ATLAS

" AUTOMATED TRACKING AND LOGGING ATTENDANCE SYSTEM "

AGENDA

1. PROJECT VISION
2. ER MODEL
3. DATA FLOW DIAGRAM
4. GANTT CHART

PROJECT VISION

FOR the College of Computers and Artificial Intelligence

WHO need an efficient and automated system for tracking student attendance and absence

THE ATLAS is a student attendance and absence registration system

THAT utilizes NFC technology to streamline and automate the process of recording attendance

UNLIKE traditional manual attendance systems or basic digital systems

OUR PRODUCT provides a seamless, automated, and integrated solution that enhances data accuracy, reduces administrative workload, and improves overall efficiency in attendance management.

ER MODEL

Key Entities and Attributes for ATLAS

1. Student
   - StudentID (Primary Key)
   - Name
   - Department
   - Email
   - Phone Number
   - Status (Active/Inactive)

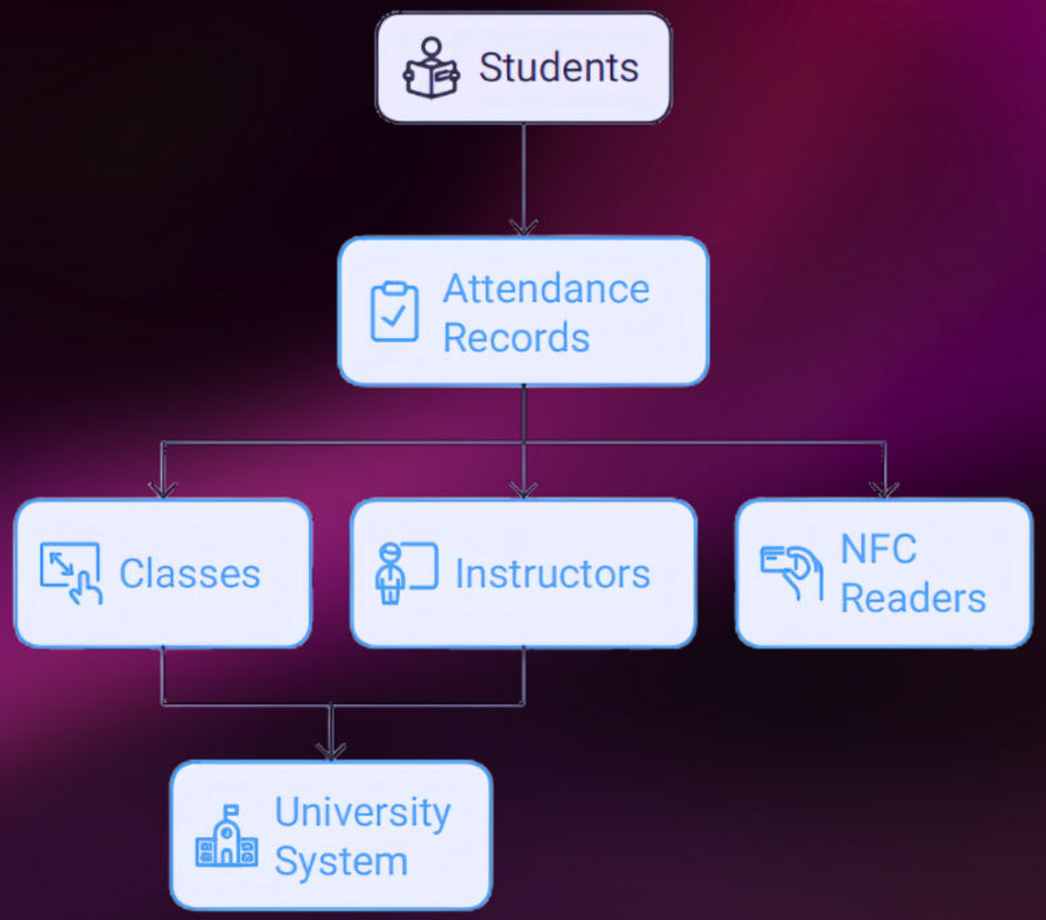
2. Attendance Record
   - RecordID (Primary Key)
   - Date
   - Time
   - Status (Present, Absent, Late)
   - StudentID (Foreign Key referencing Student)
   - ClassID (Foreign Key referencing Class)
   - NFCReaderID (Foreign Key referencing NFCReader)

