Fast-Stream

A middleware solution for streaming from Lyve Cloud

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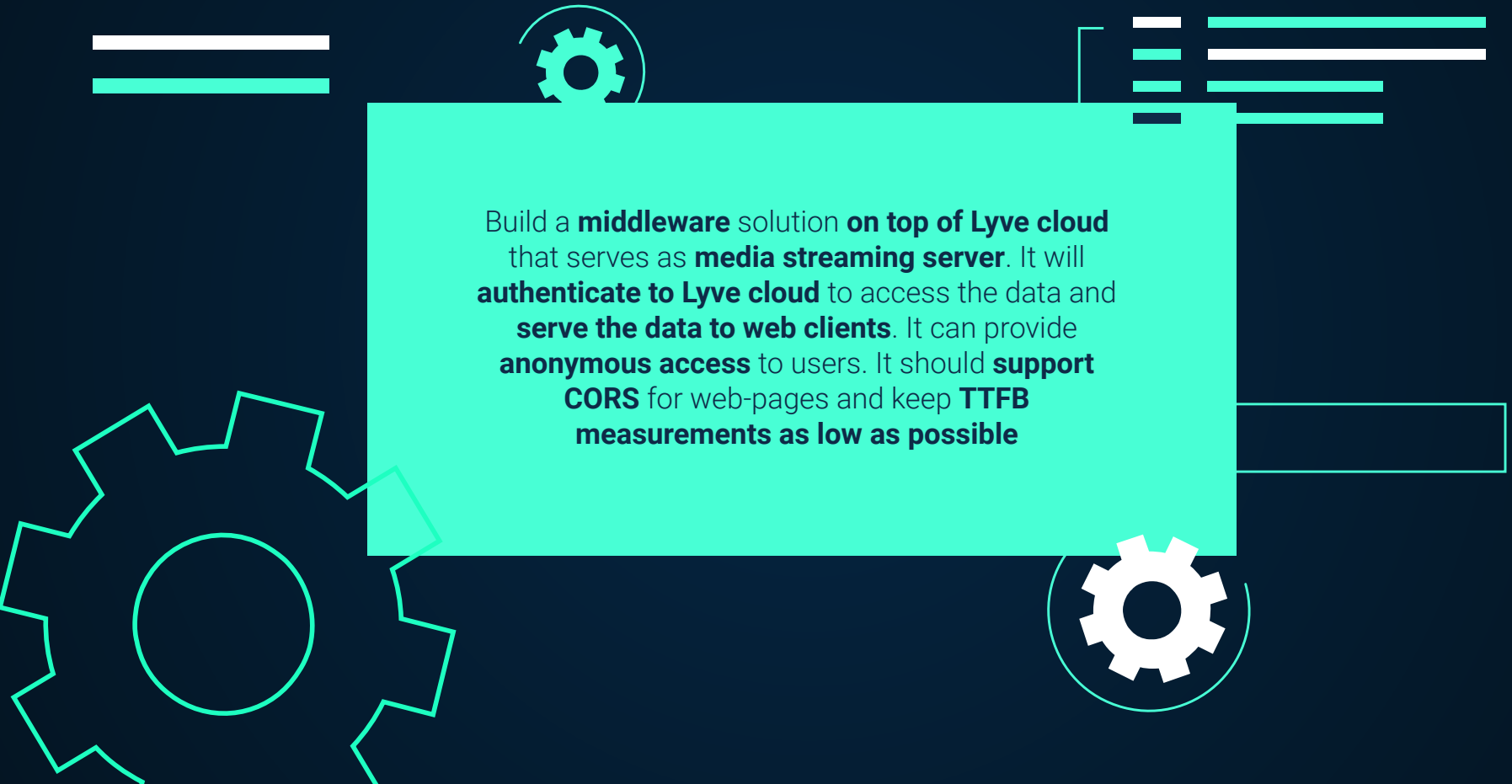
DEVELOPER INTRODUCTION

- Year 2 Information Systems student at SMU
- Around 2 years of programming experience
- Interested in Software Development and Data Science


Build a **middleware** solution **on top of Lyve cloud** that serves as **media streaming server**. It will **authenticate to Lyve cloud** to access the data and **serve the data to web clients**. It can provide **anonymous access** to users. It should **support CORS** for web-pages and keep **TTFB measurements as low as possible**

