

Cloud & Distributed Computing

Project “Kampung”





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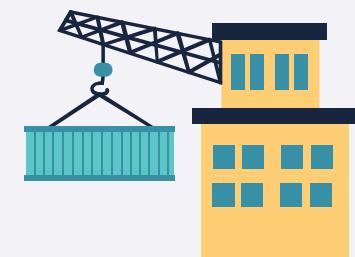


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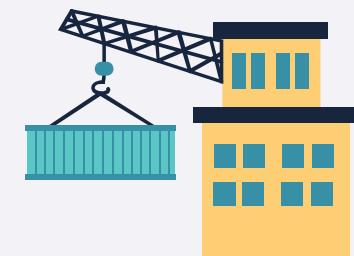
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04 System Design

05 Implementation



01

Problem Statement





“Inadequate community communication hinders vital information sharing and neighborhood service access.”



Introduction

In today's digitally connected world, communities confront a pressing challenge:

1. The need for **stronger bonds**
2. **Streamlined communication** platform
3. **Access to localized services** within their vibrant ecosystems.

Traditional solutions often fall short in addressing complex issues like **community engagement**.



The Problem

The current HDB lacks a **centralized, efficient, and modern platform** for fostering community engagement, sharing vital information, and accessing neighborhood-specific services.



Why addressing this problem matters?

It is a promising step towards building a more **connected, informed and sustainable neighborhood.**



Examples of the current solution



02

Our Solution





‘Kampung’

A digital community bulletin board:

1. Empowers users to **initiate community-driven events and facilitates** engaging discussions through commenting on each event.
2. Users can **stay updated with community announcements**, ensuring they remain informed about the latest happenings in their neighborhood.



Services Used



Front-end user interface



Containerization of Microservices



Remote procedure call framework



kubernetes

Orchestrating of containers

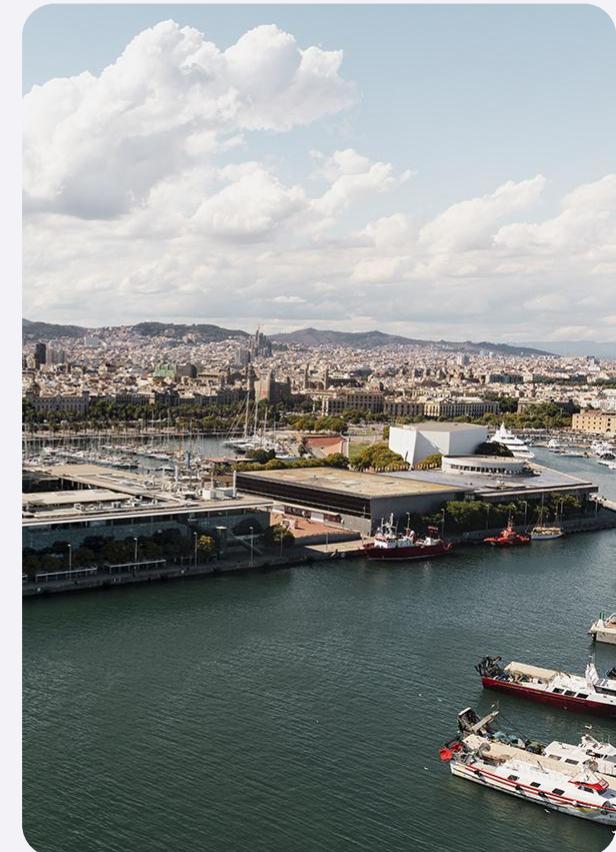


Data & image storage
S3 and DynamoDB



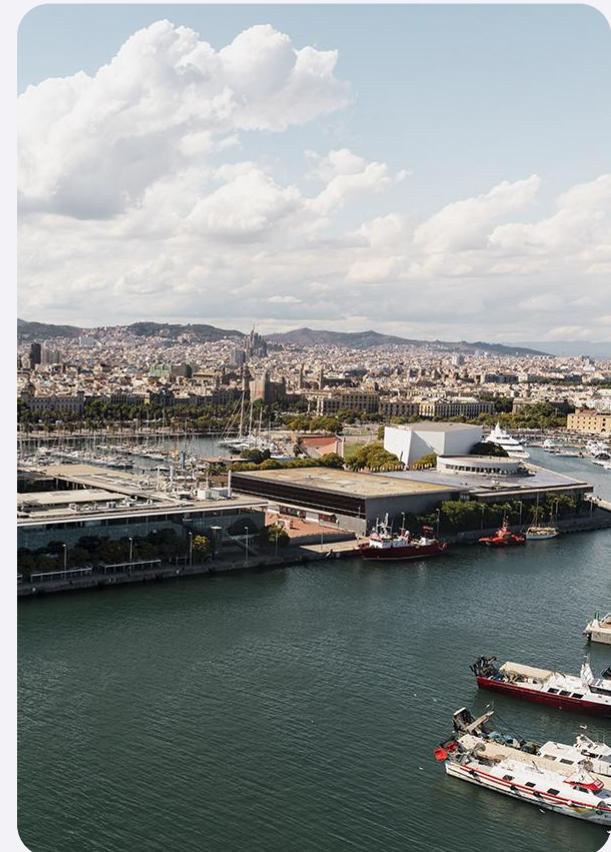
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Front End Demonstration

