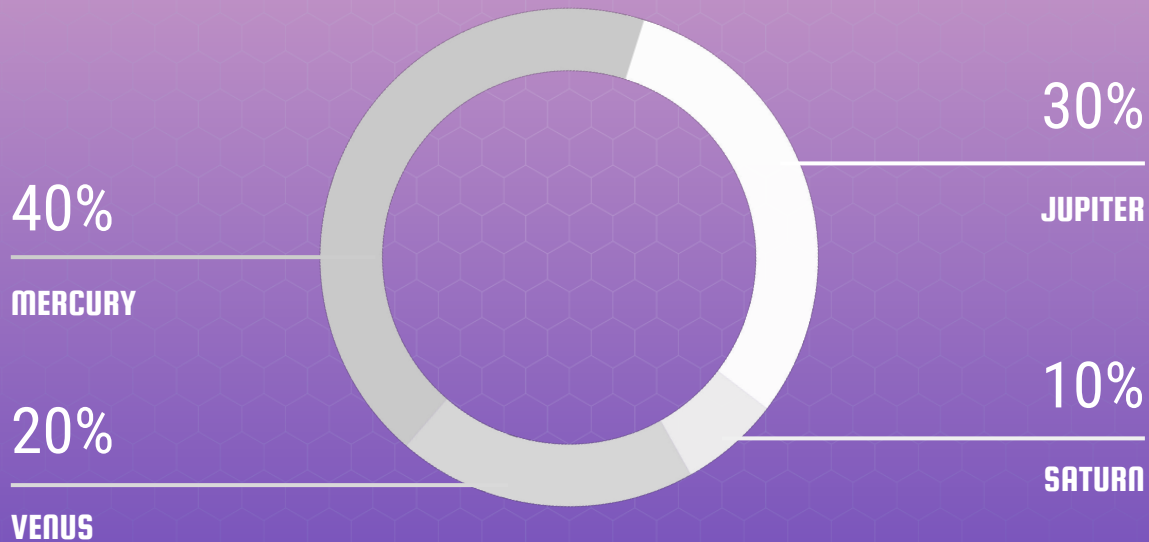
Venus has a beautiful name, but it's terribly hot



Despite being red, Mars is a cold place, not hot



INVESTMENT



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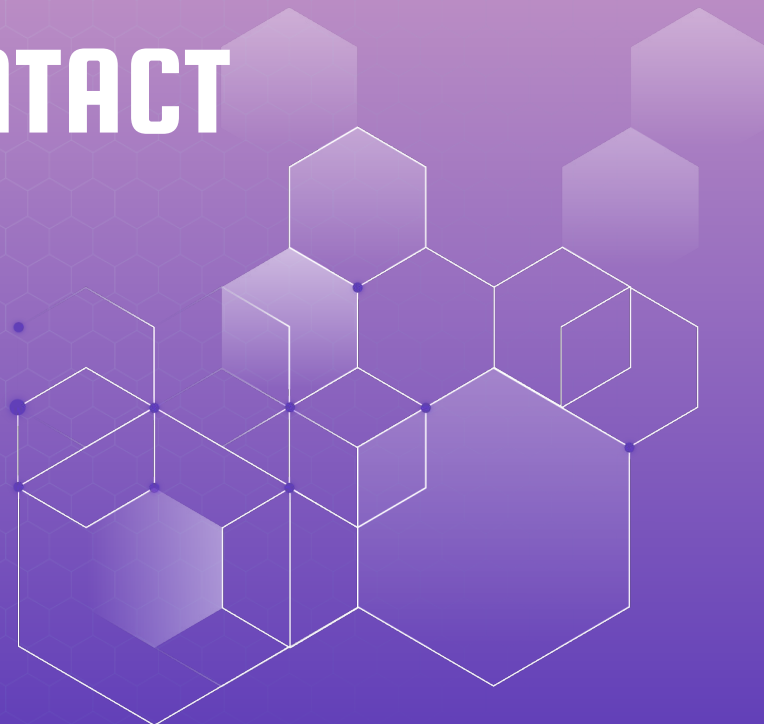
CONTACT

Does anyone have any questions?

addyouremail@freepik.com

+91 620 421 838

yourcompany.com



The background features a smooth gradient from light pink at the top to deep purple at the bottom. Overlaid on this is a complex geometric pattern of white-outlined hexagons. Some hexagons are solid, while others are hollow. Small dark blue dots are placed at the vertices of the hexagonal grid. The word "THANKS" is centered in the lower half of the image.

