信用卡推薦小幫手

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START

Outline

目標 01
功能設計

操作展示 02
Users

程式碼節錄 03
Code

Q&A 04
Improvement

Why?

Problems

種類繁多

年費不一

年收限制
回饋不同

01

目標

Dilemma

02

操作展示

Many TA

使用流程(Input)

Step 1 → Step 2 → Step 3 → Step 4

輸入年薪　　　每月花費　　　里程回饋　　　設定權重
　　　　　　　　　　　　　紅利回饋

使用流程(Output)

Step 5

申辦推薦卡片

User's Types

學生

家庭主婦

防呆機制

小資族

商務人士

User's Types(學生)

收入來源	父母、打工
每月花費	吃喝玩樂

127.0.0.1:5000/iwantcard

信用卡推薦小幫手

請輸入年薪 `0`

請輸入每月花費 `7000`

追求哩程回饋嗎? 否

追求紅利回饋嗎? 是

Submit

User's Types(學生)

收入來源	父母、打工
每月花費	吃喝玩樂

127.0.0.1:5000/p

☀信用卡推薦小幫手
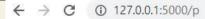
請輸入花費比重(%)：(total:100%)

現金回饋 70

紅利回饋 30

Submit

(學生)

☀信用卡推薦小幫手

💙此為您的命定卡片：

永豐銀行 SPORT卡

～以下為其相關資訊～
年收限制:NT$0.0
年費:NT$300
國內現金回饋:1.0%
國內消費哩程:NT$0.0/哩
紅利折抵金:NT$70.0/千點

User's Types(家庭主婦)

收入來源	無
每月花費	柴米油鹽、學費等

127.0.0.1:5000/iwantcard

信用卡推薦小幫手

請輸入年薪 0

請輸入每月花費 40000

追求哩程回饋嗎？ 是

追求紅利回饋嗎？ 是

Submit

User's Types(家庭主婦)

收入來源	無
每月花費	柴米油鹽、學費等

127.0.0.1:5000/iwantcard

☀信用卡推薦小幫手

你的要求太高啦(>д<)
試著改一下條件吧(ˊ·ω·ˋ)

請輸入年薪 [_____]

請輸入每月花費 [_____]

追求哩程回饋嗎? 是 ▾
追求紅利回饋嗎? 是 ▾

Submit

User's Types(家庭主婦)

收入來源	無
每月花費	柴米油鹽、學費等

User's Types(家庭主婦)

收入來源	無
每月花費	柴米油鹽、學費等

☀信用卡推薦小幫手

請輸入花費比重(%)：(total:100%)

現金回饋 `50`

哩程回饋 `50`

Submit

(家庭主婦)

收入來源	無
每月花費	柴米油鹽、學費等

☀信用卡推薦小幫手

♥此為您的命定卡片：

玉山銀行 玉山世界卡

~以下為其相關資訊~
年收限制:NT$0.0
年費:NT$0
國內現金回饋:1.0%
國內消費哩程:NT$62.5/哩
紅利折抵金:NT$0.0/千點

User's Types（商務人士）

收入來源	工作
每月花費	家庭開銷、應酬、出差

127.0.0.1:5000/iwantcard
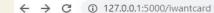
信用卡推薦小幫手

請輸入年薪 5000000

請輸入每月花費 100000

追求哩程回饋嗎? 是
追求紅利回饋嗎? 否

Submit

User's Types（商務人士）

收入來源	工作
每月花費	家庭開銷、應酬、出差

127.0.0.1:5000/p

信用卡推薦小幫手

請輸入花費比重(%)：(total:100%)

現金回饋 `10`

哩程回饋 `90`

Submit

（商務人士）

收入來源	工作
每月花費	家庭開銷、應酬、出差

❀信用卡推薦小幫手

♥此為您的命定卡片：

華南銀行 The ONE 尊榮無限卡
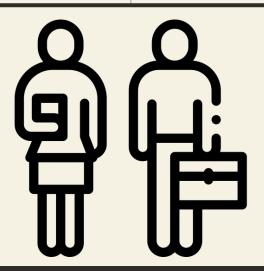
～以下為其相關資訊～
年收限制:NT$2000000.0
年費:NT$12000
國內現金回饋:1.0%
國內消費哩程:NT$75.0/哩
紅利折抵金:NT$0.0/千點