STREAMING

- API FOR WEB CLIENT
- HANDLES CORS POLICY
- LOW TTFB MEASUREMENTS
- TRAILING FORWARD/BACKWARD

ACCESS CONTROL

- AUTHENTICATES TO LYVE
- ANONYMOUS ACCESS
- SECURE KEY STORAGE

SCALABILITY & ERROR HANDLING

- SCALE TO REQUESTS
- SCALE ACROSS SERVERS
- AUDIT LOGS
- RESILIENCE/FAULT TOLERANCE

USER PERSONAS

PRIMARY: Cloud Storage User

Willing to use Cloud and wants an easy-to-use/setup solution

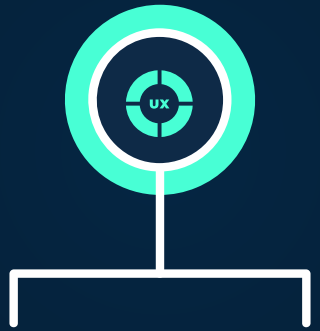
SERVED: Media Consumer

Cares mainly about how fast they can watch the streamed media

METHODOLOGY

SPEED

Uses NodeJS and SQLITE3 alongside local caching based on demand



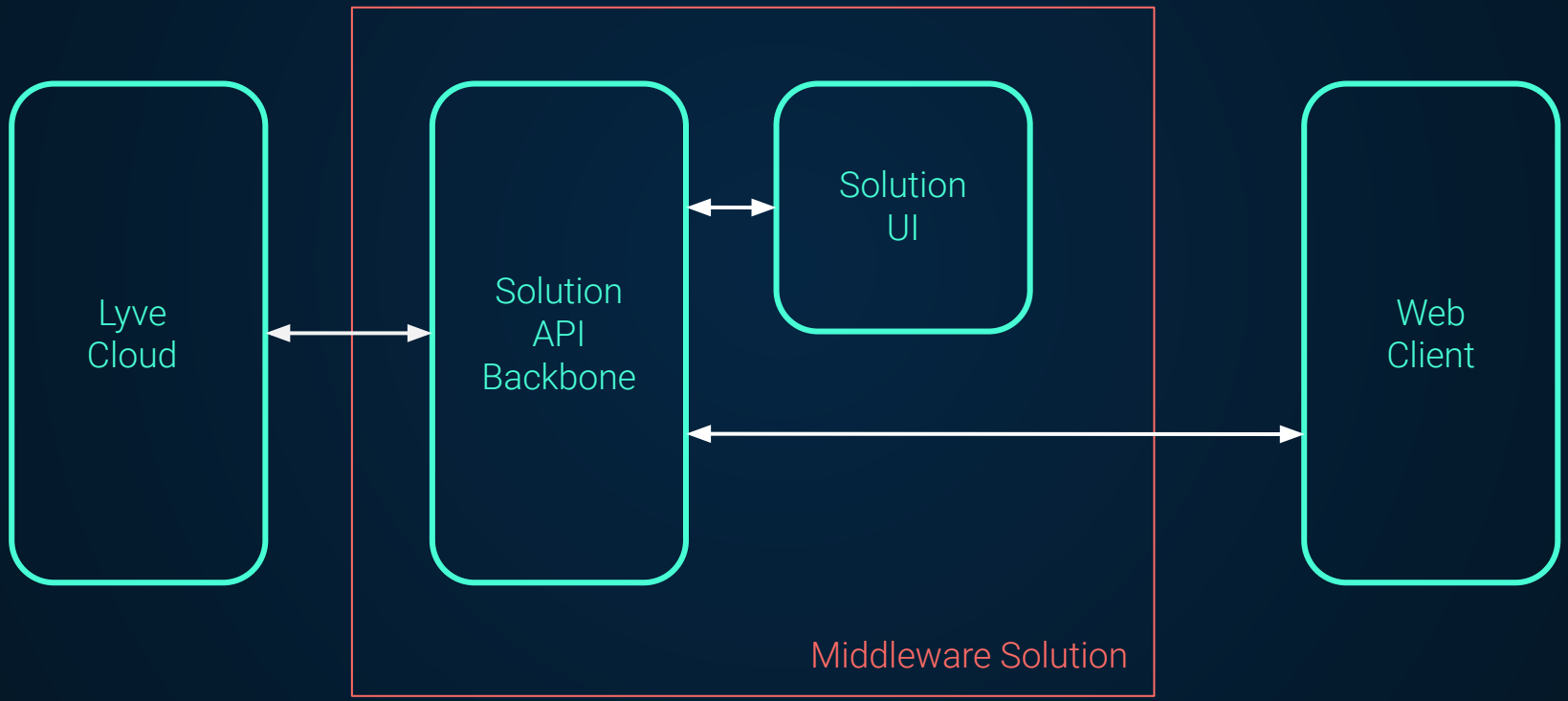
SCALABILITY

Uses containerisation for easier deployment and scaling

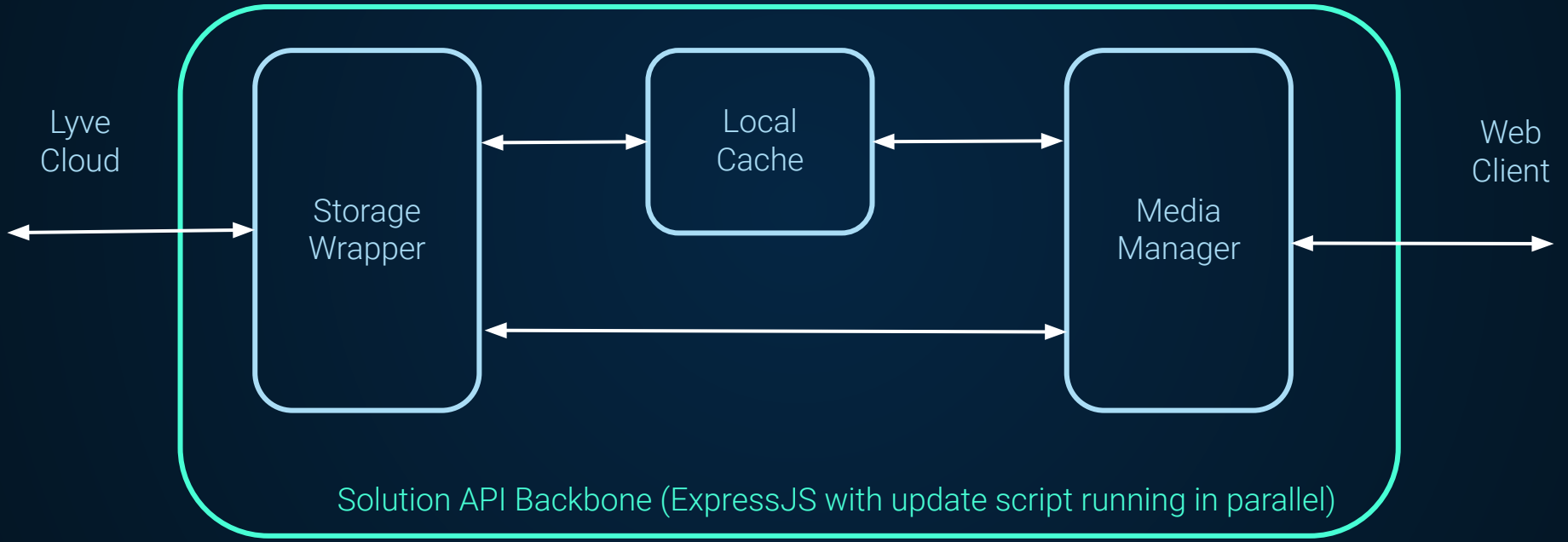
WEB INTEGRATION

Handles CORS policy and main streaming method compatible with plain HTML video element

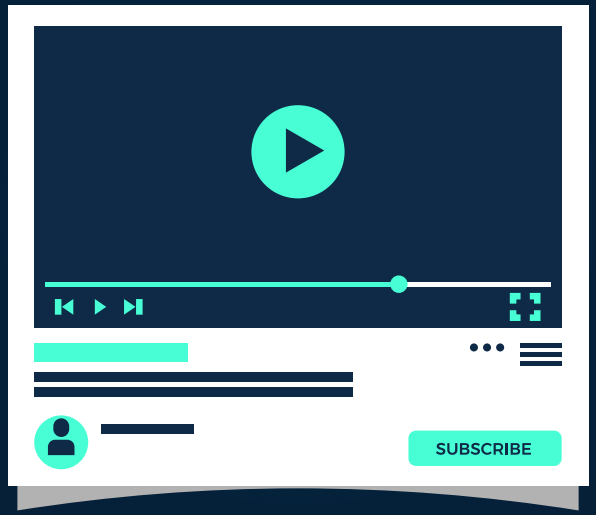
SOLUTION


Lyve
Cloud
Solution
API
Backbone
Solution
UI
Web
Client
Middleware Solution

SOLUTION


Lyve
Cloud
Storage
Wrapper
Local
Cache
Media
Manager
Web
Client
Solution API Backbone (ExpressJS with update script running in parallel)