3. Class
   - ClassID (Primary Key)
   - ClassName
   - Schedule
   - InstructorID (Foreign Key referencing Instructor)
   - Instructor
   - InstructorID (Primary Key)
   - Name
   - Email
   - Department

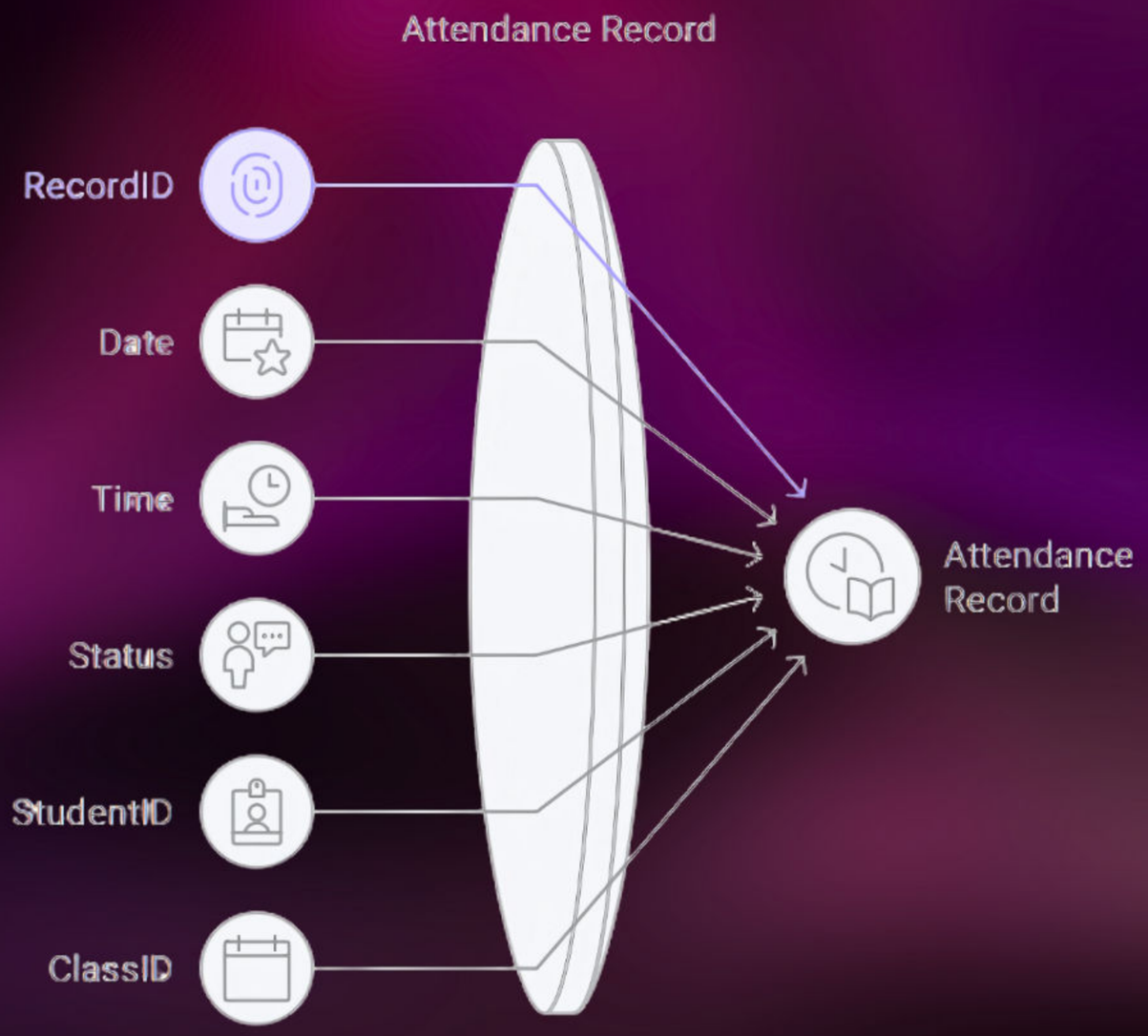
4. NFCReader
   - NFCReaderID (Primary Key)
   - Location (e.g., classroom, corridor)
   - Status (Active, Inactive)
   - UniversitySystem
   - SystemID (Primary Key)
   - AccessLevel
   - UpdateSchedule (Frequency of data sync)