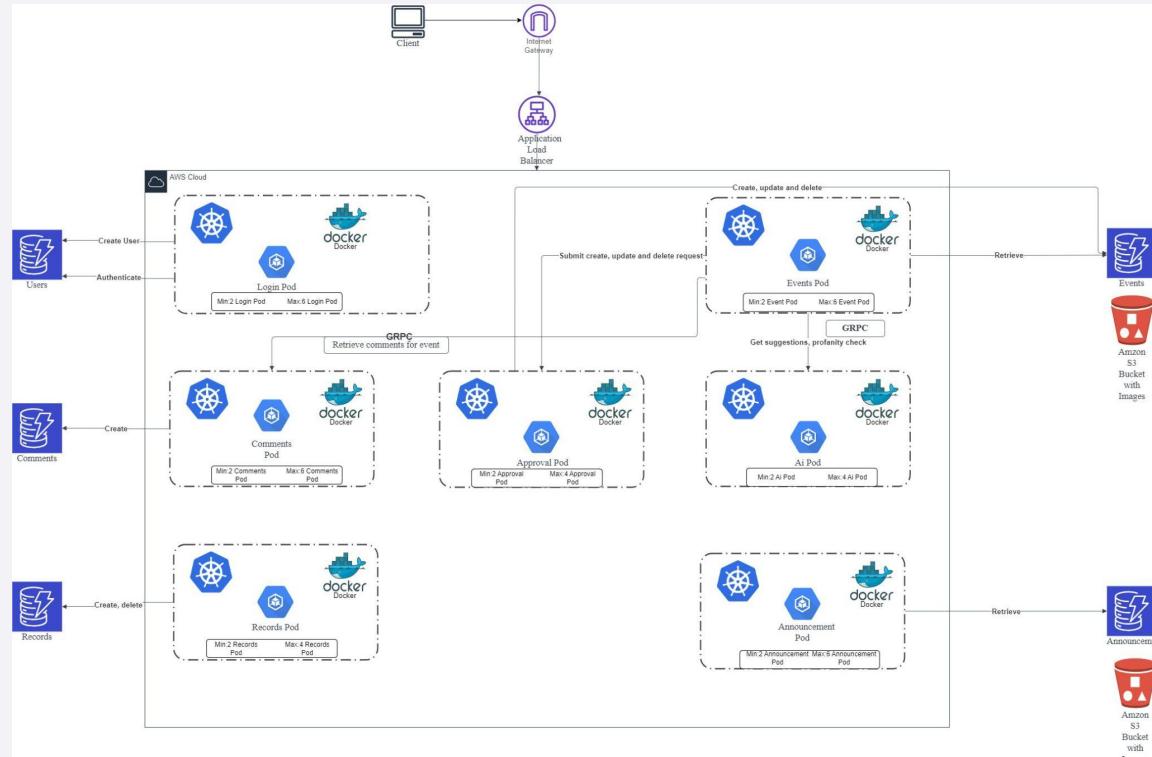


04

System Design



System Architecture



GRPC

Proto

```
syntax = "proto3";

package events;

service EventsService {
    // Get event details by event ID.
    rpc Add(Request) returns (Reply) {};
}

message Request {
    string z = 1;
}

// The response message containing arithmetics result for add, sub, mul
message Reply {
    repeated Keyvalue res=1;
}

message Keyvalue{
    string key = 1;
    string value = 2;
}
```

Client

```
with grpc.insecure_channel('event-service-hostname:50051') as channel:

    stub = events_pb2_grpc.EventsServiceStub(channel)
    request = events_pb2.Request(z=event_id)
    response = stub.Add(request)
    event_details = response.res
    event_details_dict = {}
    for item in event_details:
        event_details_dict[item.key] = item.value

    if response:
        # Access specific attributes based on the gRPC message structure

        event_start_date = event_details_dict['event_start_date']
        event_end_date = event_details_dict['event_end_date']
        event_description = event_details_dict['event_description']
        event_name = event_details_dict['event_name']

        return render_template('addcomment.html', event_id=event_id, event_name=event_name, event_st
    else:
        return "Event not found" # Handle the event not found case
```

Server

```
def serve():
    server = grpc.server(futures.ThreadPoolExecutor(max_workers=10))
    events_pb2_grpc.add_EventsServiceServicer_to_server(EventsServicer(), server)
    server.add_insecure_port('[::]:50051') # Specify the port where your server will listen
    server.start()
    server.wait_for_termination()

if __name__ == '__main__':
    serve()
```

