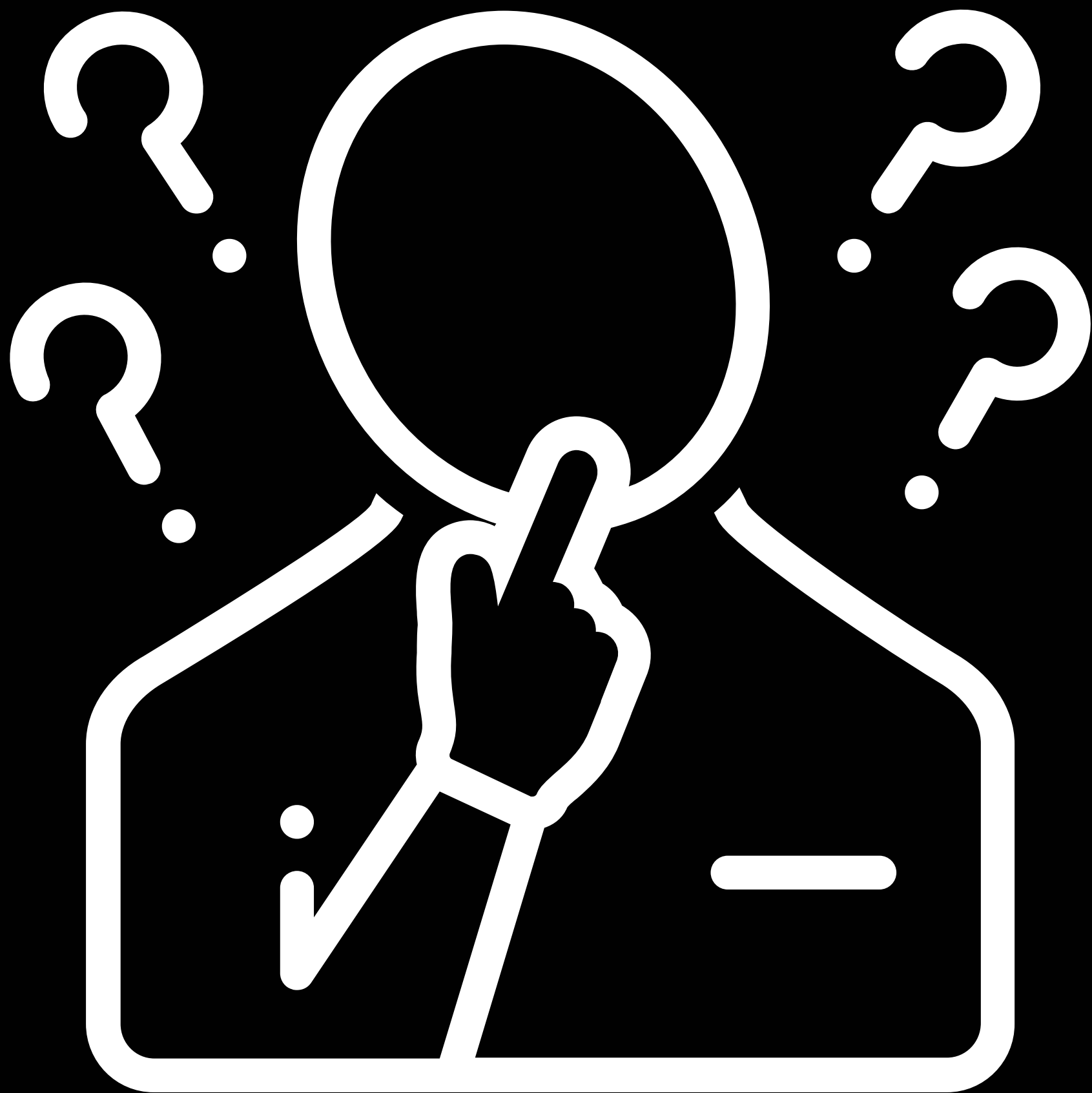


# Database Project

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Bjørn Riksaasen & Dani Simoneaux





**ABOUT  
US**

# BJØRN RIKSAASEN

- FROM NORWAY
- BACHELOR OF SCIENCE INFORMATION SYSTEMS
- PURSUING MASTER OF SCIENCE INFORMATION SYSTEMS
- FORMER STUDENT-ATHLETE FOR THE UTAH SKI TEAM
- BEEN IN THE PROGRAM SINCE AUG 2022
- WORKED WITH WOMEN'S BASKETBALL DURING FALL 22'
- DATA SCIENCE EMPHASIS AND CAREER PATH





# DANI SIMONEAUX

- FROM AMERICA
- BS INFORMATION SYSTEMS & MARKETING
- MINOR IN BUSINESS ANALYTICS
- INTERN WITH AHPS SINCE AUG 2022
- WORKS WITH VOLLEYBALL
- SKILLSET GOING IN: MINIMAL DATABASE KNOWLEDGE
- SKILLSET NOW: TOO MUCH DATABASE KNOWLEDGE



**ENOUGH ABOUT US...**

# BUSINESS PROBLEMS

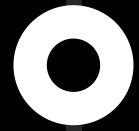
**THE CURRENT DATA  
STORAGE SITUATION IS  
NOT SUFFICIENT TO MEET  
THE NEEDS OF THE  
ATHLETICS DEPARTMENT.**

**WE NEED TO ENHANCE AND  
STREAMLINE THE  
DEPARTMENT'S  
EFFICIENCY IN  
HANDLING IMPORTS,  
EXPORTS, AND STORAGE  
TIMELINES.**