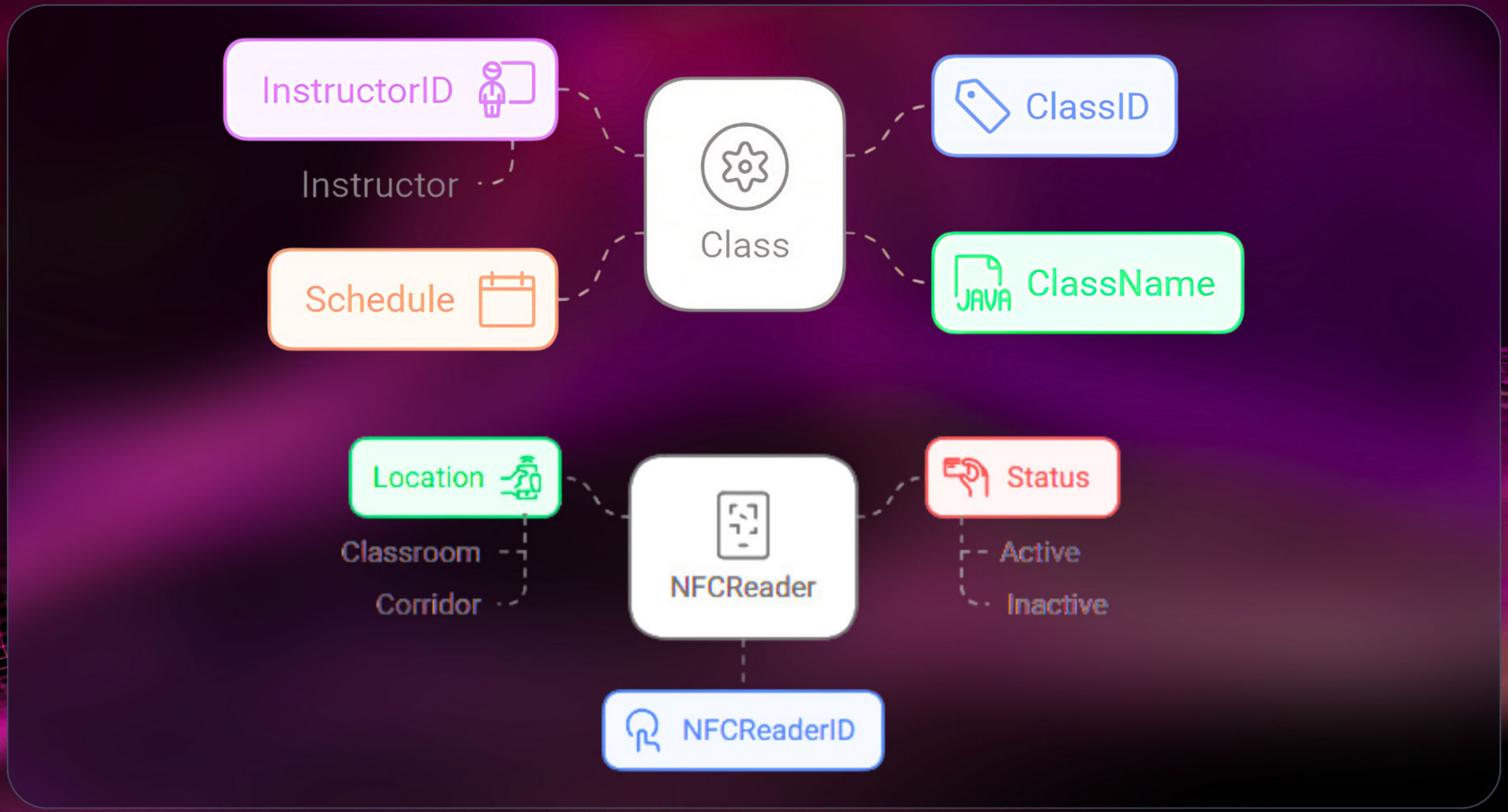
ER MODEL

- **Relationships**
  - Student to AttendanceRecord:
  - One-to-Many (One student can have multiple attendance records over time)
  - Class to AttendanceRecord:
  - One-to-Many (Each class session has many attendance records)
  - Instructor to Class:
  - One-to-Many (One instructor can teach multiple classes)
  - NFCReader to AttendanceRecord:
  - One-to-Many (One NFCReader logs attendance records for different students)
  - UniversitySystem and AttendanceRecord:
  - One-to-Many or One-to-One, depending on the integration frequency. It could represent a sync relationship to update attendance data regularly.