User's Types（小資族）

收入來源	微薄薪資
每月花費	家庭開銷、應酬、出差

信用卡推薦小幫手

請輸入年薪 800000
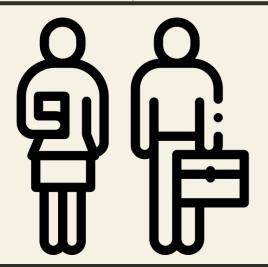
請輸入每月花費 25000

追求哩程回饋嗎? 否

追求紅利回饋嗎? 否

Submit

User's Types（小資族）

收入來源	微薄薪資
每月花費	家庭開銷、應酬

信用卡推薦小幫手

請輸入花費比重(%)：(total:100%)

現金回饋 `100`

Submit

（小資族）

收入來源	微薄薪資
每月花費	家庭開銷、應酬

☀信用卡推薦小幫手

♥此為您的命定卡片：

台灣樂天 樂天信用卡

〜以下為其相關資訊〜
年收限制:NT$0.0
年費:NT$0
國內現金回饋:1.1%
國內消費哩程:NT$0.0/哩
紅利折抵金:NT$0.0/千點

03

程式碼節錄

資料庫建置、篩選、
網頁建置

Our goals

資料庫建置

爬蟲 ⟶ 資料庫

篩選機制

如何篩選

架網頁

使用Flask套件

找規律

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type="SocialMediaLink"><div class="circle-wrapper"><i class="icon ra-icon-instagram dark"></i></div><span class="footer__sm
href="https://www.linkedin.com/company/money101-com-tw/about/" class="sm-link" rel="noopener noreferrer me" target="_blank" data-selec
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我們的服務條款及<a href="/%E9%9A%B1%E7%A7%81%E6%94%BF%E7%AD%96" targ
class="footer__copyright__text">1.25.0-1d021a207</div></section></div></div></div></div><div id="fb-root"></div><script async="
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找規律

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r> (i) 每月燃燒3,000大卡，享當月紅利+3倍 \u003cbr> (ii) 每月燃燒5,000大卡，享當月紅利+5倍 \u003cbr> (iii) 每月燃燒7,000大卡，享當月紅利+7倍"，"指定通路/商家持卡消費享最低88折
cons":{"type":"json","json":["指定通路享1,000點紅利折抵70元現金，最高可折抵100%，折抵金額無上限"，"「卡路里加速器」以運動卡路里為計算基礎，非基礎代謝卡路里，每月最高回饋6,000點紅利
卡持卡人次月可信用卡帳單。 \u003cbr> 參與「卡路里加速器」活動，限永豐SPORT卡正卡持卡人至永豐 SPORT卡專屬網頁綁定Garmin、Fitbit運動手錶適用。每月運動卡路里最晚於次月5日前上傳，逾時將
指定通路包括各大運動中心、健身工廠、BEING sport、台北市網球中心、True Yoga、摩曼頓、GO WILD野聚戶外、GO Hiking、捷安特、迪卡儂、ABC mart、哈林運動世界、各大高爾夫球場
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資料庫爬蟲

- 信用卡Name
- 年費Fee
- 現金回饋
- 年薪要求
- 信用卡Image

```python
from urllib.request import urlopen
from bs4 import BeautifulSoup

url = 'https://www.money101.com.tw/%E4%BF%A1%E7%94%A8%E5%8D%A1/%E5%85%A8%E9%83%...
html = urlopen(url).read().decode('utf-8')
soup = BeautifulSoup(html, features = 'lxml')
script = soup.find_all('script')
script_list = []

for i in range(0,len(script)):
    script_list.append(script[i].text)

script_target = script_list[2]
script_card = script_target.split('"')

card = []
card_idx = []
for i in range (0,len(script_card)):
    if str(script_card[i]) == "productName":
        card.append(script_card[i+2])
        card_idx.append(i)


annual_fee = []
for i in range(0,len(script_card)):
    if script_card[i] == '年費':
        for j in range (0,50):
            if script_card[i-j] == 'displayValue':
                annual_fee.append(script_card[i-j+2])

cash = []
for i in range(0,len(script_card)):
    if script_card[i] == '國內消費現金回饋':
        for j in range (0,50):
            if script_card[i-j] == 'displayValue':
                cash_append(script_card[i-j+2])
```