05

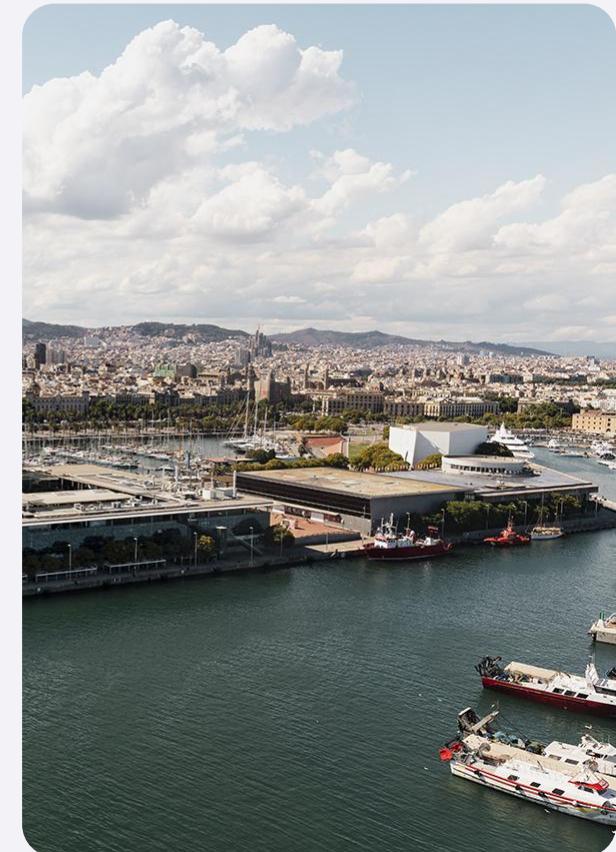
Implementation



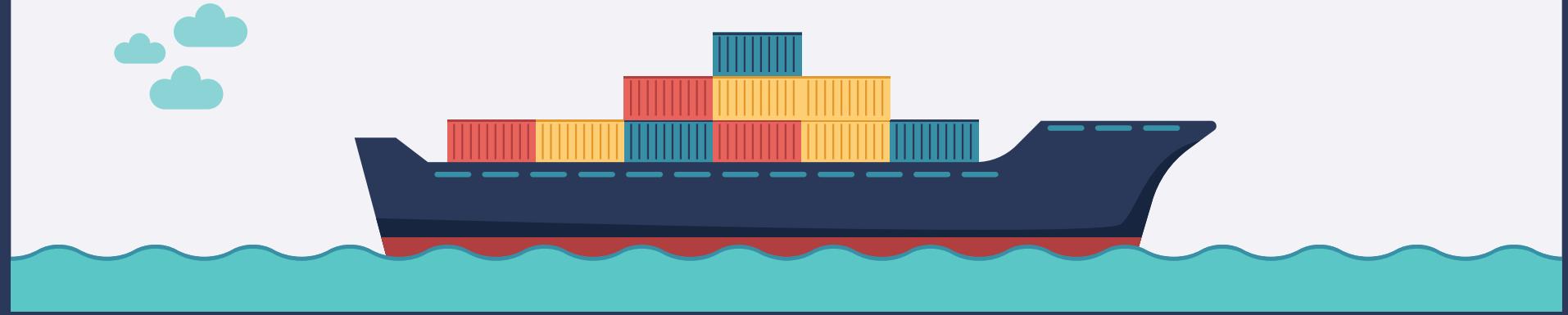
05



Demonstration



The End





Amazon Web Services

Amazon S3

- Securely store static files, including images, providing a reliable and highly available storage solution.

DynamoDB

- Store crucial data such as event details, login information, comments, and participation records

	Name	Status	Partition key	Sort key
<input type="checkbox"/>	announcements	Active	announcement_id (S)	-
<input type="checkbox"/>	Bulletin	Active	Key (S)	Name (S)
<input type="checkbox"/>	comments	Active	comment_id (S)	-
<input type="checkbox"/>	events	Active	event_id (S)	-
<input type="checkbox"/>	Users	Active	email (S)	-



amazon
DynamoDB



amazon
S3





Docker Containerization

What is Containerization?

- Runs applications in isolated environments
- Lightweight and portable

Benefits of Containers

- Encapsulates application with dependencies
- Enhances consistency across environments

Role of Docker Hub

- Central repository for container images
- Ensures up-to-date deployments



gRPC



Kubernetes



Thanks!

Any questions?

youremail@freepik.com

+91 620 421 838

yourwebsite.com



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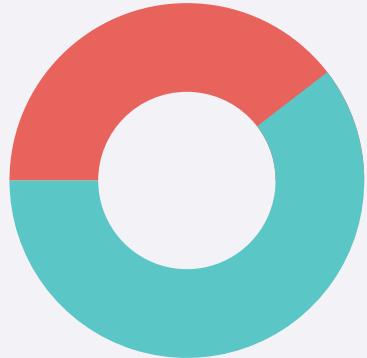
Key drivers of the profit



	Description	Example
The situation	You need to provide a neutral description with facts that you know your audience will agree on	Our company has been selling its products in the us for 10 years, with an annual profit growth above 10%
The complication	The complication is a desired change of the current situation	With a market share already above 40%, profit growth will be limited in the us
The question	The question that implicitly results from the complication	Should we enter the European market?



Financial model



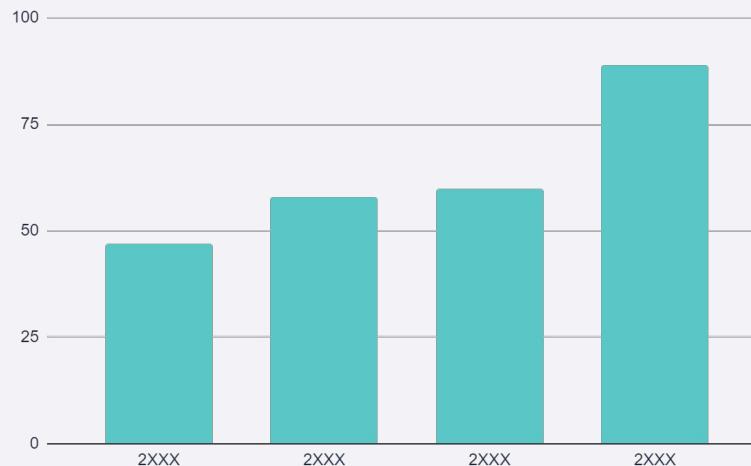
60%
Venus

Venus is the second planet from the Sun



40%
Mars

Despite being red, Mars is a cold place



Jupiter

* Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)