THANKS



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#613fb8

#ffffff

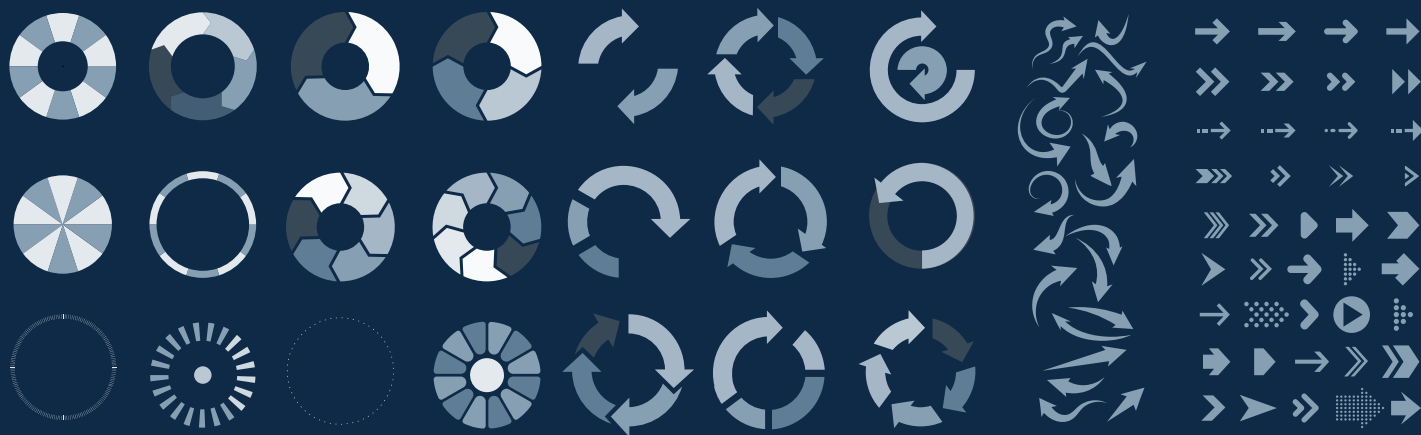
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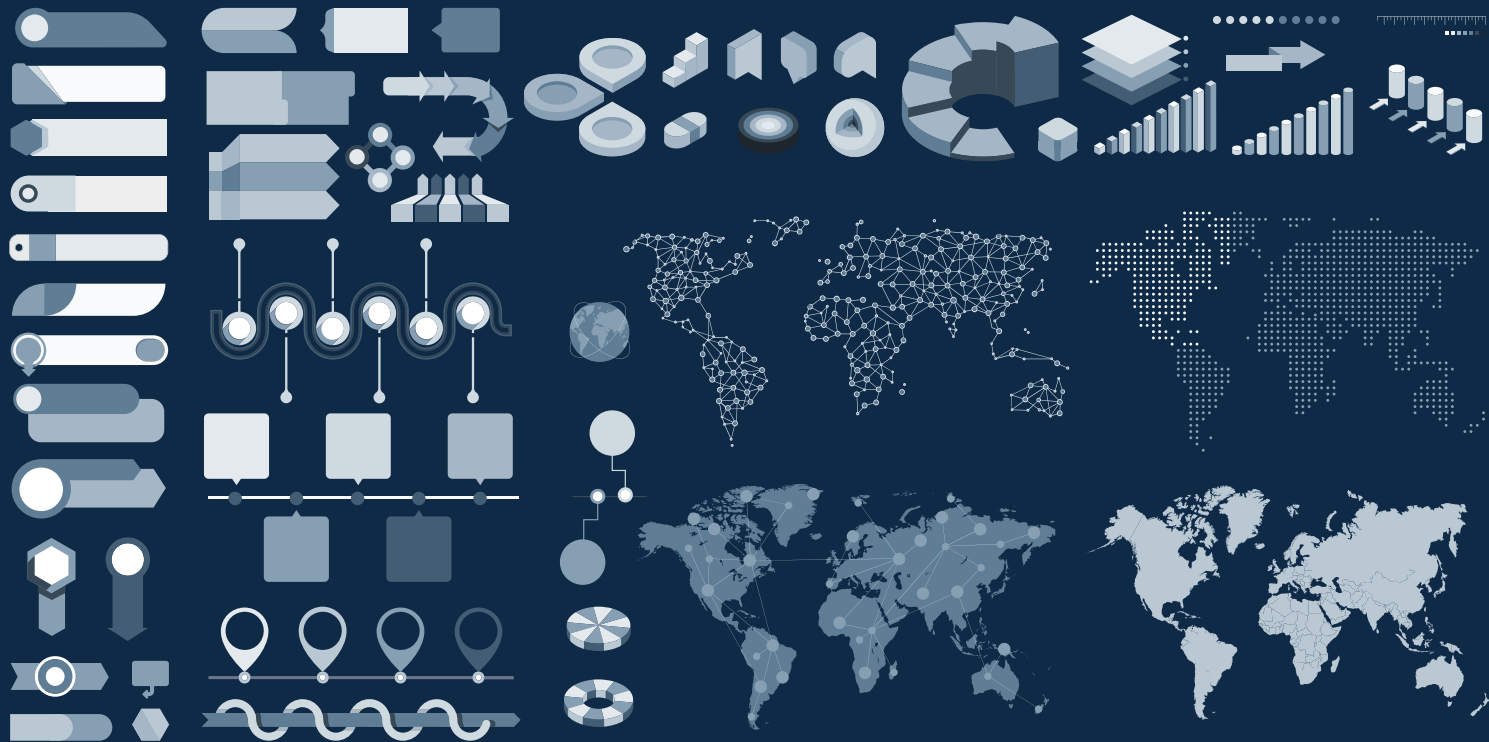
#d9d9d9

#cccccc

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Avatar Icons



Creative Process Icons



Educational Process Icons



Help & Support Icons



Medical Icons



Nature Icons



Performing Arts Icons



Teamwork Icons



SEO & Marketing Icons



