



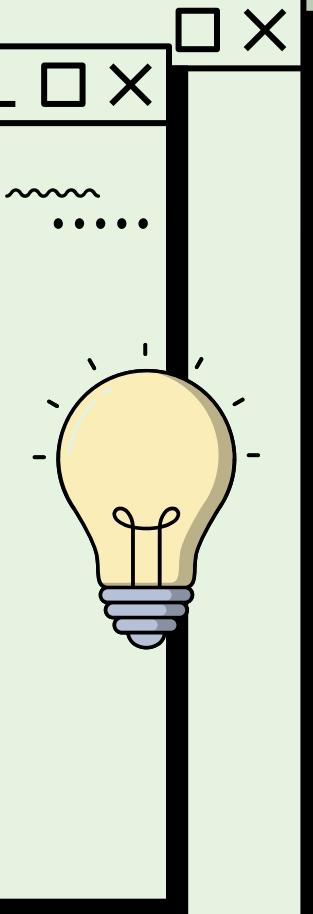
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Project Work

Algoritmi e Protocolli per la Sicurezza

Docenti:
Carlo Mazzocca,
Francesco Cauteruccio

Gruppo 6 - Studenti:
Francesco Pio Cirillo,
Alessandra Fasolino





Overview

Threat Model

01 Contestualizzazione dei treat model e Analisi della sicurezza

02 Prestazioni

Analisi dell'overhead spaziale e dei tempi

03 Schema

Interazioni e gestione dello scambio di messaggi

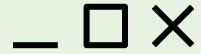
04 Merkle Tree

Gestione della privacy dello studente

05 Blockchain

Gestione della revoca dei certificati

01. Threat Model



««« TM4 - Man in the middle durante lo scambio di chiavi

Risorse

Accesso attivo alla comunicazione

Obiettivo

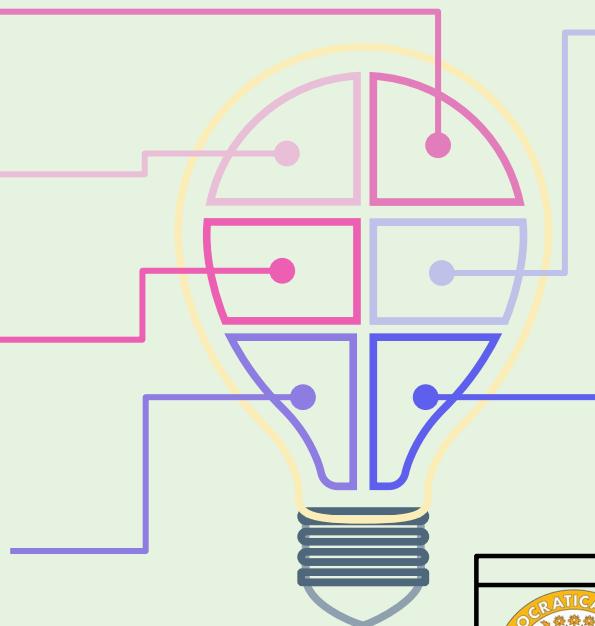
Ottenerne la chiave di sessione

Impatto

Perdita di sicurezza nello scambio
di informazioni da ambo le parti
oneste.

Attaccante

Hacker professionista



Asset

Chiave di sessione per la
comunicazione simmetrica

Security Analysis

Le parti oneste coinvolte devono
dimostrare la loro identità per
mezzo della decrittazione di
Nonce critografati con la chiave
pubblica.