Consulting proposal



Services

Mercury is the closest planet to the Sun



Fees

Venus is the second planet from the Sun



Invoices

Despite being red, Mars is actually a cold place



Expenses

Jupiter is the biggest planet of them all



Materials

Saturn is composed of hydrogen and helium



Terms

Neptune is the farthest planet from the Sun



Business case



- 1 Mercury is the closest planet to the Sun
- 2 Jupiter is the biggest planet of them all
- 3 Venus is the second planet from the Sun



- 4 Saturn is composed of hydrogen and helium
- 5 Mars is actually a very cold place
- 6 Neptune is the farthest planet from the Sun



Implement, track & manage progress

Manage progress				
Progress	Status			Link
	To do	In prog.	Done	
Venus	0%			www.yourlinkhere.com
Mars	35%			www.yourlinkhere.com
Neptune	0%			www.yourlinkhere.com
Jupiter	50%			www.yourlinkhere.com
Earth	100%			www.yourlinkhere.com
Ceres	90%			www.yourlinkhere.com





\$489,300

Big numbers catch your audience's attention

\$20,000

Mars is actually a cold place

\$15,000

Venus has a beautiful name

\$10,000

Mercury is quite a small planet

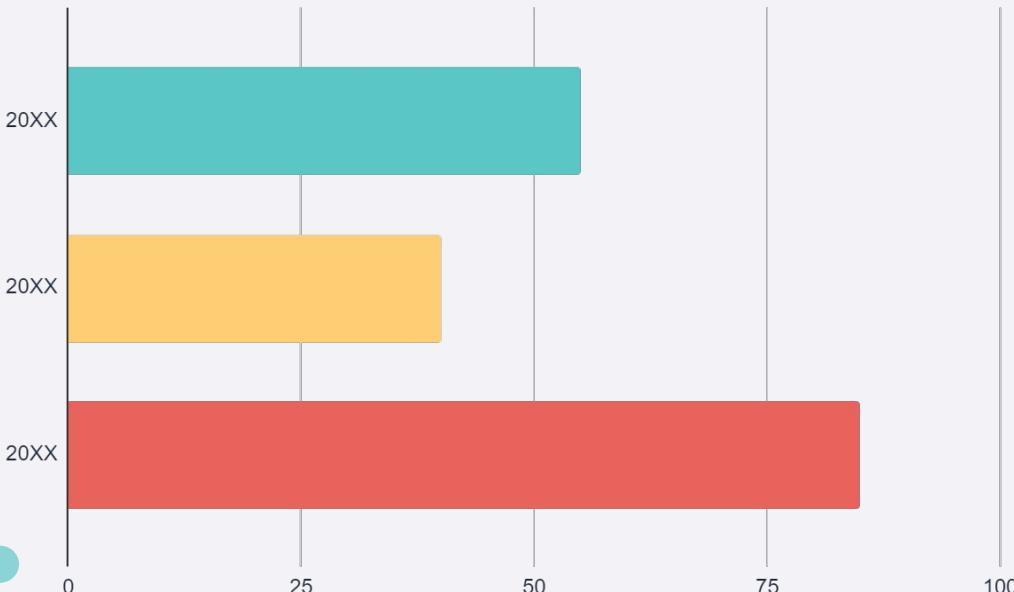
\$45,000