資料庫爬蟲

```python
limit = []
limit_idx = []
for i in range(0,len(script_card)):
    if script_card[i] == '最低年薪要求':
        limit_idx.append(i)
        for j in range (0,50):
            if script_card[i+j] == 'value':
                limit.append(script_card[i+j+2])

for i in range(0,len(limit)):
    if len(limit[i]) == 0:
        for  j in range(0,60):
            if script_card[limit_idx[i]+j] == 'shortDescription':
                limit[i] = (str(script_card[limit_idx[i]+j+2]))

for i in range(0,len(limit)):
    b = []
    for k in  range(0,len(annual_fee[i])):
        if annual_fee[i][k].isdigit():
            b.append(annual_fee[i][k])
    if len(limit[i]) == 0 or limit[i] == '不適用':
        limit[i] = 0
    else:
        a = []
        for j in range (0,len(limit[i])):
            if limit[i][j].isdigit() or limit[i][j] == '萬' :
                a.append(limit[i][j])

        if '萬' in a:
            a[a.index('萬')] = '0000'

        limit[i] = ''.join(a)
    annual_fee[i] = ''.join(b)

for i in range(0,len(card)):
    if len(annual_fee[i]) == 0 :
        annual_fee[i] = 0
    if cash[i] == '不適用':
        cash[i] = 0
    annual_fee[i] = int(annual_fee[i])
    cash[i] = 1+float(cash[i])/100
    limit[i] = float(limit[i])
```

資料庫爬蟲

```python
         reward[i] = 0
    reward[i] = float(reward[i])


Card = {}
for i in range(0,len(card)):
    Card[i] = {'card':card[i],'limit': limit[i], 'annual_fee':annual_fee[i],'

idx = []
for i in range(0,len(airlinecard)):
    for j in range(0,len(card)):
        if card[j] == airlinecard[i]:
            idx.append(j)


for i in range(0,len(airlinecard)):
    for j in range(0,len(card)):
        if card[j] == airlinecard[i]:
            Card[j]['airline'] = airline[i]

        elif j not in idx :
            Card[j]['airline'] = 0

idx = []
for i in range(0,len(rewardcard)):
    for j in range(0,len(card)):
        if card[j] == rewardcard[i]:
            idx.append(j)


for i in range(0,len(rewardcard)):
    for j in range(0,len(card)):
        if card[j] == rewardcard[i]:
            Card[j]['reward'] = reward[i]

        elif j not in idx :
            Card[j]['reward'] = 0
import csv
with open('creditcard.csv', 'w', newline='',encoding='utf_8_sig') as f:
    name = ['card','limit','annual_fee','cash','rate','airline','reward','ima
    writer = csv.DictWriter(f,fieldnames = name)
    writer.writeheader()
    for i in range(0,len(card)):
        writer.writerow(Card[i])
```