DEMO



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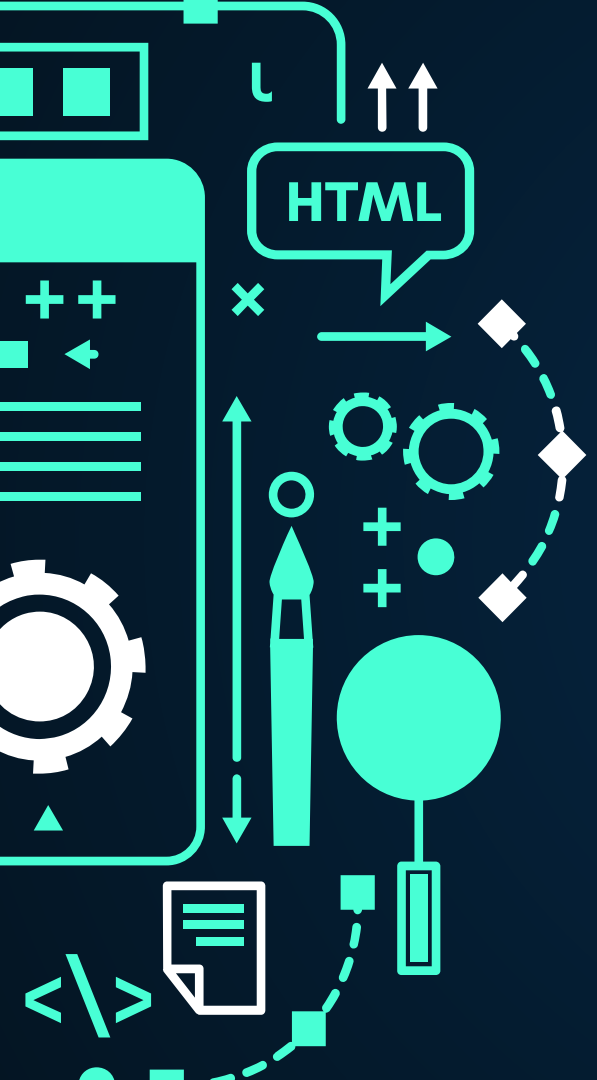

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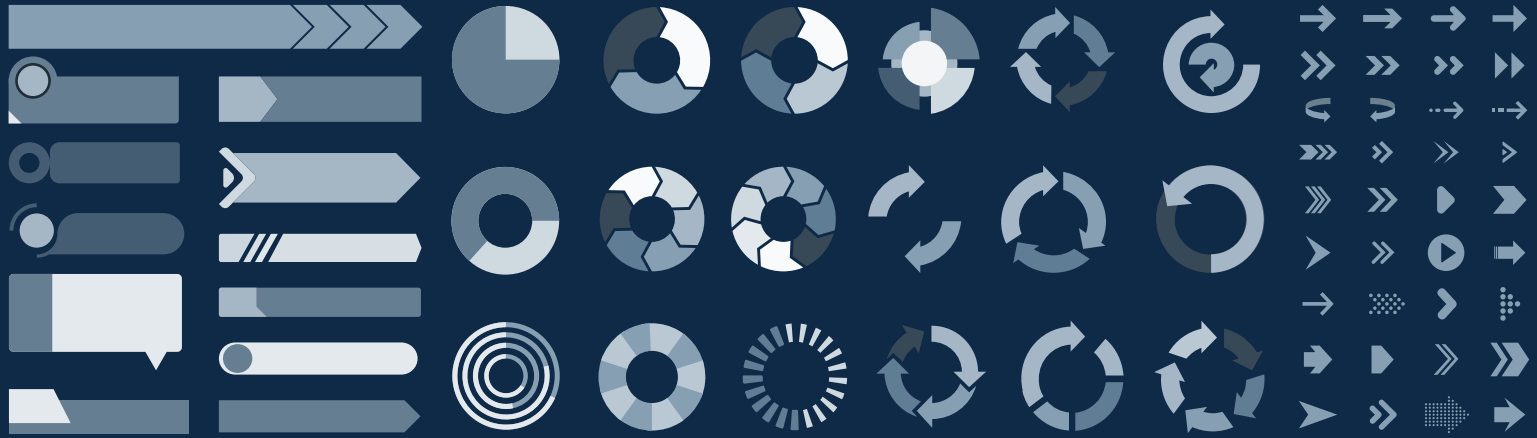