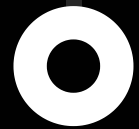
# PURPOSE



**DATA CURRENTLY LIVES EVERYWHERE**



**WE HAVE A RESPONSIBILITY TO MAKE DATA DRIVEN  
DECISIONS**



**...ON A DAILY, AND SOMETIMES HOURLY, BASIS**

# **DESIRED OUTCOME**

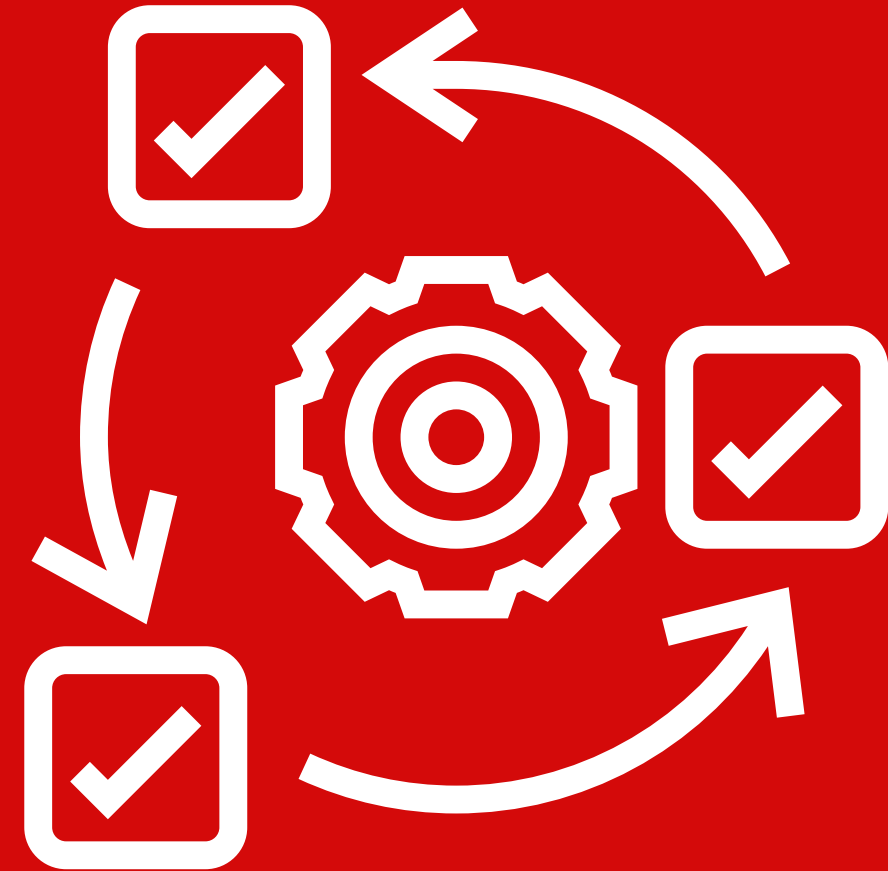
**DEVELOP A CENTRALIZED  
DATABASE THAT IS BOTH SECURE  
AND HIPAA COMPLIANT,  
SPECIFICALLY INTENDED FOR  
UTAH ATHLETICS' SENSITIVE  
INFORMATION.**



**IMPORTANT  
CONCEPTS**



# SYSTEM DEVELOPMENT PROCESS



**PLANNING**

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**ANALYSIS**

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**DESIGN**

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**IMPLEMENTATION**

**TESTING**

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**DEPLOYMENT**

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**MAINTENANCE**

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# SYSTEM DEVELOPMENT PROCESS

**PLANNING**

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**ANALYSIS**

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**DESIGN**

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**IMPLEMENTATION**

**TESTING**

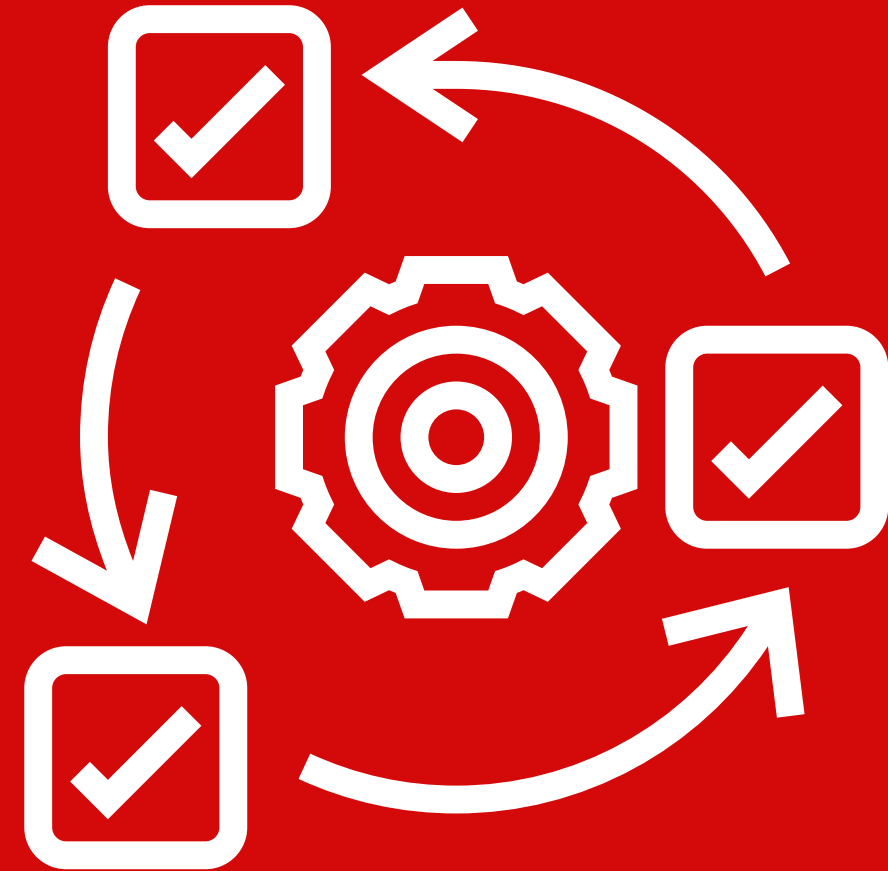
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**DEPLOYMENT**

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**MAINTENANCE**

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# WHAT IS A DATABASE?