○○○ 資料庫建置

	A	B	C	D	E	F	G	H
1	card	limit	annual_fee	cash	rate	airline	reward	image
2	永豐銀行 SPORT卡	0	300	1	15	0	70	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltc055138a1e594953/5cdcea580c6bcc7a0b
3	玉山銀行 玉山Only卡	240000	0	1	15	0	100	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt74e80be07610c0bd/5e96819dd27eee34a3
4	中國信託 中信商旅鈦金卡	200000	0	1.01	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltcc48dd7a0a722de8/5d649a47501b0d335!
5	星展銀行 炫晶商務御璽卡	220000	0	1.012	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blta55e2cf92021b03a/5c6671d1e2c86a6c41
6	彰化銀行 My樂現金回饋卡	0	0	1.03	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt51cc990a2acee15c/5d37fd0fc3a6d753ac3
7	渣打銀行 現金回饋御璽卡	360000	0	1.0188	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltc0b708f9249dfc69/5cf61dc4dc1e50760a2
8	聯邦銀行 賴點一卡通御璽卡	650000	0	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt8648d31d58eddf06/5d663c17e239166d6a
9	玉山銀行 iCash聯名卡	0	0	1.05	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt9864e68b5e457062/5c667341e2c86a6c4!
10	玉山銀行 商務御璽卡	0	0	1.03	15	31.3	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt97b707a9915a6cbb/5cb9879ba04c2c9319
11	華南銀行 i網購生活卡	0	1200	1.025	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blta910283b4d5596cb/5c6673d0b255d8544
12	第一銀行 Wonderful星璨卡	0	1200	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt08c4ba0838ee0e8a/5c66737c00babade43
13	日盛銀行 GOGO卡	0	1500	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltcd9a0dbed548cffe/5ced03344ed5501f1f9
14	元大銀行 iCash樂享晶緻卡	200000	3000	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltd51bcf991545f9ad/5ced03de4ed5501f1f9
15	聯邦銀行 樂活悠遊御璽卡	200000	0	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt9a96b7e831e71e63/5cbd38fa2d2e3e7919
16	元大銀行 愛PASS鈦金卡	200000	3000	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt9b8f19443c99709c/5c6674fae2c86a6c419
17	國泰世華 享購鈦金卡	500000	0	1.01	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt2494443fae434a80/5c6671330a42866d41
18	聯邦銀行 幸福御守御璽卡	650000	2000	1.02	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blta9ae779b73178672/5cfe09d5206547d52c
19	兆豐銀行 Gogoro 聯名卡	0	3000	1.015	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/bltb59e4f3ad29241d5/5c6674096d61b3c841
20	台新銀行 @GoGo iCash御璽卡	0	0	1.015	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt855704d8076b7be6/5c66747bab1817594
21	台新銀行 遠傳friDay聯名卡	0	3000	1.015	15	0	0	https://images.contentstack.io/v3/assets/blt4ca32b8be67c85f8/blt30e558063771d8a7/5c66748f1a6434cd41

creditcard

篩選機制

輸入條件:

● 年薪

● 是否追求紅利/里程回饋

```python
13 data=pd.read_csv('creditcard.csv')
14 #處理資料
15
16 income=int(input('請輸入年薪：'))
17
18 new_limit=[]#在跑的目標
19 for i in range(0,len(data['limit'])):
20     (data['limit'][i])=str(data['limit'][i])
21     if int(data['limit'][i]) <= income:
22         new_limit.append(i)
23
24 air_choose=input('追求里程回饋嗎？ 是/否：')
25 if air_choose=='是':
26     new_limit_1=[]#在跑的目標
27     for i in new_limit:
28         if data['airline'][i] != '0'  :
29             new_limit_1.append(i)
30 #處理資料
31 for i in range(0,len(data['airline'])):
32     if data['airline'][i] == '0' :
33         data['airline'][i]=0
34     else:
35         data['airline'][i]=float(data['airline'][i])
36 bonus_choose=input('追求紅利回饋嗎？ 是/否：')
37 if bonus_choose=='是':
38     if air_choose=='是':
39         new_limit_2=[]#在跑的目標
40         for i in new_limit_1:
41             if data['reward'][i] != '0':
42                 new_limit_2.append(i)
43     else:
44         new_limit_2=[]#在跑的目標
45         for i in new_limit:
46             if data['reward'][i] != '0':
```

篩選機制

設定偏好:

● 每月花費

● 回饋比例的權重

```python
49
50 #選比較項目
51 target=new_limit
52 if air_choose =='是':
53     target=new_limit_1
54 if bonus_choose=='是':
55     target=new_limit_2
56
57 #比重
58 spending=int(input('請輸入每月花費：'))
59 print('請輸入花費比重：(total:100)')
60 while(1):
61     sum_p=0
62     cash_p=int(input('現金回饋：'))
63     sum_p+=cash_p
64     if air_choose =='是':
65         airline_p=int(input('里程回饋：'))
66         sum_p+=airline_p
67     if bonus_choose=='是':
68         reward_p=int(input('紅利回饋：'))
69         sum_p+=reward_p
70     if sum_p==100:
71         break
72     else:
73         print('輸入比重錯誤，請重新輸入～')
74
```