TM7 - Cambio dello stato di revoca di un certificato

Risorse

Essere un proponente della blockchain che ospita la lista delle revoche

Obiettivo

Modificare lo stato di revoca di un certificato per fare in modo da far risultare non revocato un certificato revocato

Impatto

Perdita di fiducia nell'università e nei certificati da essa rilasciati

Attaccante

Terza parte malintenzionata

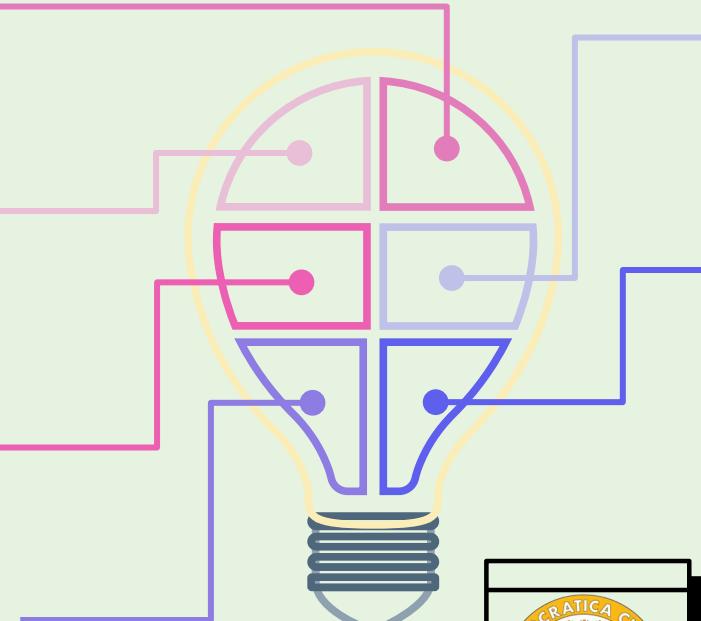
revocato

Asset

Credibilità dell'università e credibilità delle certificazioni

Security Analysis

Essendo un proponente per la blockchain, si tratta di una struttura dati append-only e non sono quindi possibili modifiche a dati già aggiunti.



02. Prestazioni

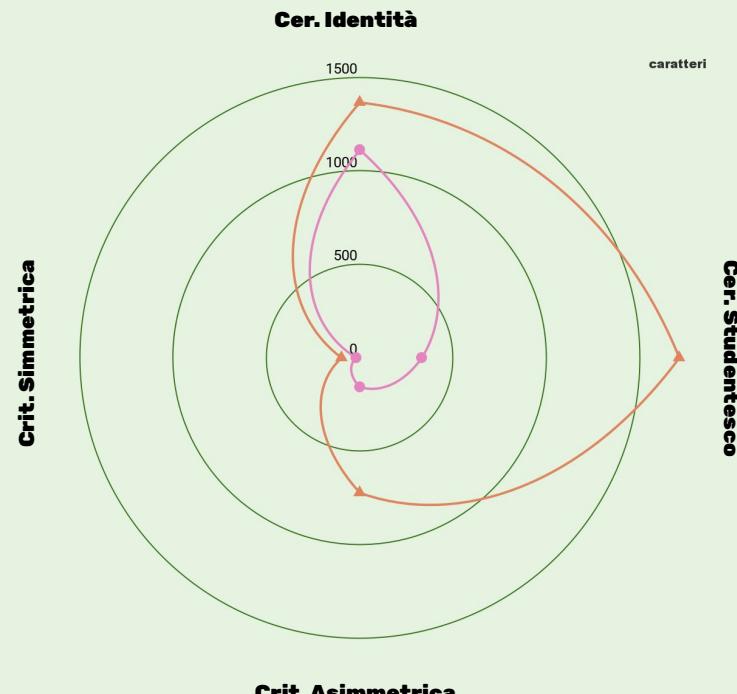
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Latenza