**STRUCTURED COLLECTION OF  
DATA FOR EFFICIENT  
STORAGE, RETRIEVAL, AND  
MANIPULATION.**



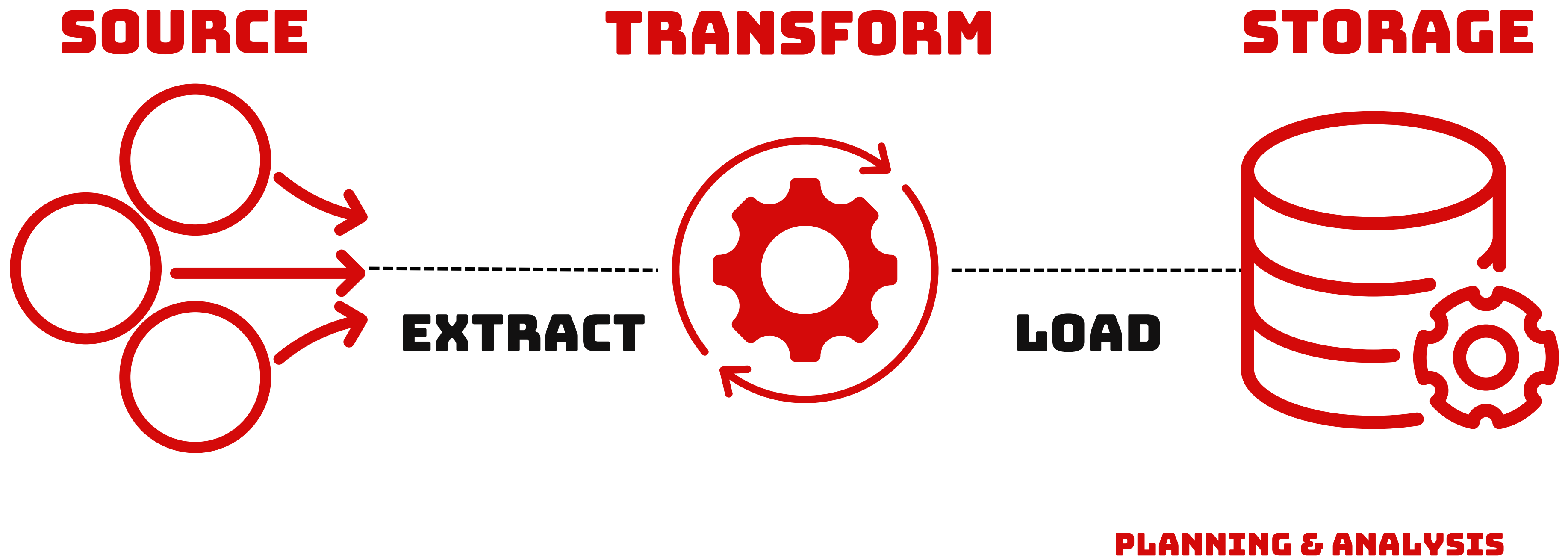
**PLANNING & ANALYSIS**

# WHAT KIND OF DATA ARE WE DEALING WITH?



**PLANNING & ANALYSIS**

# DATA ENGINEERING PIPELINE



# TRANSFORM

Date:	9/8/22						
Start Time:	13:13:26						
Unix Start Ti	1660072406						
Duration:	12854						
Num Players	13						
Num Periods	1						
Num Param	989						
Logo Path:	<a href="https://clprototype.s3.amazonaws.com/a89alkY6cdAcLVjLzaobcWFryDjq0vbngqWED0le.jpg?">https://clprototype.s3.amazonaws.com/a89alkY6cdAcLVjLzaobcWFryDjq0vbngqWED0le.jpg?</a>						
Player Name	Period Name	Period Num	MII Distance	MII Distance	MII Distance	MII Player Lo	MII Player Lo
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Session	0	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0
PLAYER	Extra Skills	1	0	0	0	0	0