篩選機制

演算法為：
spending(cash*cash_p+airline*airline_p+reward*reward_p)-annual_fee

```
74
75 #找出最讚：Formula=spending*cash*cash_p+(airline*airline_p)+(reward*reward_p)-annual_fee
76 choose=[]
77 choose.append(air_choose)
78 choose.append(bonus_choose)
79
80 compare=[]
81 for i in target:
82     tmp=spending*data['cash'][i]*cash_p-data['annual_fee'][i]#否否
83     if choose[0]=='是':
84         tmp=spending*(data['cash'][i]*cash_p+(data['airline'][i]*airline_p))-data['annual_fee'][i]#是否
85         if choose[1]=='是':
86             tmp=spending*(data['cash'][i]*cash_p+(data['airline'][i]*airline_p)+(data['reward'][i]*reward_p))-data['an
87     elif choose[1]=='是':
88         tmp=spending*(data['cash'][i]*cash_p+(data['reward'][i]*reward_p))-data['annual_fee'][i]#否是
89     compare.append(tmp)
90 ans_index= compare.index(max(compare))
91 print('此為您的命定卡片： %s ' % data['card'][ans_index])
92 print("""
```

Web

・用request取得相對應的變數，
http://127.0.0.1:5000/iwantcard是第一頁

```python
16  @app.route('/iwantcard',methods = ['GET','POST'])
17  def card():
18      if request.method == 'POST':
19          global new_limit
20          global air_choose
21          global bonus_choose
22          global target
23          global spending
24          income = request.values['income']
25          air_choose = request.form.get('air_choose')
26          bonus_choose = request.form.get('bonus_choose')
27          spending = int(request.values['spending'])
28          new_limit=[]
29          for i in range(0,len(data['limit'])):
30              if int(data['limit'][i]) <= int(income):
```

```python
16  @app.route('/iwantcard',methods = ['GET','POST'])
17  def card():
18      if request.method == 'POST':
19          global new_limit
20          global air_choose
21          global bonus_choose
22          global target
23          global spending
24          income = request.values['income']
```

Web

●按下submit之後會進入我們設定比例權重的第二頁畫面，最後進行推薦的輸出

```python
@app.route('/p',methods = ['GET','POST'])
def p():
    global new_limit
    global air_choose
    global bonus_choose
    global target
    global spending

    sum_p = 0
    compare=[]
    if air_choose == '是':
        if bonus_choose == '是':
            if request.method == 'POST':
                cash_p = int(request.values['cash_p'])
                airline_p = int(request.values['airline_p'])
                reward_p = int(request.values['reward_p'])
                sum_p = cash_p + airline_p + reward_p
                if not sum_p == 100:
                    return redirect(url_for('p'))

                for i in target:
                    tmp=spending*(data['cash'][i]*cash_p+(data['airl
                    compare.append(tmp)
                ans_index=target[ compare.index(max(compare))]
            return render_template('p_all.html')
        else:
            if request.method == 'POST':
                cash_p = int(request.values['cash_p'])
                airline_p = int(request.values['airline_p'])
                sum_p = cash_p + airline_p
                if not sum_p == 100:
                    return redirect(url_for('p'))

                for i in target:
                    tmp=spending*(data['cash'][i]*cash_p+(data['airl
                    compare.append(tmp)
                ans_index=target[ compare.index(max(compare))]
                return render_template('finalcard.html',card =data['ca
            return render_template('p_c+a.html')
    else:
        if bonus_choose == '是':
            if request.method == 'POST':
                cash_p = int(request.values['cash_p'])
                reward_p = int(request.values['reward_p'])
                sum_p = cash_p + reward_p
                if not sum_p == 100:
                    return redirect(url_for('p'))

                for i in target:
                    tmp=spending*(data['cash'][i]*cash_p+(data['rewa
                    compare.append(tmp)
                ans_index=target[ compare.index(max(compare))]
                return render_template('finalcard.html',card =data['ca
            return render_template('p_c+b.html')
        else:
            if request.method == 'POST':
```

Thank You for Your Listineng !

—Someone Famous

"This is a quote, words full of wisdom that someone important said and can make the reader get inspired."