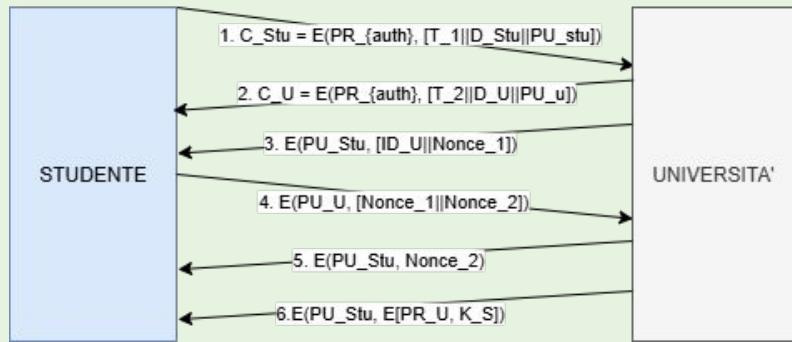
 Size originale

 Overhead

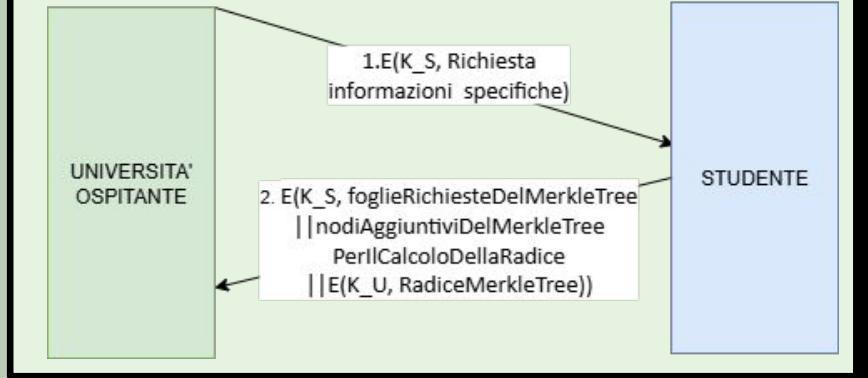


03. Schema

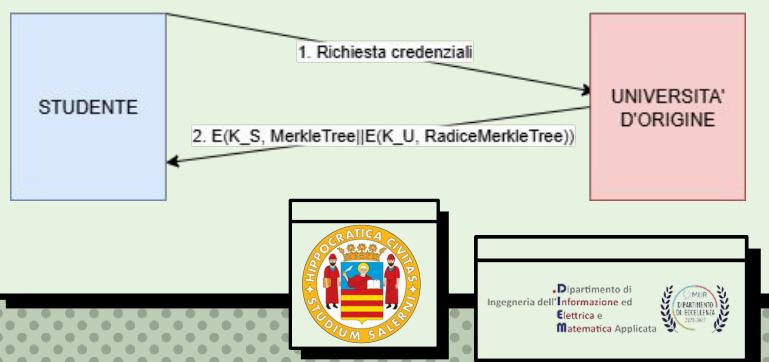
FASE A



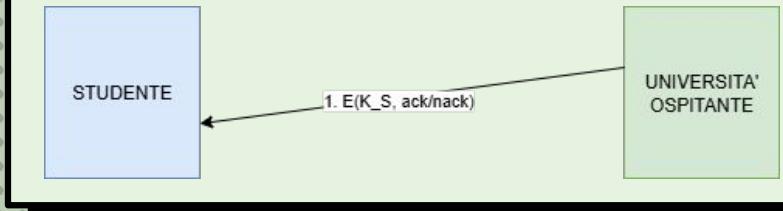
FASE C



FASE B



FASE D



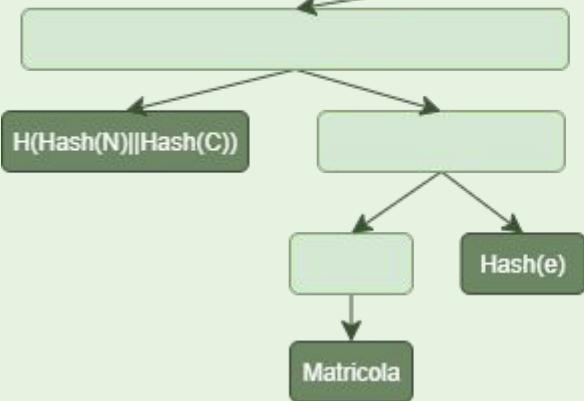
FASE E



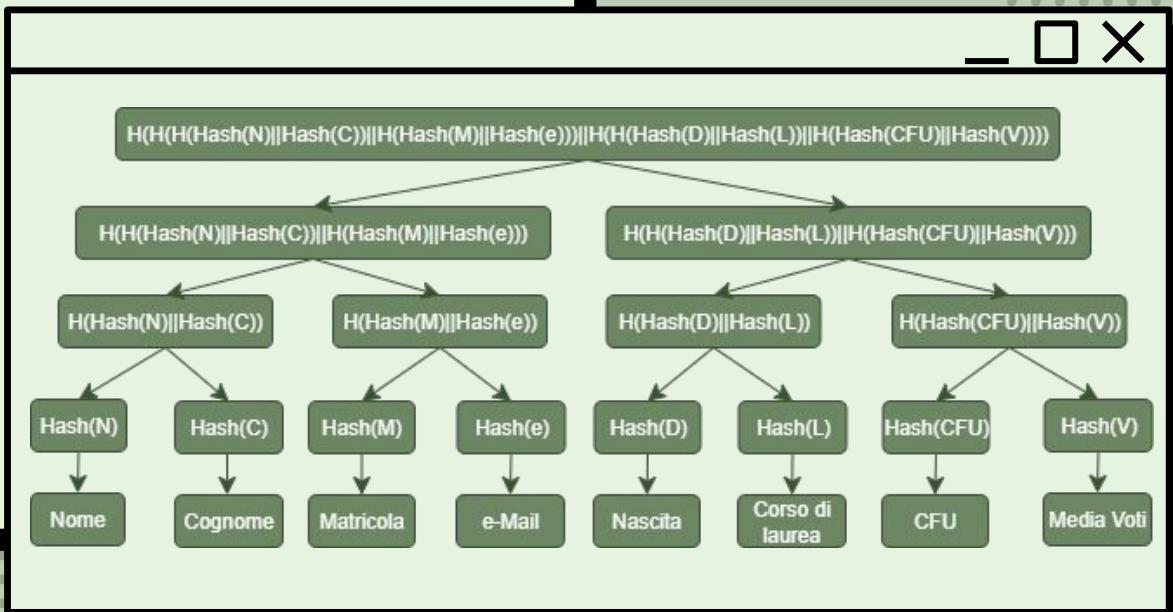
04. Merkle Tree



$H(H(H(Hash(N)||Hash(C))||H(Hash(M)||Hash(e))))||H(H(Hash(D)||Hash(L))||H(Hash(CFU)||Hash(V))))$