PLANNING & ANALYSIS



# TRANSFORM

Player Name	Period Name	Period Number	Position Name	Total Duration	Total Player Load	Player Load Per Minute
PLAYER	Session	0	Outside Hitter	0:30:43	105.1944	3.4237
PLAYER	Session	0	Middle Blocker	0:30:43	78.72122	2.56209
PLAYER	Session	0	Setter	0:30:43	98.02598	3.1904
PLAYER	Session	0	Outside Hitter	0:30:43	120.19922	3.91206
PLAYER	Session	0	Outside Hitter	0:30:43	129.457	4.21339
PLAYER	Session	0	Outside Hitter	0:30:43	74.05351	2.41018
PLAYER	Session	0	Middle Blocker	0:30:43	84.42222	2.74764
PLAYER	Session	0	Defensive Specialist/Libero	0:30:43	113.93222	3.70809
PLAYER	Session	0	Outside Hitter	0:30:43	172.16438	5.60334
PLAYER	Session	0	Setter/Defensive Specialist	0:30:43	104.64786	3.40591
PLAYER	Session	0	Middle Blocker	0:30:43	120.19328	3.91186
PLAYER	Session	0	Outside Hitter	0:30:43	121.92245	3.96814
PLAYER	Session	0	Outside Hitter	0:30:43	67.61333	2.20057
PLAYER	Extra Skills	1	Outside Hitter	0:30:43	105.1944	3.4237
PLAYER	Extra Skills	1	Middle Blocker	0:30:43	78.72122	2.56209
PLAYER	Extra Skills	1	Setter	0:30:43	98.02598	3.1904
PLAYER	Extra Skills	1	Outside Hitter	0:30:43	120.19922	3.91206
PLAYER	Extra Skills	1	Outside Hitter	0:30:43	129.457	4.21339
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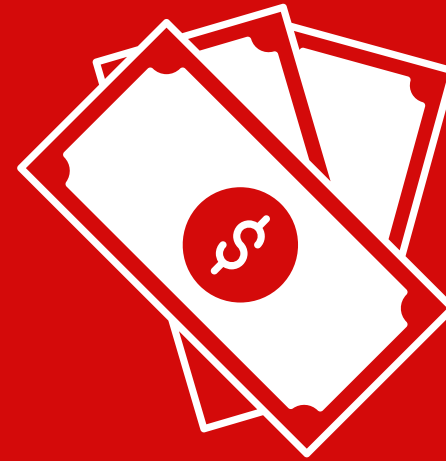
PLANNING & ANALYSIS

**THIS ALL BENEFITS  
THE DOWNSTREAM  
USERS**



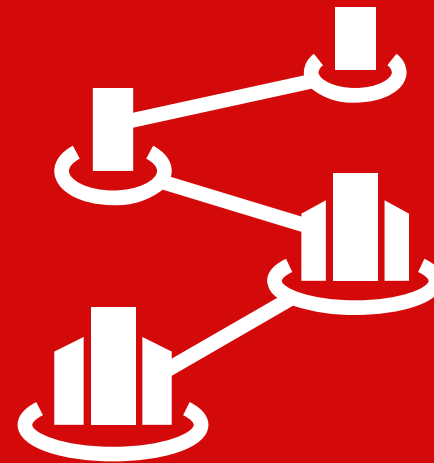
**PLANNING & ANALYSIS**

**PLANNING & ANALYSIS**



**BUDGET LIMITATIONS**

**FACTORS  
CONSIDERED**



**SCALABILITY**



**SECURITY**

# USE CASES



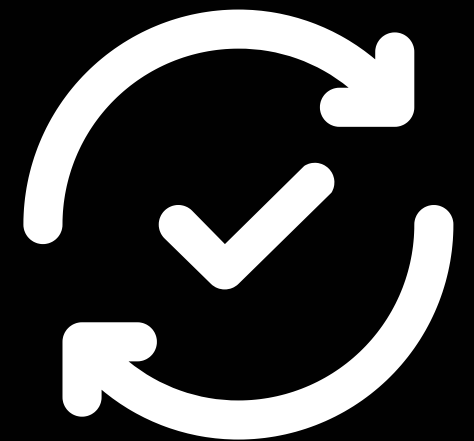
**Data needs to be easily  
accessed by  
downstream users.**