A picture is worth a thousand words
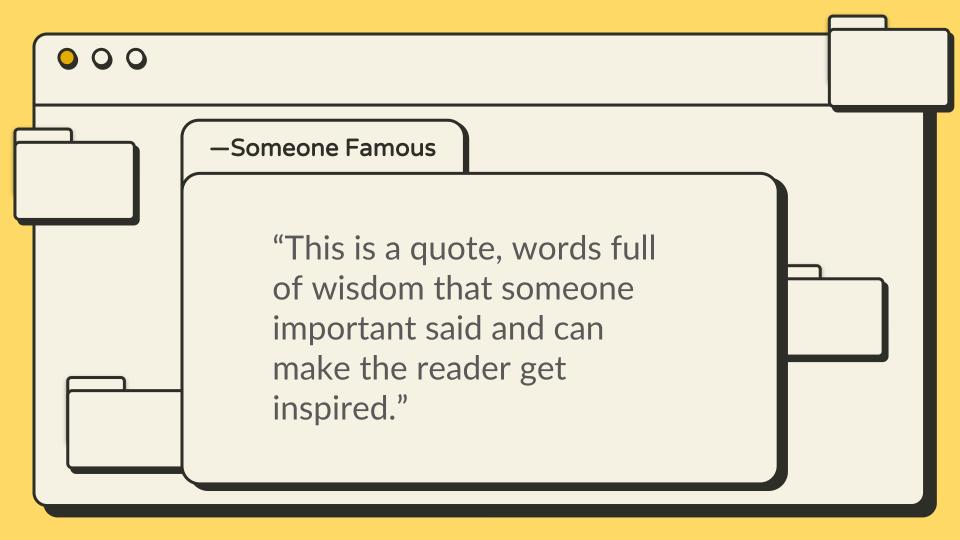
A PICTURE ALWAYS REINFORCES THE CONCEPT
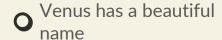
Images reveal large amounts of data, so remember: use an image instead of a long text. Your audience will appreciate that

Upcoming events

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
28	30	31				

● Mercury is the smallest one

○ Venus has a beautiful name

Checklist

Venus

- ✓ It's the closest planet to the Sun
- ✗ Venus is the second planet from the Sun
- ✓ Mars is actually a very cold place

Mercury

- ✗ Jupiter is the biggest planet of them all
- ✓ It's composed of hydrogen and helium
- ✗ It's the farthest planet from the Sun
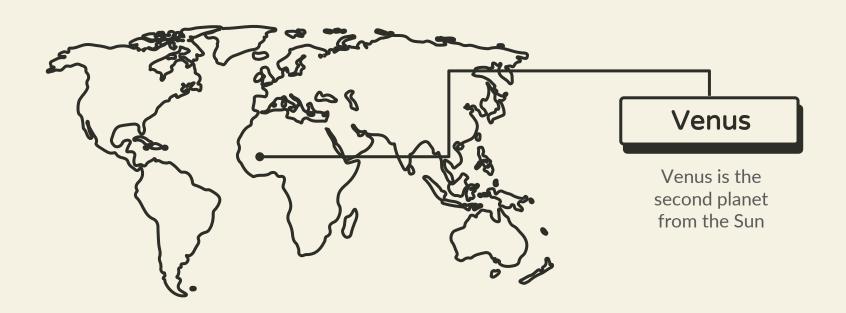
Map

Venus

Venus is the
second planet
from the Sun

KPI dashboard

30 — 20 — 10 — 0

Team 1 Team 2 Team 3 Team 4

Follow the link in the graph to modify its data and then paste the new one here. For more info, click here

$100.87
Venus has a beautiful name

3k Franchise
Mercury is the smallest planet

31 Days
Neptune is the farthest planet

5k Users
Jupiter is the biggest planet

150,000

Big numbers catch your audience's attention

Status report

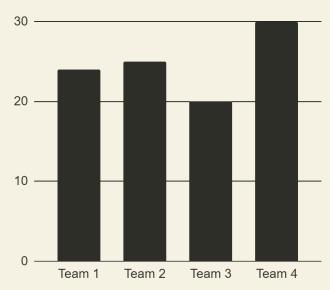|		
Schedule	The project schedule is on track	●●●●●●
Resourcing	Resourcing is adequate	●●●●○○
Budget	Project is not within budget	●●○○○○
Risk	Most project risks are under control	●●●●○○
Issues	Project issues need to be solved	●●○○○○
Benefits	Project benefits meet the expectations	●●●●●○