Saturn has several rings





Comparison between years



Venus

Venus is the second planet from the Sun



Mars

Despite being red, Mars is actually a cold place

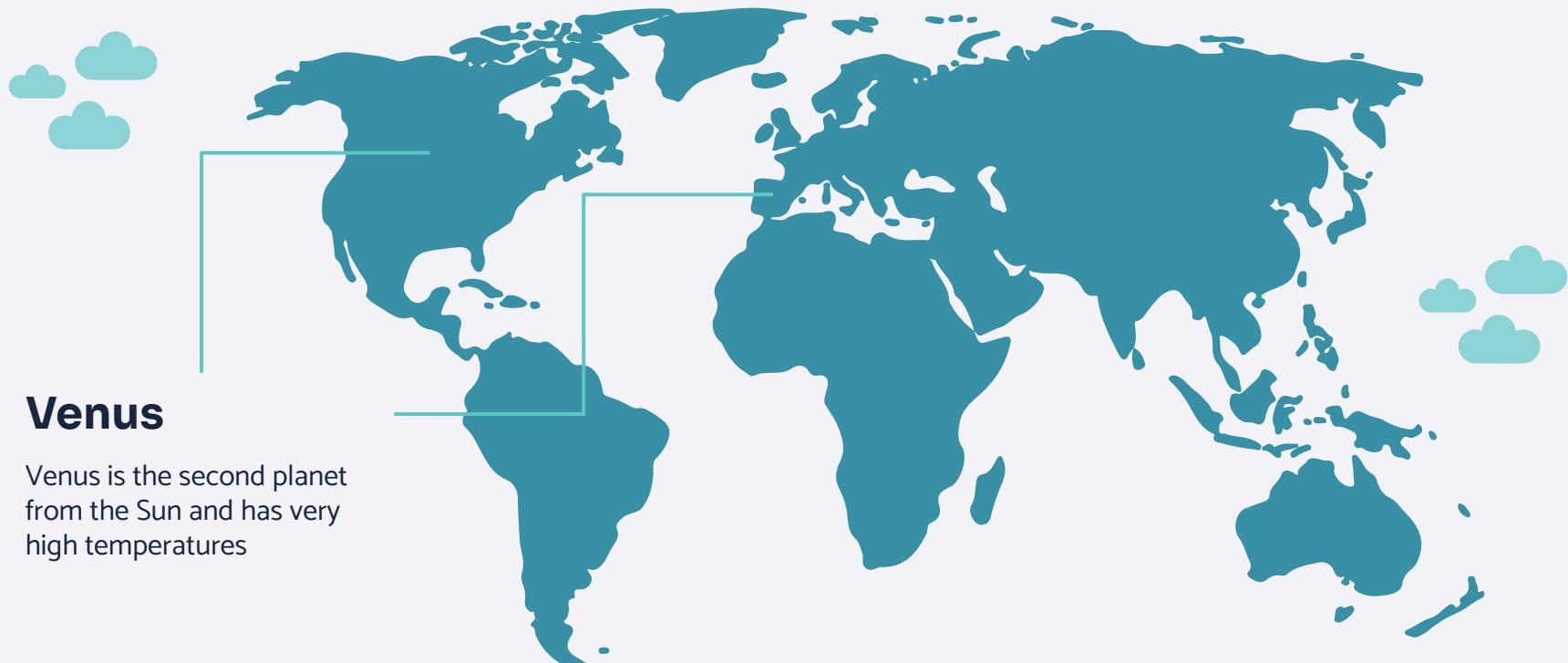


Vision

Jupiter is the biggest planet of them all

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

Strategic alliances



Venus

Venus is the second planet from the Sun and has very high temperatures

Answers and arguments



Write your question

Write your answer

Arguments

Saturn

Saturn is a gas giant and has several rings. It's composed mostly of hydrogen and helium. It's the sixth planet from the Sun

Venus

Venus is the second planet from the Sun. It's terribly hot, even hotter than Mercury, and its atmosphere is extremely poisonous

Mars

Despite being red, Mars is actually a very cold place. It's full of iron oxide dust, which is what gives the planet its reddish cast



Top 10 questions of business plans

1 What is your situation?

2 What is your vision?

3 How to reach your vision?

4 What do you offer?

5 How big is the market?

6 Who are the key players?

7 How to make a difference?

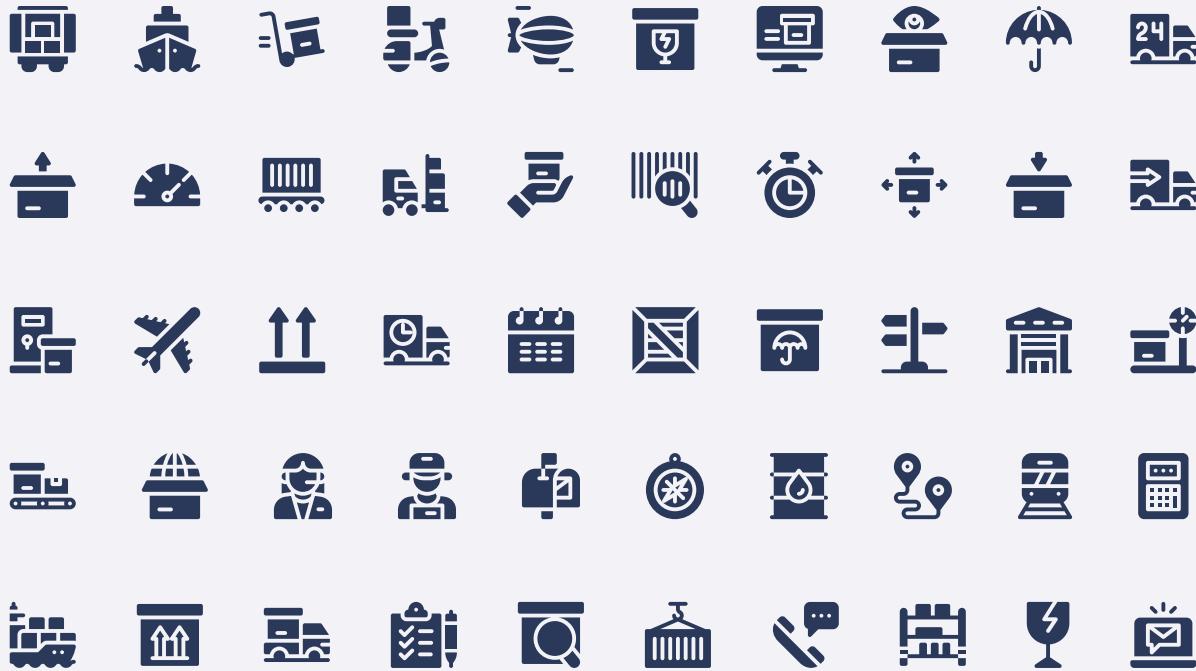
8 What is your marketing plan?