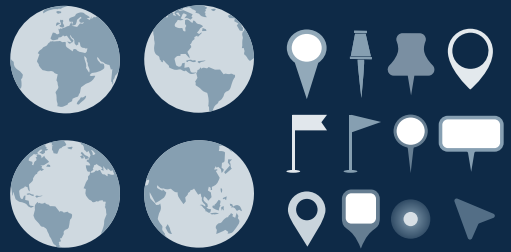

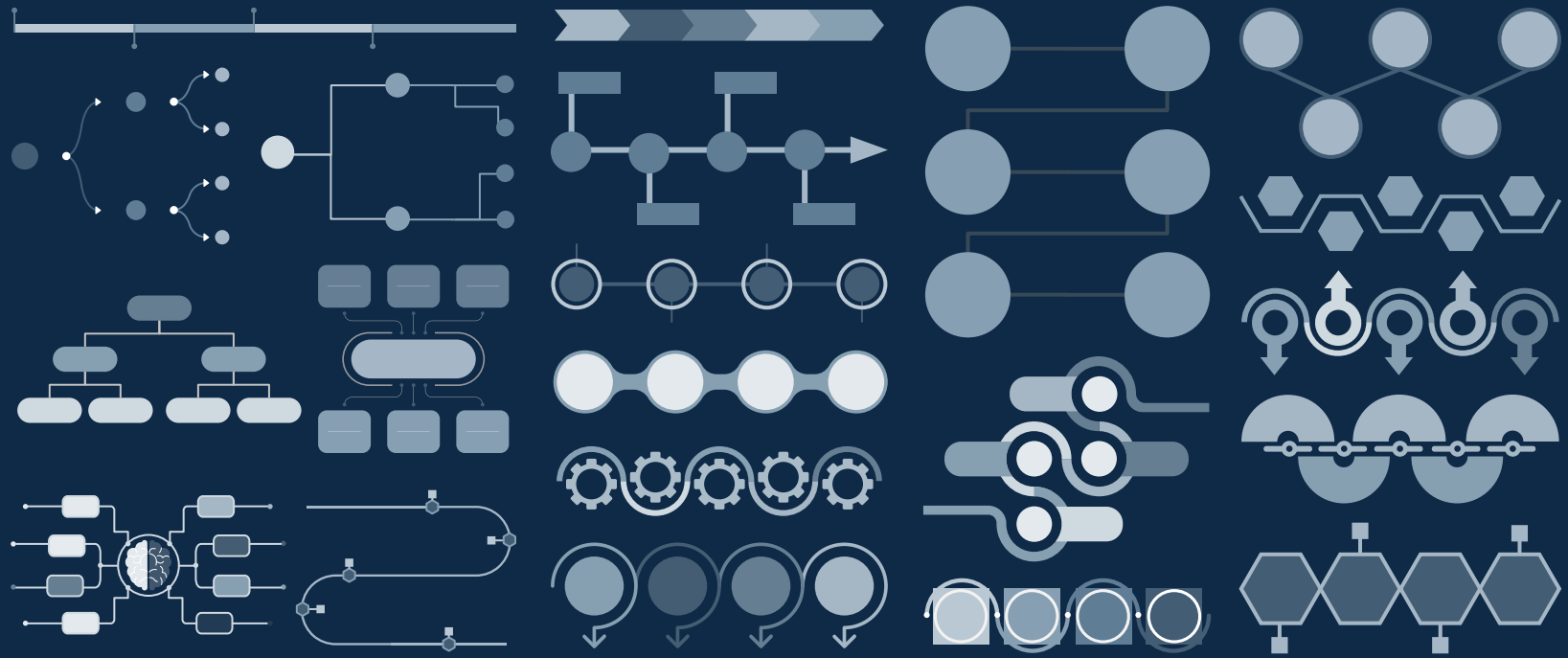

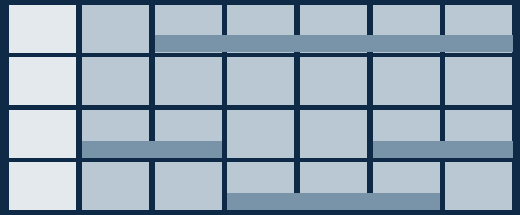

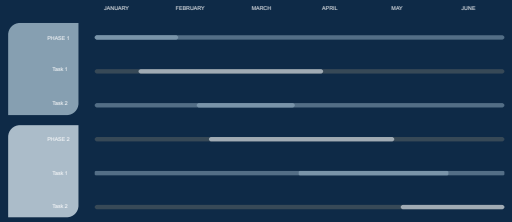
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JUNE
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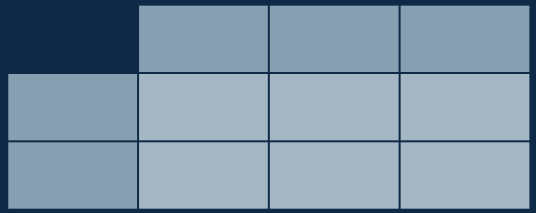
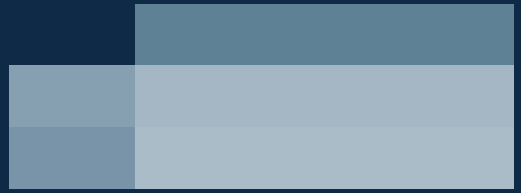
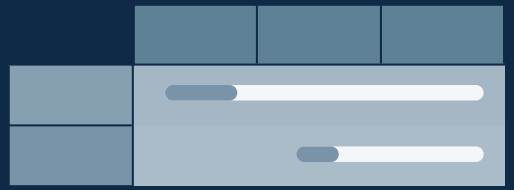
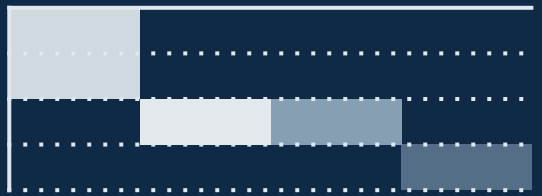
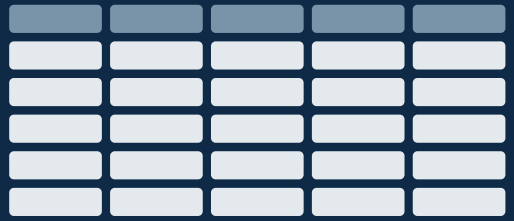
Task 1
Task 2
PHASE 2
Task 1
Task 2