Students
Attendance Records
Classes
Instructors
NFC Readers
University System

StudentID
Name
Department
Email
Phone Number


Attendance Record
RecordID
Date
Time
Status
StudentID
ClassID
Attendance
Record


InstructorID
Instructor
Schedule
Class
ClassID
ClassName
Location
Classroom
Corridor
NFCReader
Status
Active
Inactive
NFCReaderID

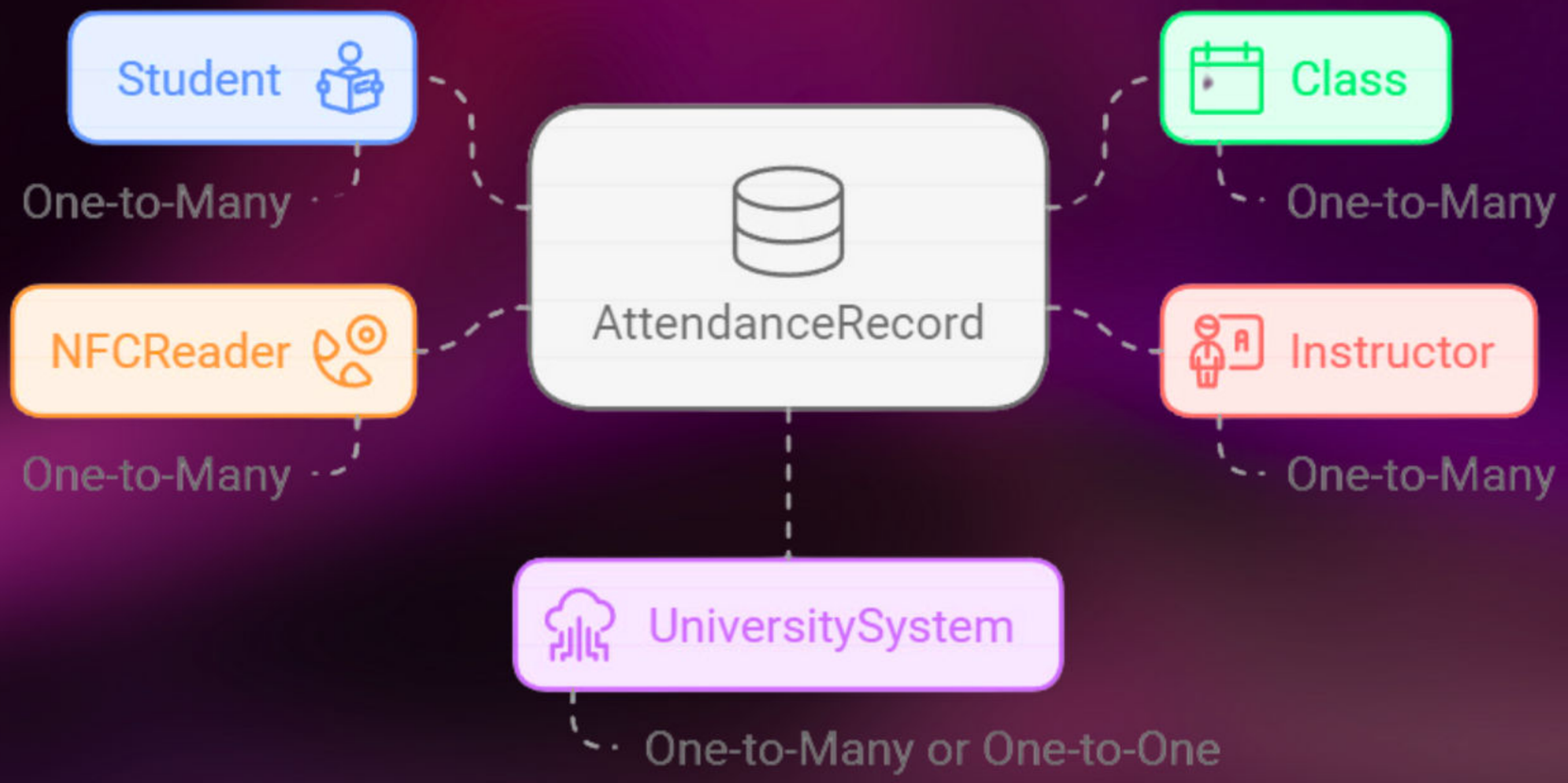
Instructor Entity Breakdown

University System