**Data needs to be in a  
useable format for  
downstream actions.**



**Data needs to be  
stored in a secure  
place.**

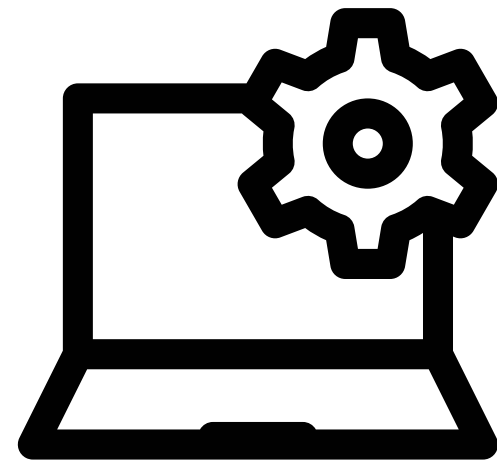


**Data needs to be  
updated often.**

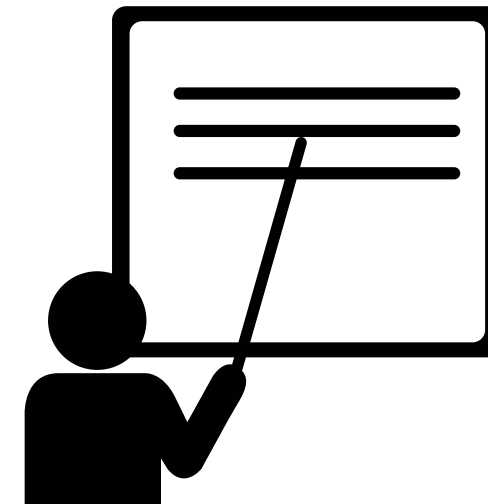
# **COLLABORATIONS**



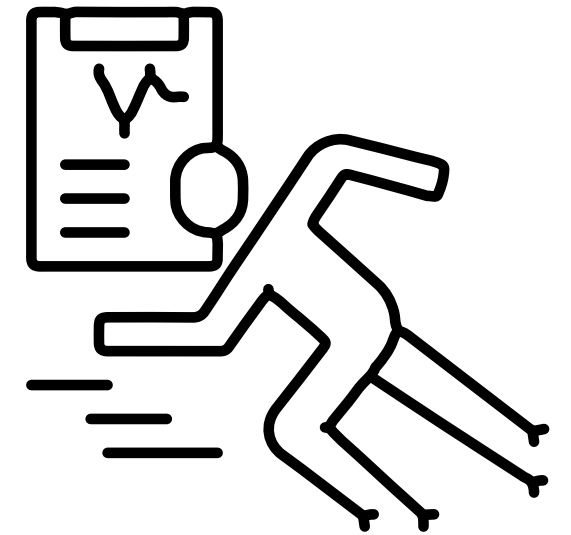
**SPORTS  
PERFORMANCE  
TEAM**



**INFORMATION  
TECHNOLOGY**



**UNIVERSITY  
PROFESSORS**



**AHPS  
STAFF**

# SYSTEM DEVELOPMENT PROCESS

PLANNING

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ANALYSIS

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DESIGN

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IMPLEMENTATION

TESTING

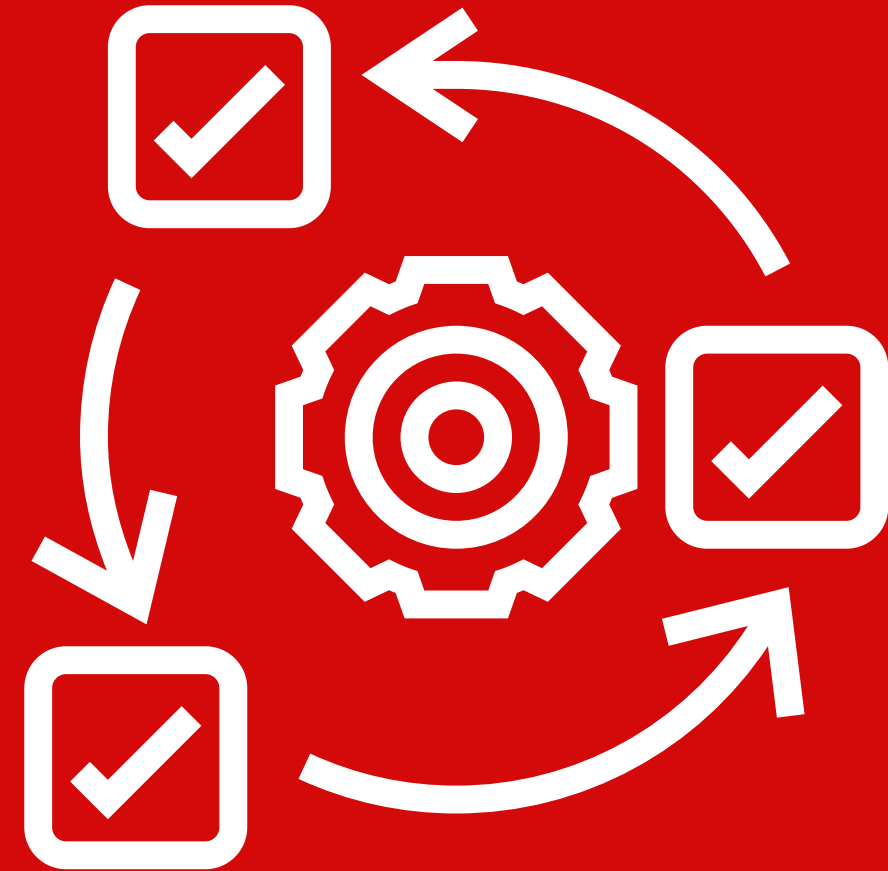
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DEPLOYMENT