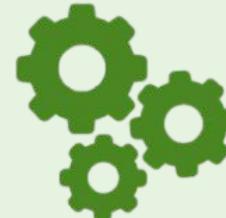
$H(H(H(Hash(N)||Hash(C))||H(Hash(M)||Hash(e))))||H(H(Hash(D)||Hash(L))||H(Hash(CFU)||Hash(V))))$



05. Blockchain



SMART CONTRACT



PARTIES

SMART CONTRACT

EXECUTION



Dipartimento di
Ingegneria dell'Informazione ed
Elettrica e
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**Grazie per
l'attenzione**

e

>>>

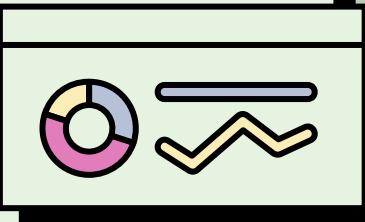
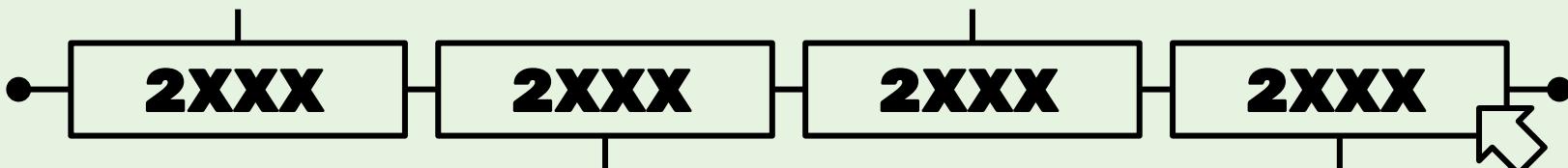


.....