RAID summary

Risks

Venus is the second planet from the Sun

Assumptions

It's the biggest planet in the Solar System

Issues
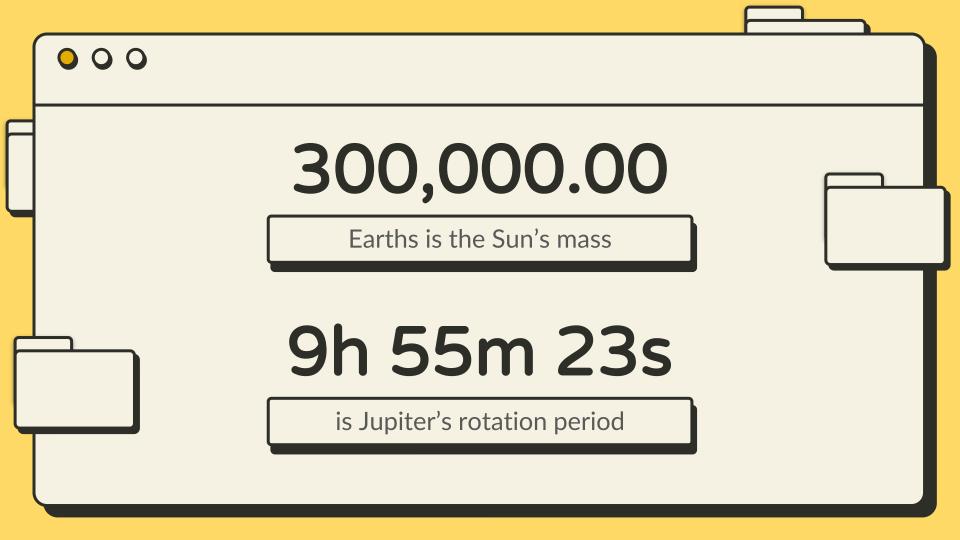
Despite being red, Mars is a cold place

Dependencies

Saturn is a gas giant and has several rings

300,000.00

Earths is the Sun's mass

9h 55m 23s

is Jupiter's rotation period

Awesome words

Our goals

Mercury

It's the closest planet to the Sun and the smallest in the Solar System

Venus

Venus has a beautiful name and is the second planet from the Sun

Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust

Mockup

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Thanks!

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yourcompany.com

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Photos

- New york city financial district skyline
- Low angle view of high-rise buildings
- Empire state building on bright sunny day
- City background panoramic view I
- City background panoramic view II

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- Low angle of plain concrete structure in the city with copy space
- Residential area with new buildings
- City background panoramic view