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MAINTENANCE

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# Proof of Concept

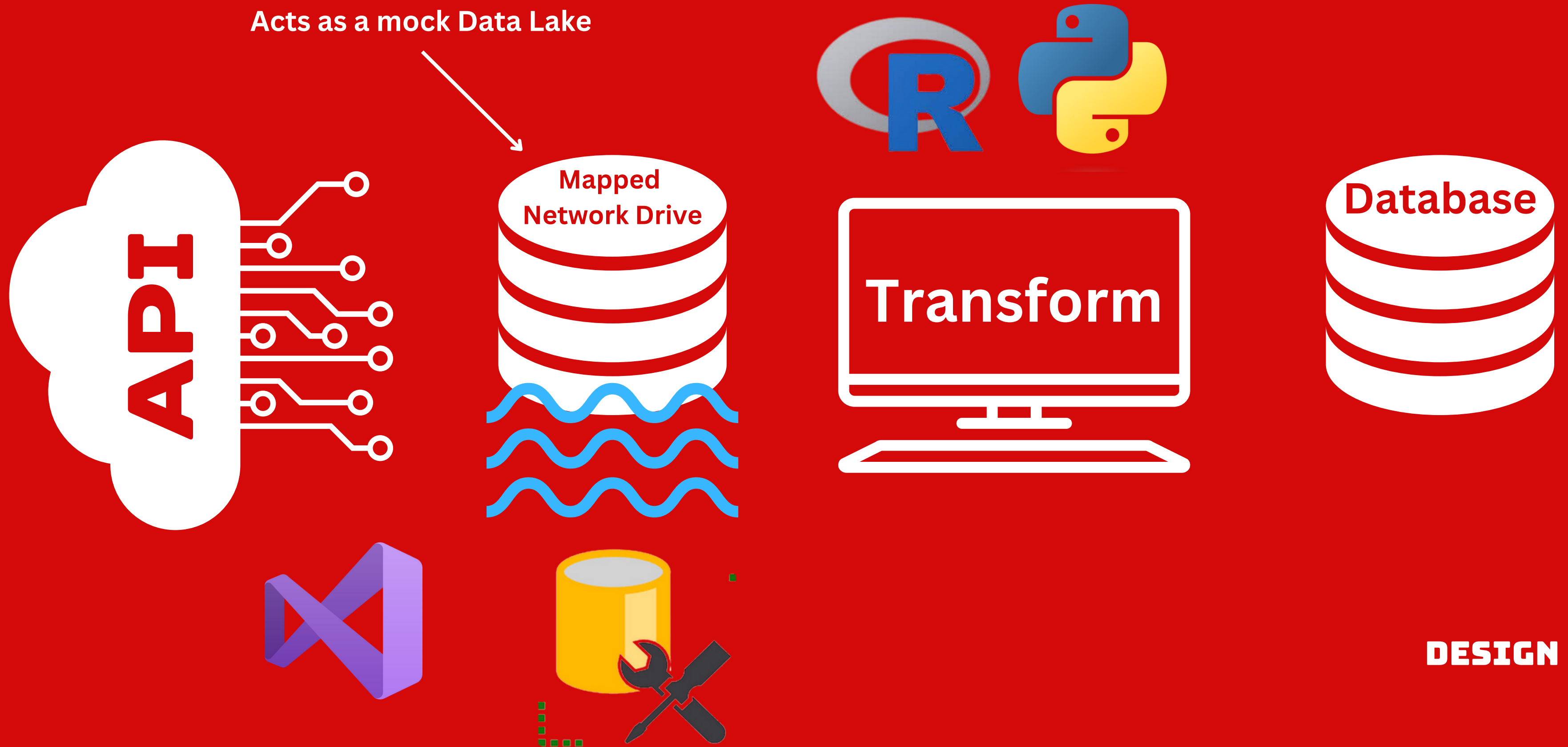


**DESIGN**

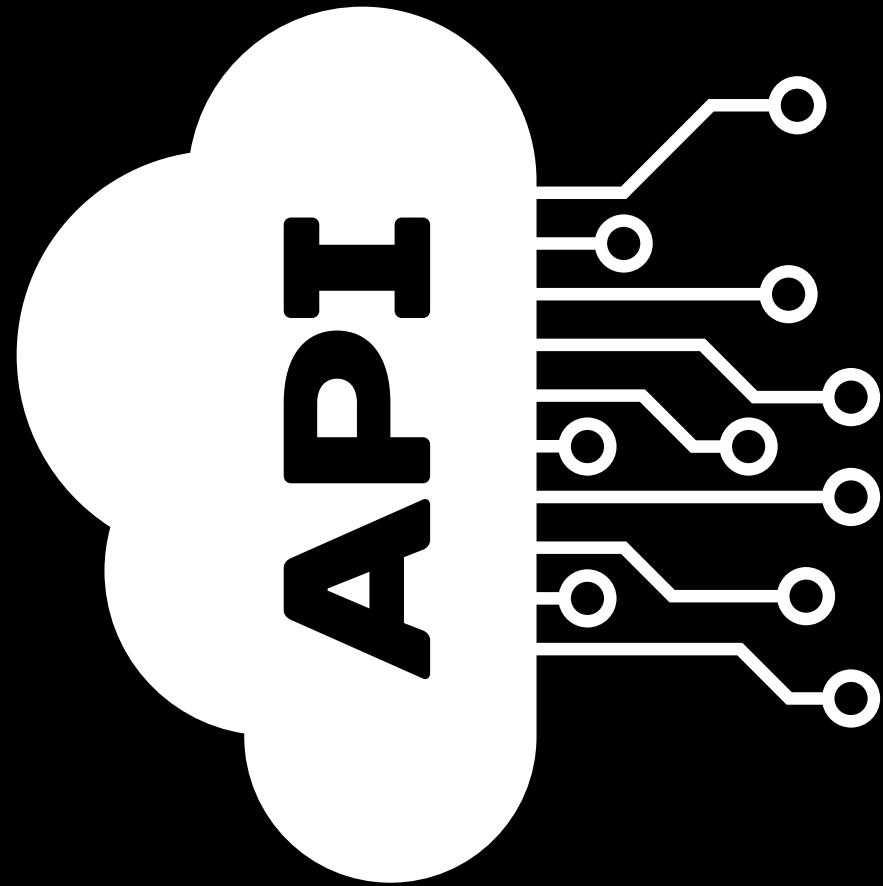


# Final Product with Resources on Hand

Acts as a mock Data Lake