Our evolution

Mercury

Mercury is the closest planet to the Sun



Earth

Earth is the beautiful planet where we all live

Venus

Venus is the second planet from the Sun

Mars

Despite being red, Mars is a very cold planet



>>>

What sets us apart?

~~~~~  
.....



## Jupiter

Jupiter is a gas giant and the biggest planet in the Solar System. It was named after the Roman god



## Saturn

Saturn is a gas giant and has several rings. It was named after the Roman god of wealth and agriculture



## Neptune

Neptune is the farthest planet from the Sun. It's also the fourth-largest planet by diameter in the Solar System

# What do we do?

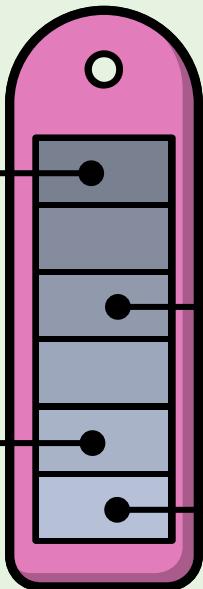
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## Mercury

Mercury is the closest planet to the Sun and the smallest of them all

## Earth

Earth is the third planet from the Sun and the only one that harbors life



## 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



# How do we do it?



## Jupiter

Jupiter is the biggest planet in the Solar System



## Saturn

Saturn is a gas giant and has several rings



## Neptune

Neptune is the farthest planet from the Sun



## Sun

The Sun is the star at the center of the Solar System

# Our clients

>>>

## Mercury

Mercury is the closest planet to the Sun

## Venus

Venus is the second planet from the Sun

## Mars

Despite being red, Mars is actually cold place

## Jupiter

Jupiter is the biggest planet of them all

## Saturn

Saturn is composed of hydrogen and helium

## Neptune

Neptune is the farthest planet from the Sun

# What do they say about us?

>>>



“Mercury is the closest planet to the Sun and also the smallest one in the Solar System”

**—Laura Patterson**



“Venus has a beautiful name and is the second planet from the Sun. It’s terribly hot, even hotter than Mercury”

**—Monique Nelson**



“Earth is the third planet from the Sun and the only one that harbors life in the Solar System”

**—John James**

....

.....

# Case studies

&gt;&gt;&gt;&gt; ~~~~

|         |                                                              |                                                                       |
|---------|--------------------------------------------------------------|-----------------------------------------------------------------------|
| Mars    | Despite being red, Mars is actually a cold place             | It's full of iron oxide dust, which gives the planet its reddish cast |
| Jupiter | Jupiter is a gas giant and the biggest planet                | It was named after the Roman god of the skies and lightning           |
| Saturn  | Saturn is a gas giant composed mostly of hydrogen and helium | It was named after the Roman god of wealth and agriculture            |
| Neptune | Neptune is the farthest planet from the Sun                  | It's also the fourth-largest planet by diameter in the Solar System   |



# Awards

..... ~~~~  
>>>

- Name of the award (Organization), 2XXX



>>>

# Meet the team

~~~~~  
.....