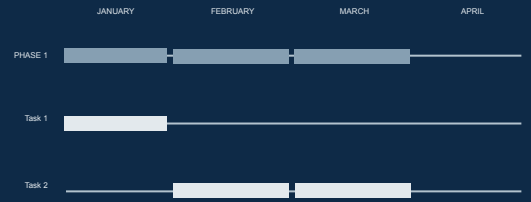








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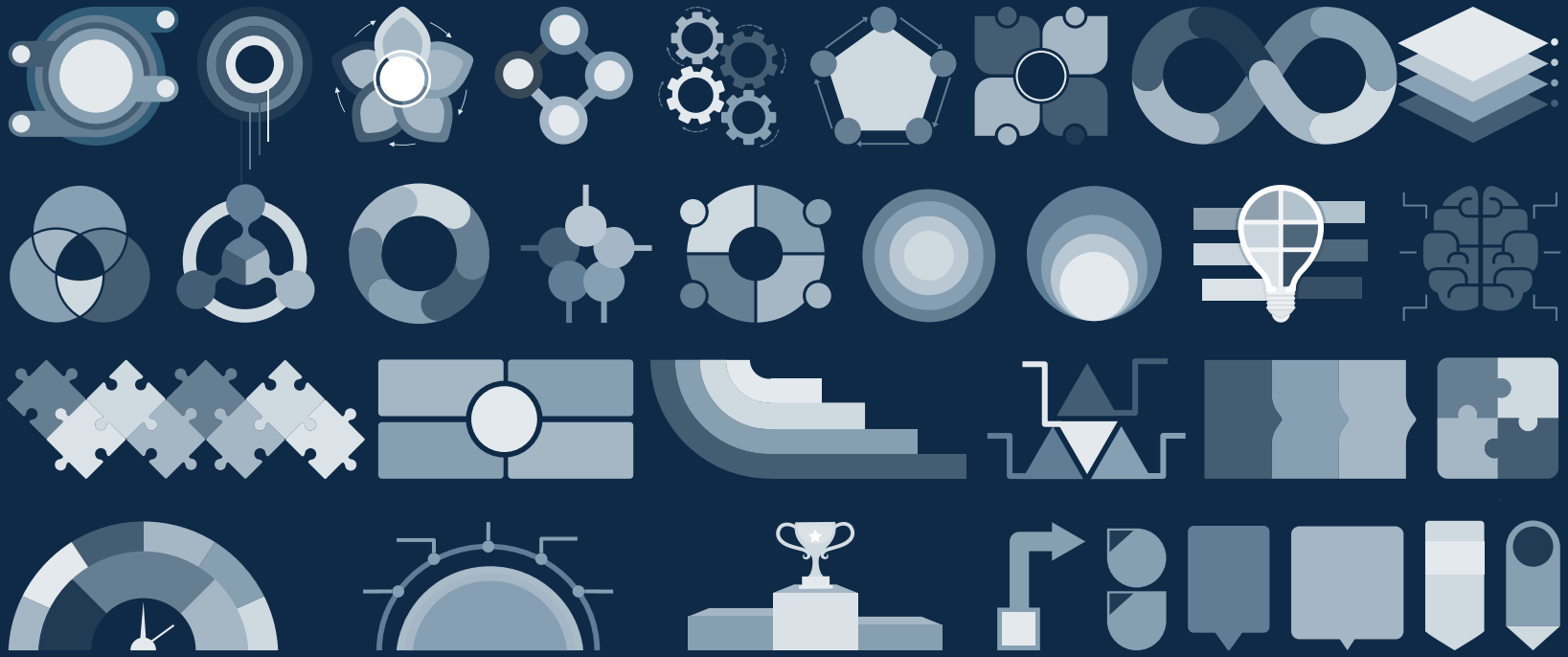
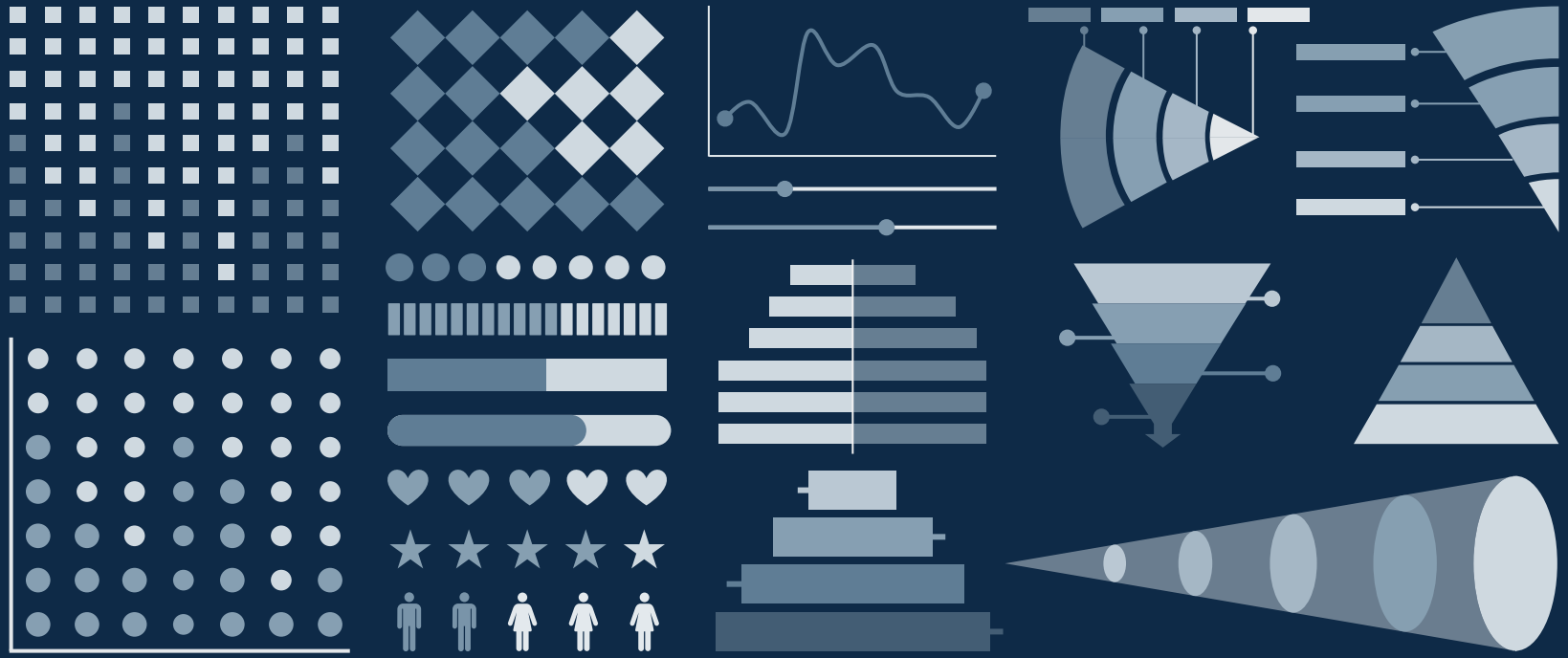
PHASE 1
Task 1
Task 2