9 What are your economics?

10 What do you need to start?



Icon pack



Alternative resources

Here's an assortment of alternative resources whose style fits that of this template:

Vectors

- Hand drawn exportation concept
- Hand drawn container ship illustrated



Resources

Did you like the resources on this template? Get them for free at our other websites:

Photos

- Beautiful landscape of seaboard town

Vectors

- Pack of different waves
- Flat design import and export template
- Flat design container ship illustration I
- Flat design container ship illustration II
- Hand drawn export infographic

Icons

- Icon Pack: Logistics I Filled



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Pana



Amico



Bro



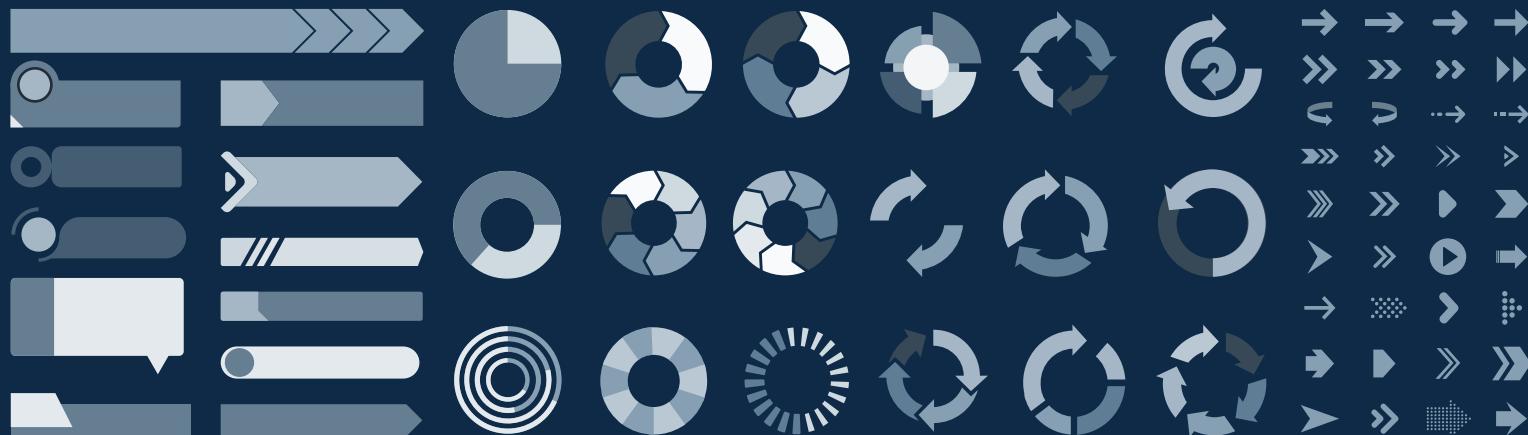
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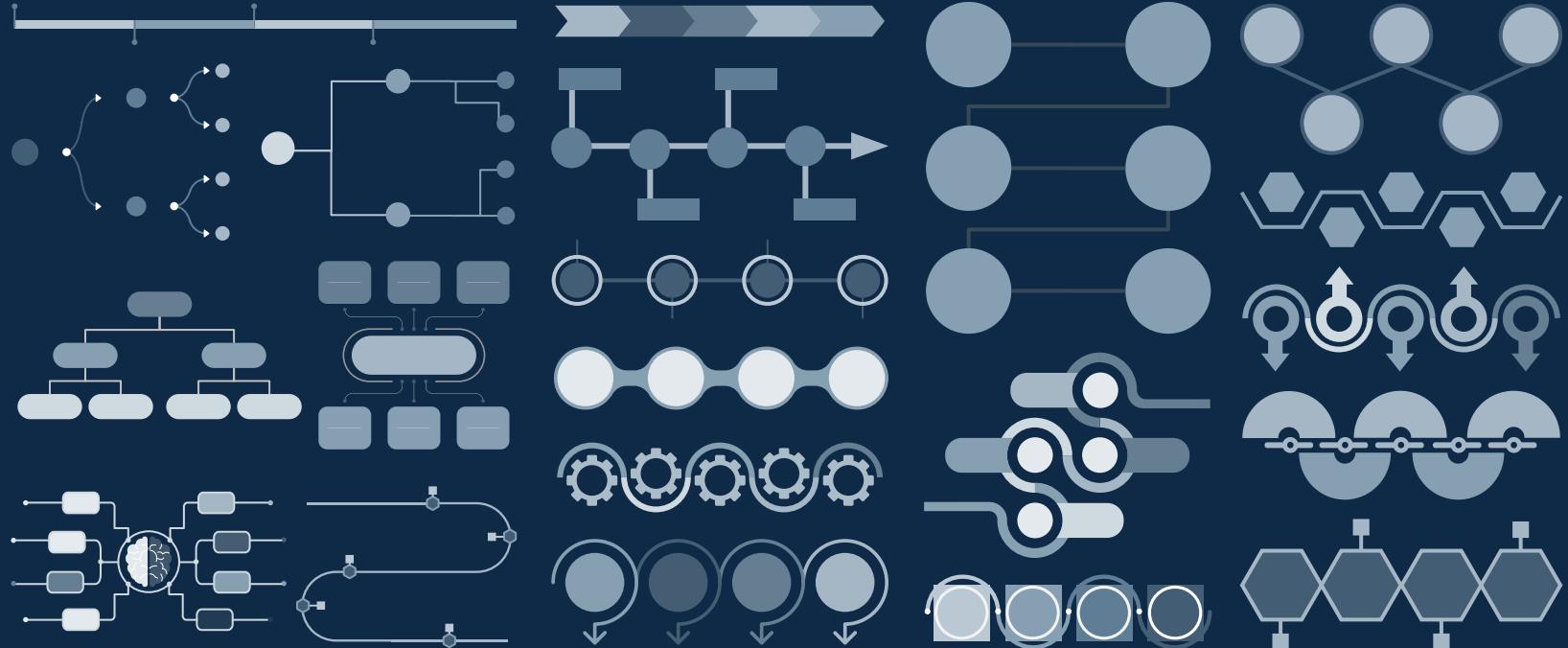
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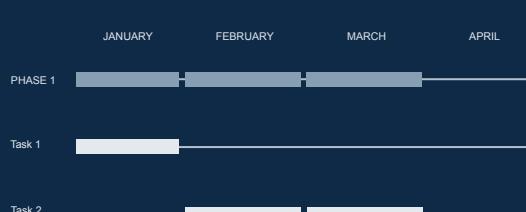
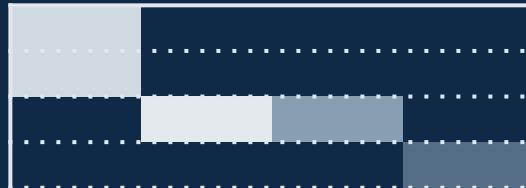
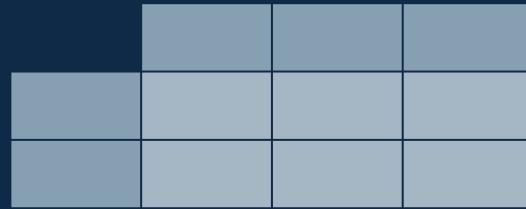
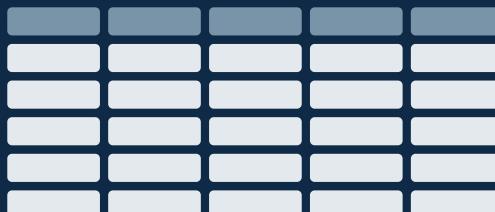
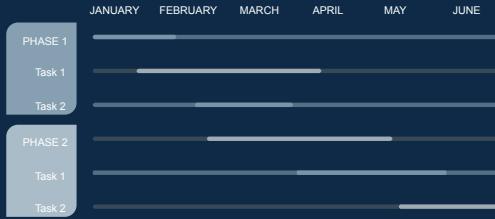
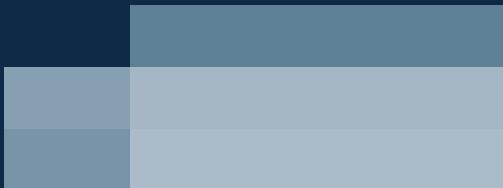
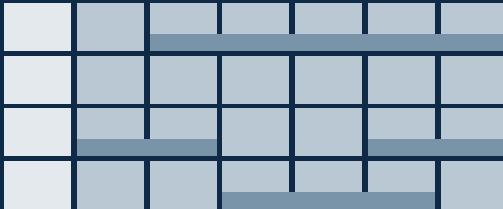
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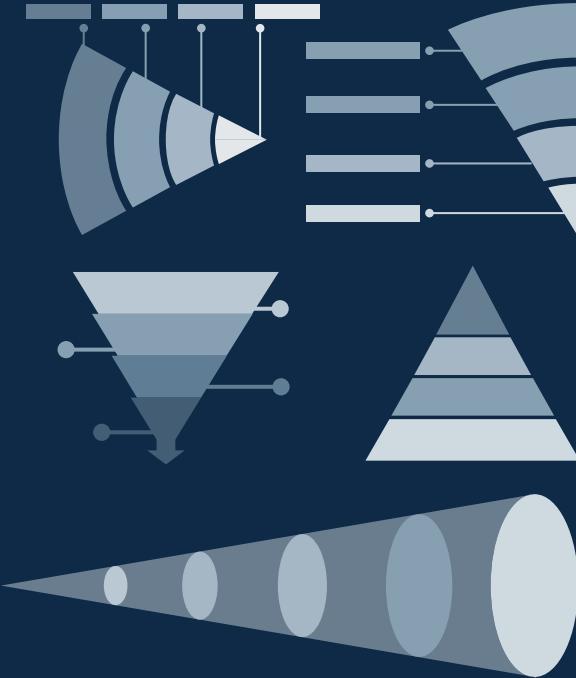
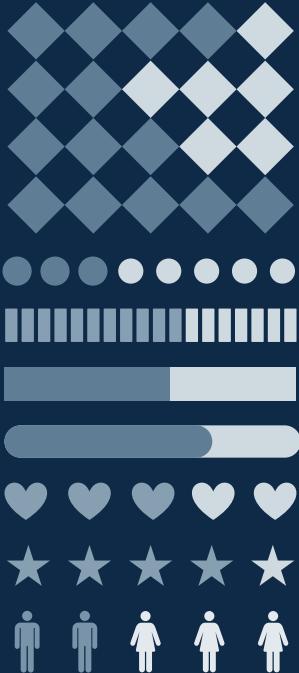
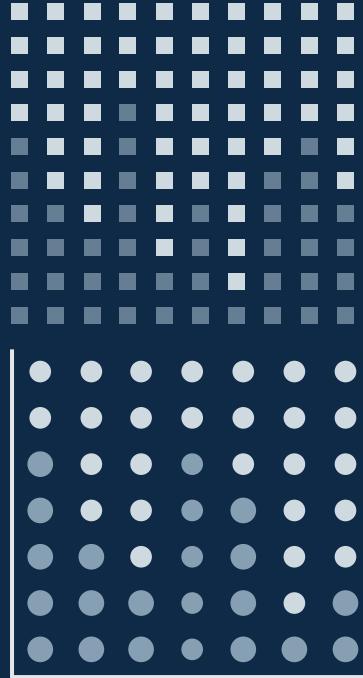