**John
Doe**

You can replace
the image with
your own

Meet



**Helena
James**

You can replace
the image with
your own

Meet





Overview



01

Treat Model

Contestualizzazione dei
treat model e Analisi della
sicurezza

02

Schema

You can describe the topic
of the section here

03

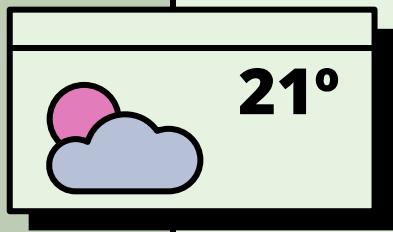
Markle Tree

You can describe the topic
of the section here

04

Block Chain

You can describe the
topic of the section here



21°

>>>

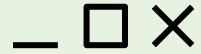


141,994



Big numbers catch your audience's attention





9h 55m 23s

Jupiter's rotation period

333,000

The Sun's mass compared to Earth's



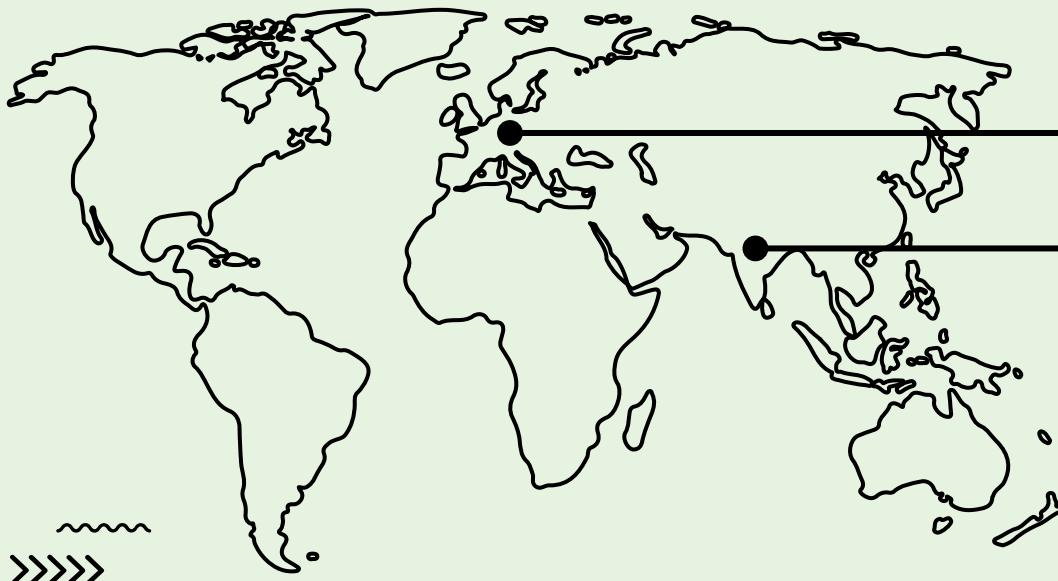
386,000 km

Distance between Earth and the Moon



We are international

.....