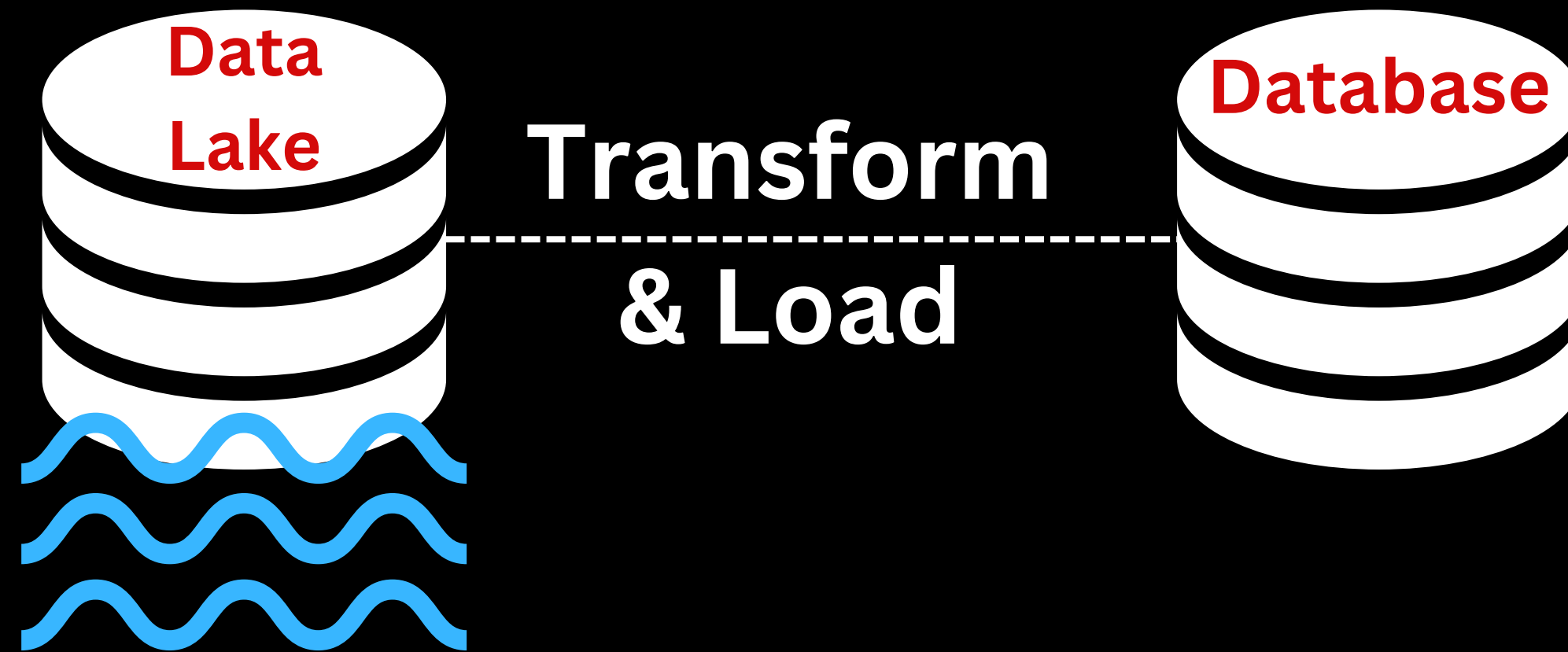
Future  
Evolution



Cloud



DESIGN

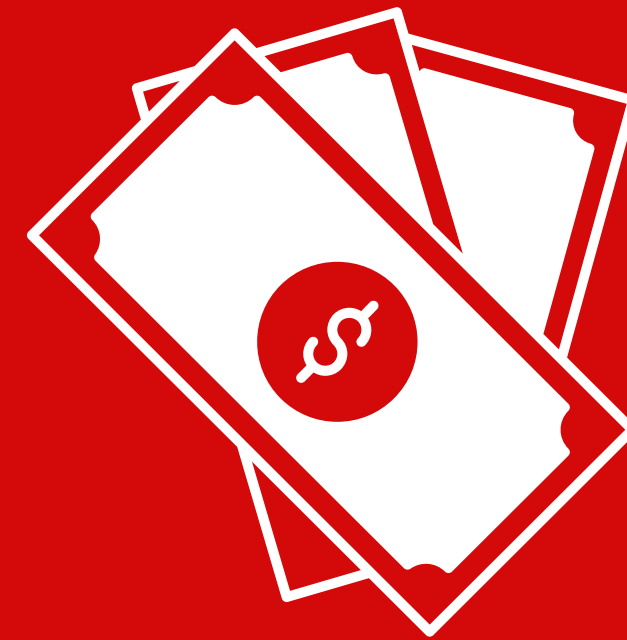


Downstream

# COST ESTIMATE

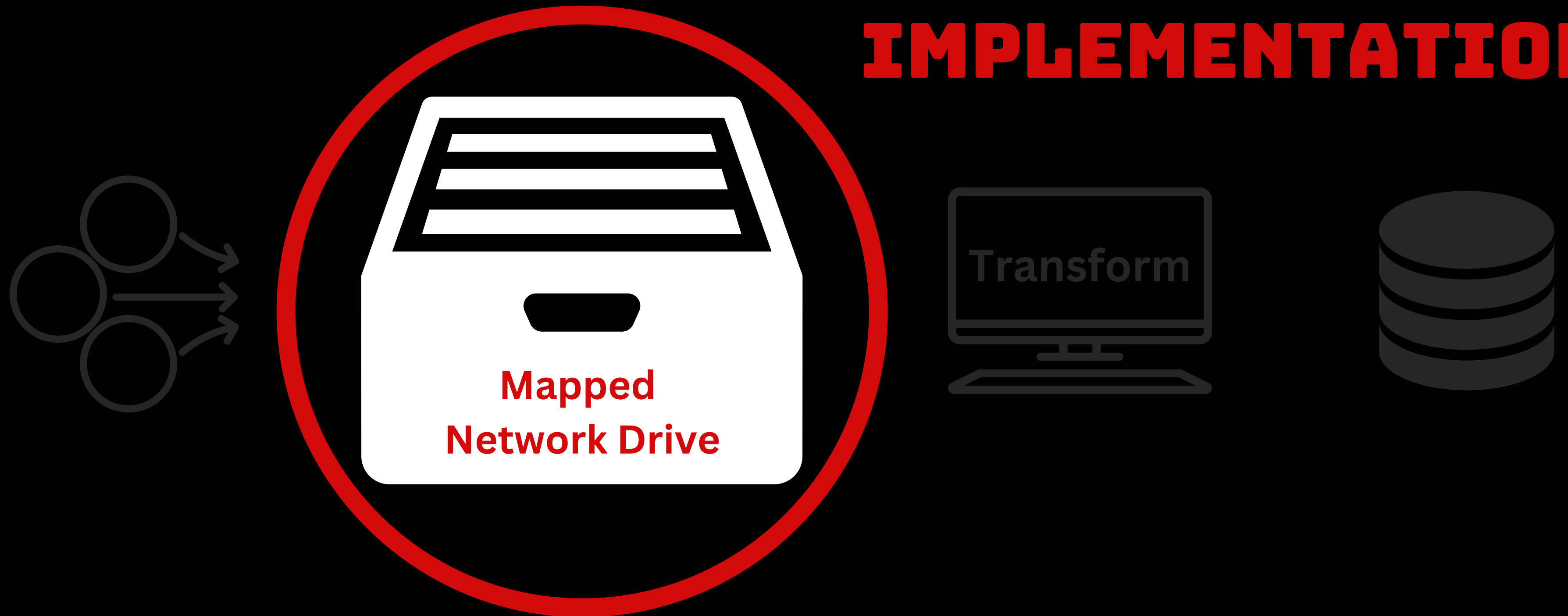


**\$350/M**

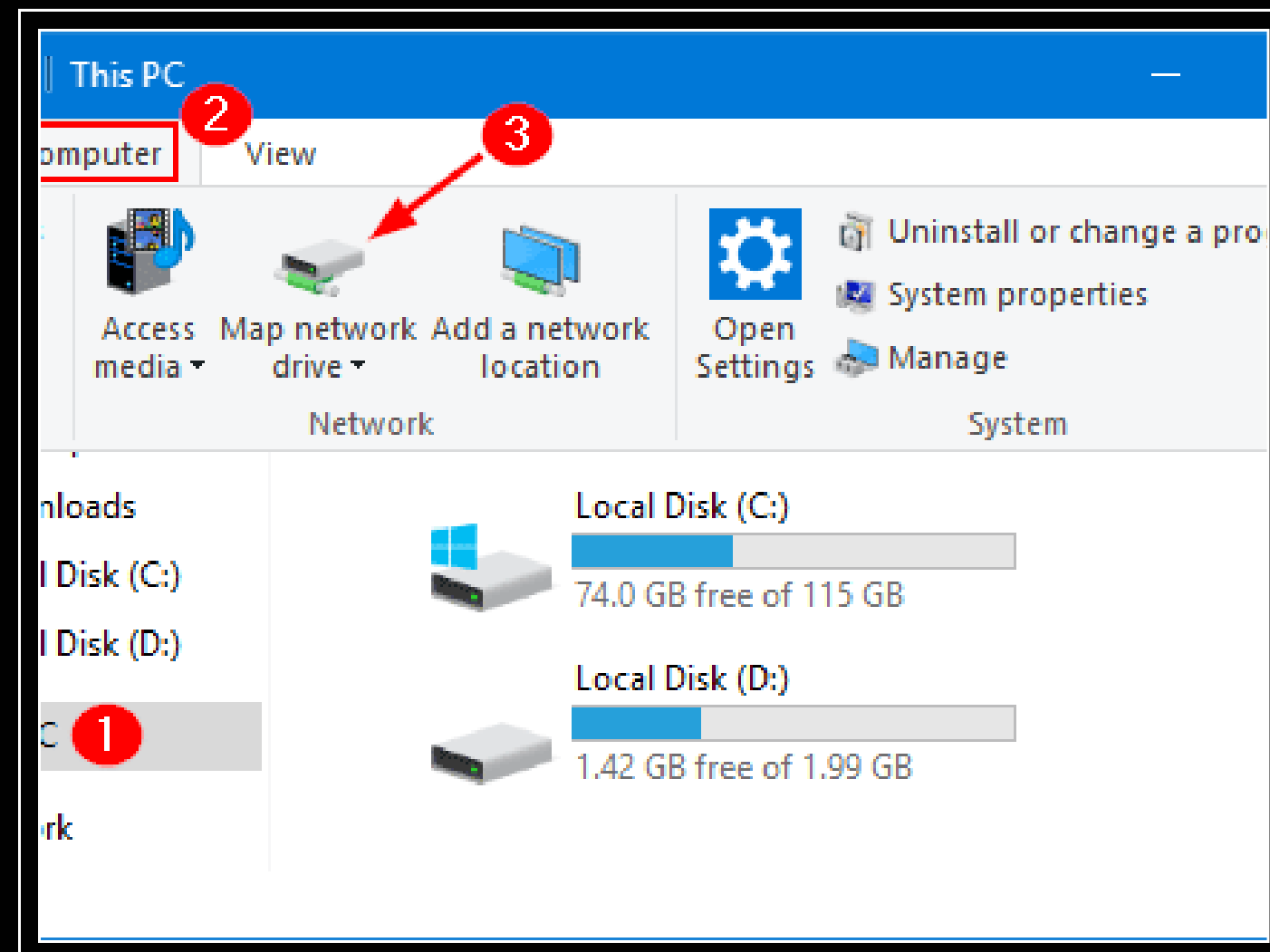


# WHERE WE AT?

## IMPLEMENTATION



# PROOF OF CONCEPT STANDARDIZATION



**FILESYSTEM IN MND  
THAT MEETS THE  
NEEDS OF THE DEPT.**

**MAINTENANCE**

# **PROOF OF CONCEPT MAINTENANCE**

- **STANDARD OPERATING PROTOCOL**
- **STORED PROCEDURE SET UP**
- **FINE TUNE DATA WE NEED**

**MAINTENANCE**

# WHAT'S NEXT?

**PROOF OF CONCEPT  
COMPLETION**

**TESTING WITH STAFF  
& INTERNS**



**Q & A**