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#ffd966

#595959

#f6f2e3

#e4ab00

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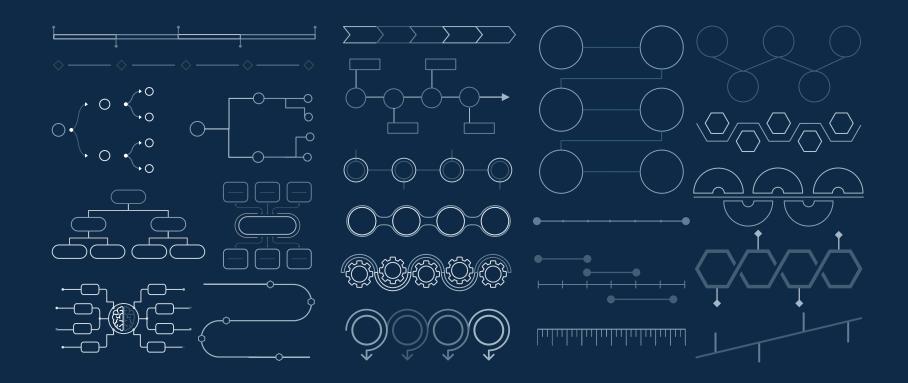Pana   Amico   Bro   Rafiki   Cuate
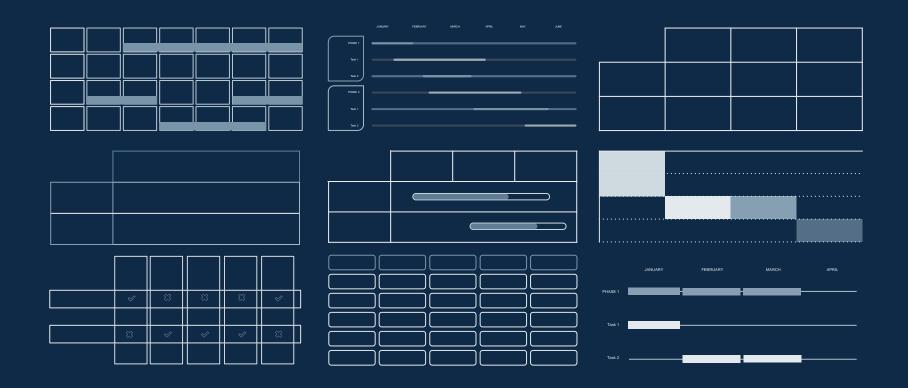
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You can easily resize these resources without losing quality. To change the color, just ungroup the resource and click on the object you want to change. Then, 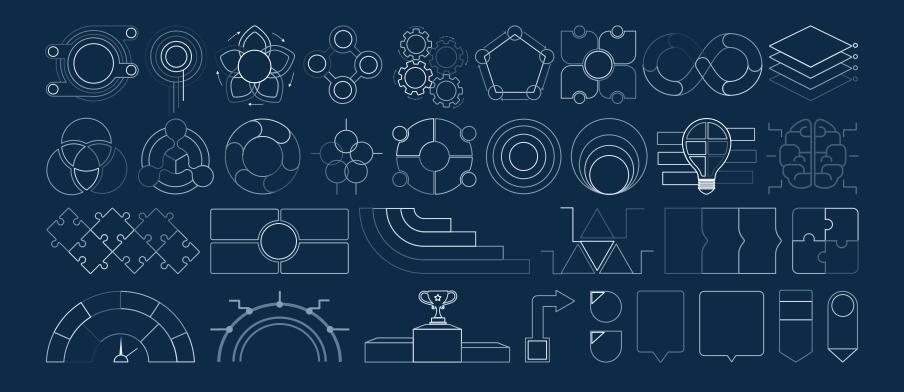click on the paint bucket and select the color you want. Group the resource again when you're done. You can also look for more infographics on Slidesgo.
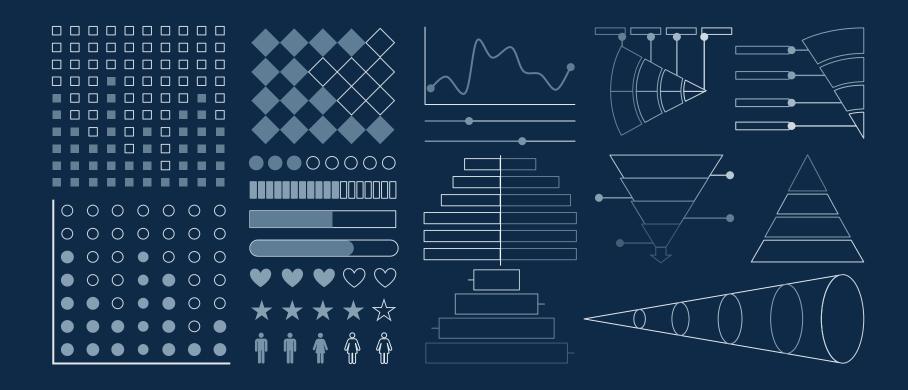
PHASE 1

Task 1

Task 2

PHASE 2

Task 1

Task 2

JANUARY   FEBRUARY   MARCH   APRIL

PHASE 1

Task 1

Task 2

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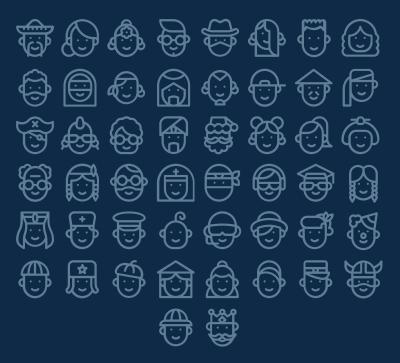
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