Netherland

S

Despite being red, Mars
is actually cold place

India

Neptune is the farthest
planet from the Sun



— □ ×

>>>

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

-Someone Famous

~~~~  
.....

A black outline of a hand cursor pointing towards the text "-Someone Famous".

# Thanks!

Does anyone have any questions?

addyouremail@freepik.com

+91 620 421 838

yourwebsite.com



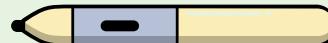
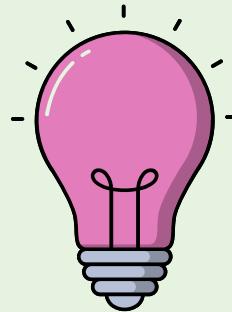
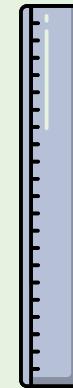
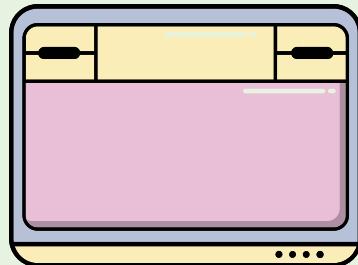
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- Graphic design creative process



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- People working as a team company I
- People working as a team company II
- People working as a team company III
- People working as a team company IV

## VECTORS

- Linear flat ui/ux background
- Graphic design creative process

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Pana



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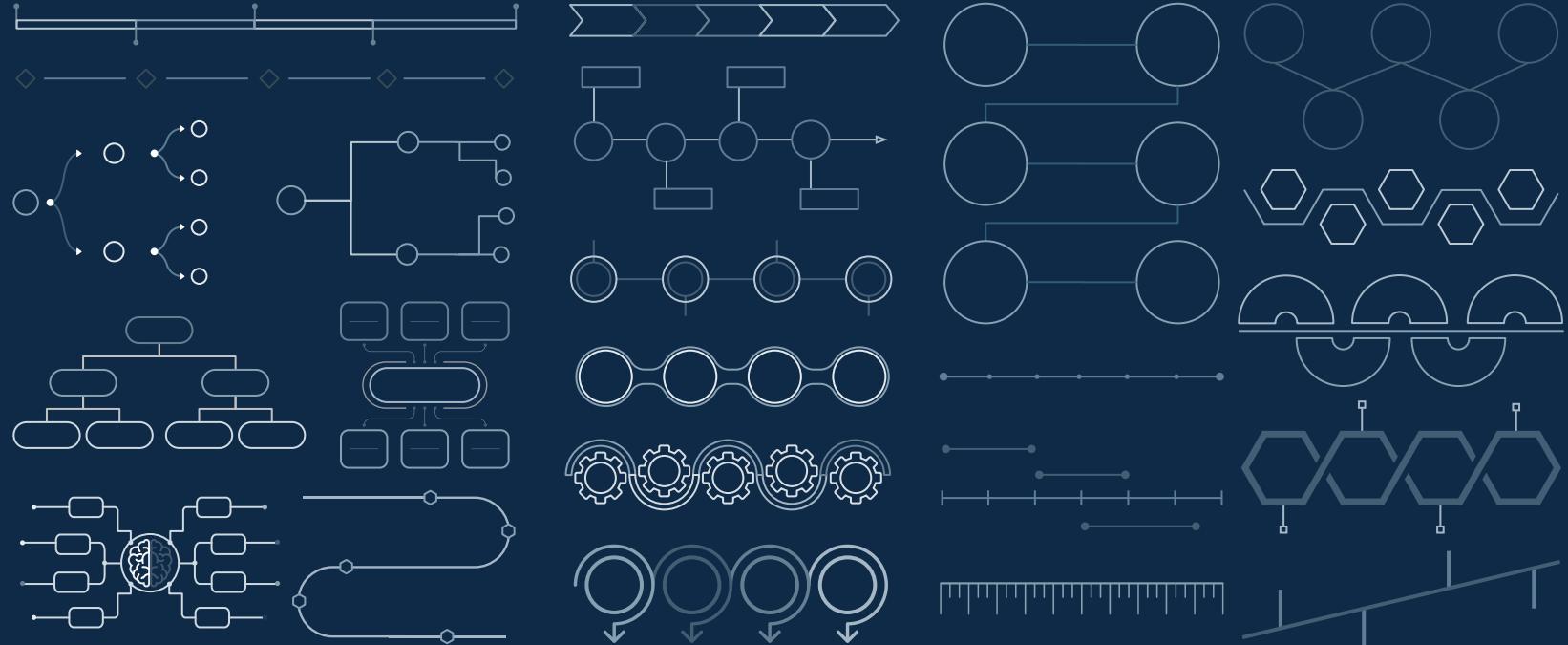
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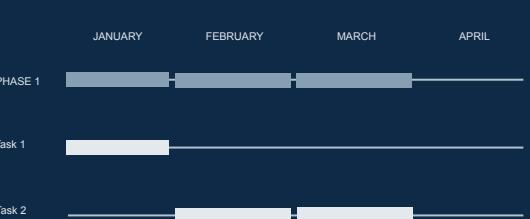
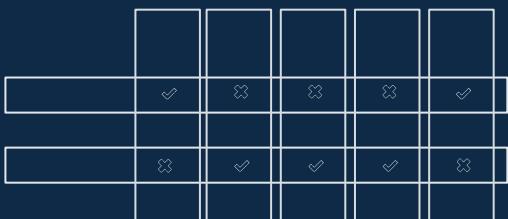
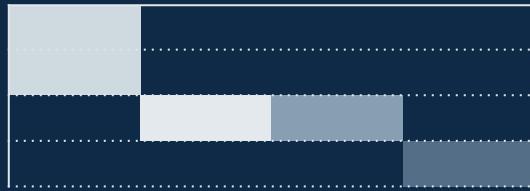
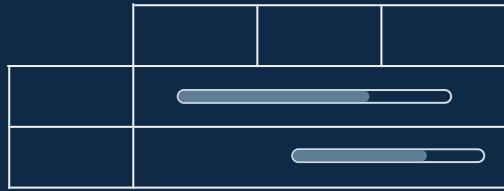
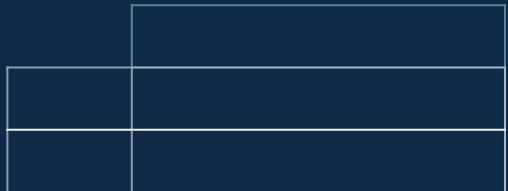
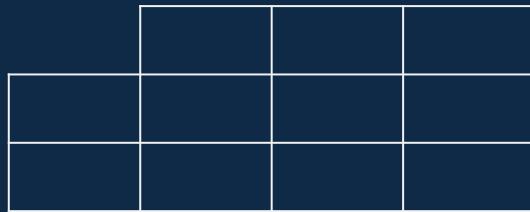
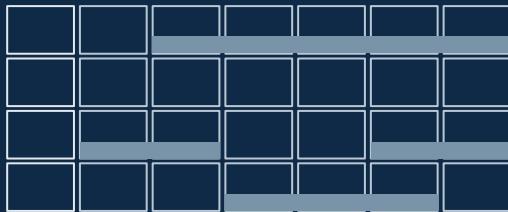
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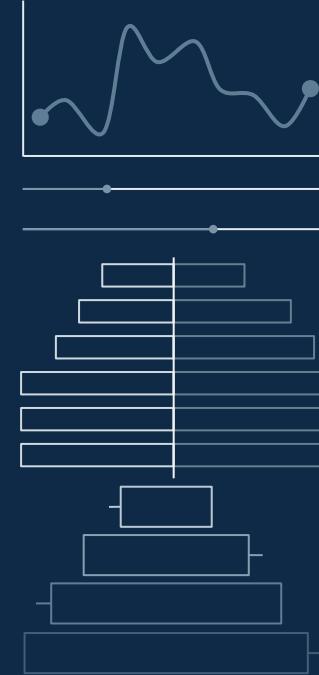
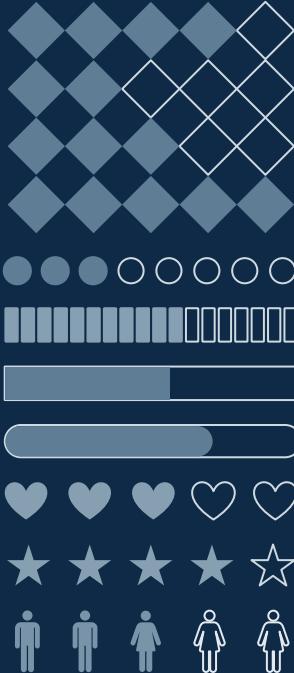
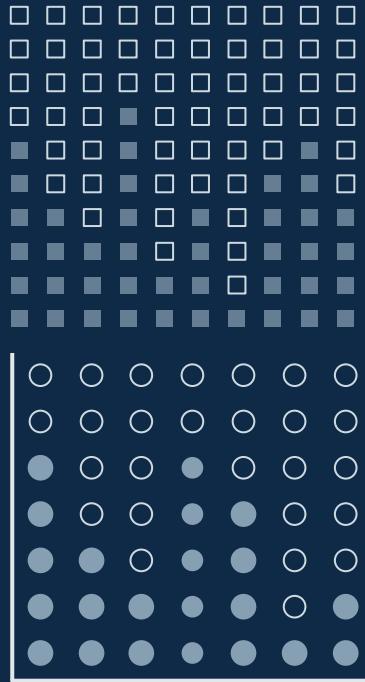












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