...and our sets of editable icons

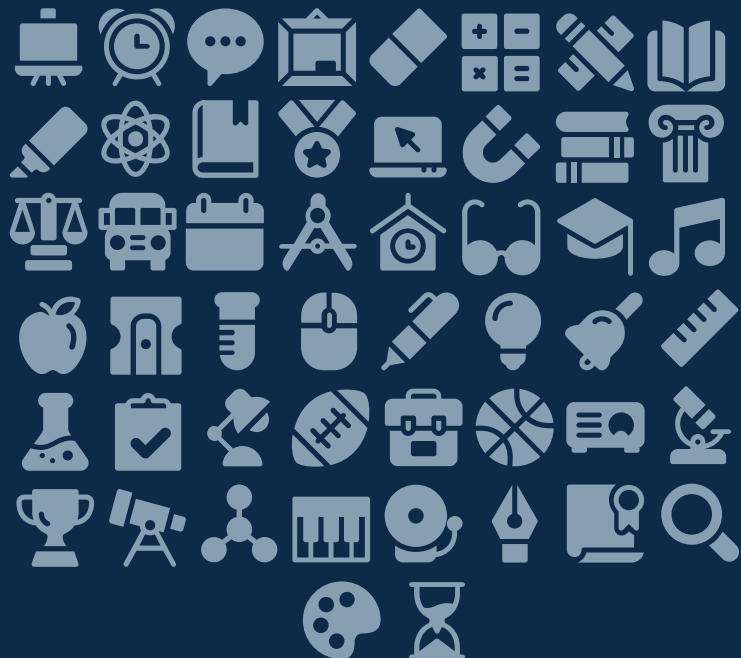
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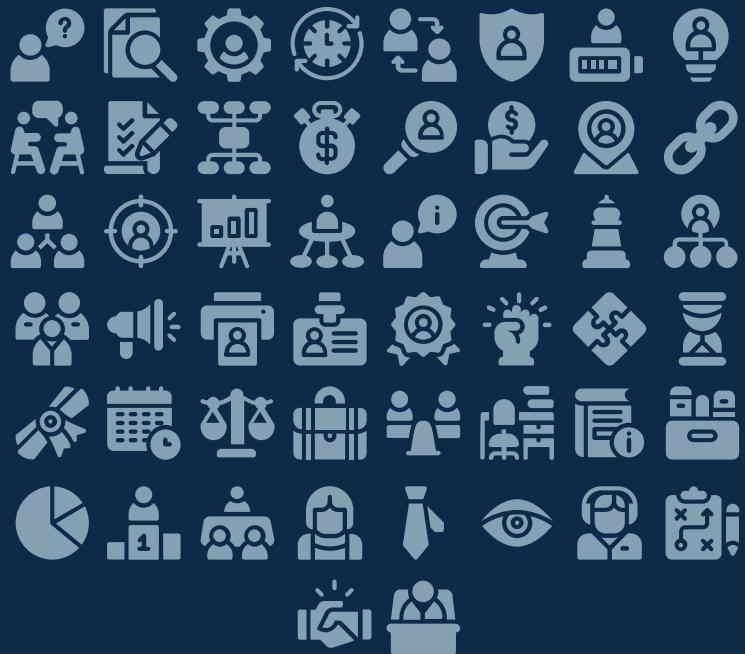
Medical Icons



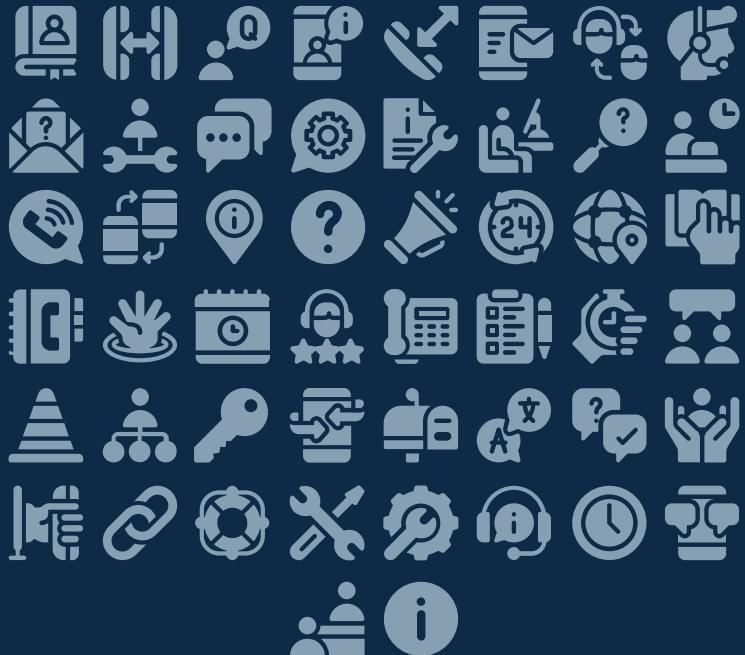
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