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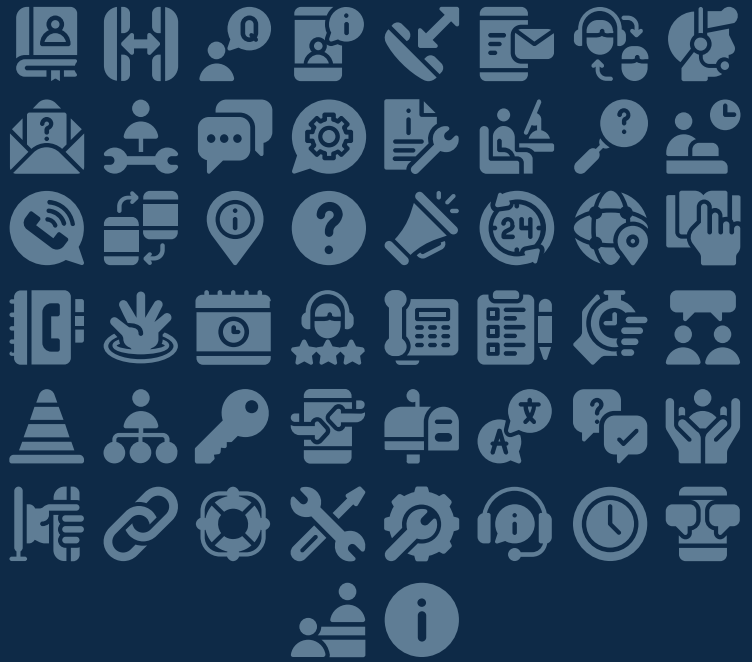

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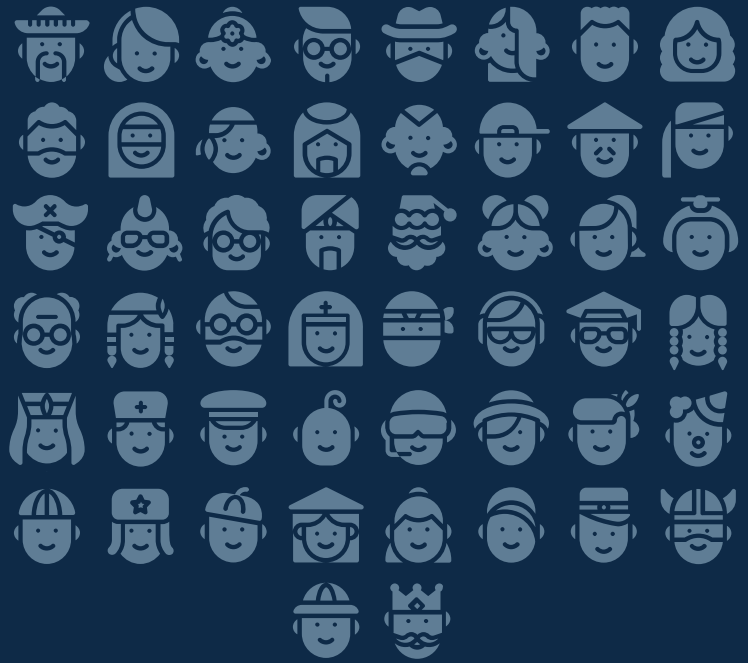

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