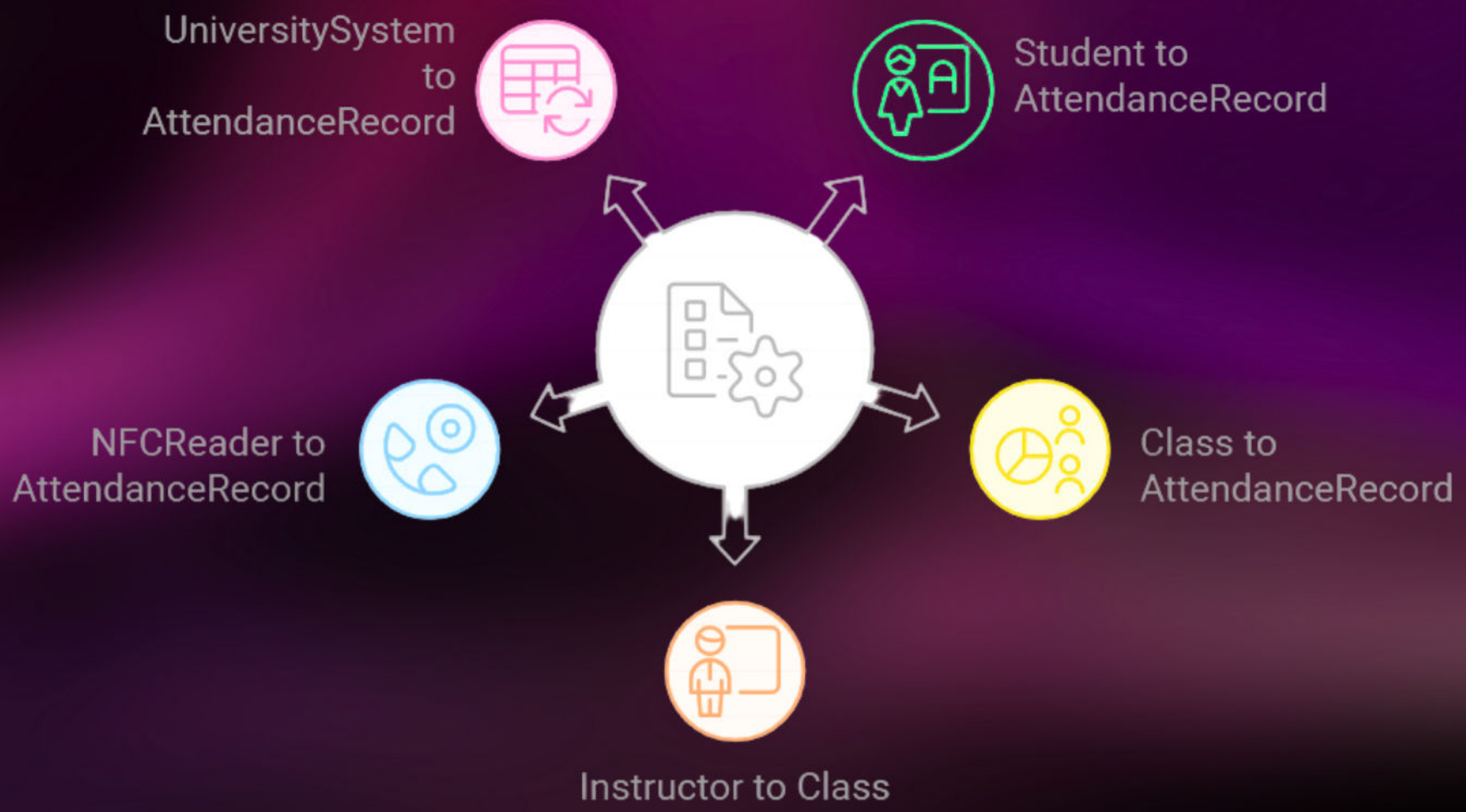
UpdateSchedule

SystemID

AccessLevel


Student
One-to-Many
NFCReader
One-to-Many
AttendanceRecord
Class
One-to-Many
Instructor
One-to-Many
UniversitySystem
One-to-Many or One-to-One

ATLAS Attendance System Relationships



DFD (DATA FLOW DIAGRAM)

Level 0 : Context Diagram

At this level, we represent ATLAS as a single process, showing its interactions with external entities.

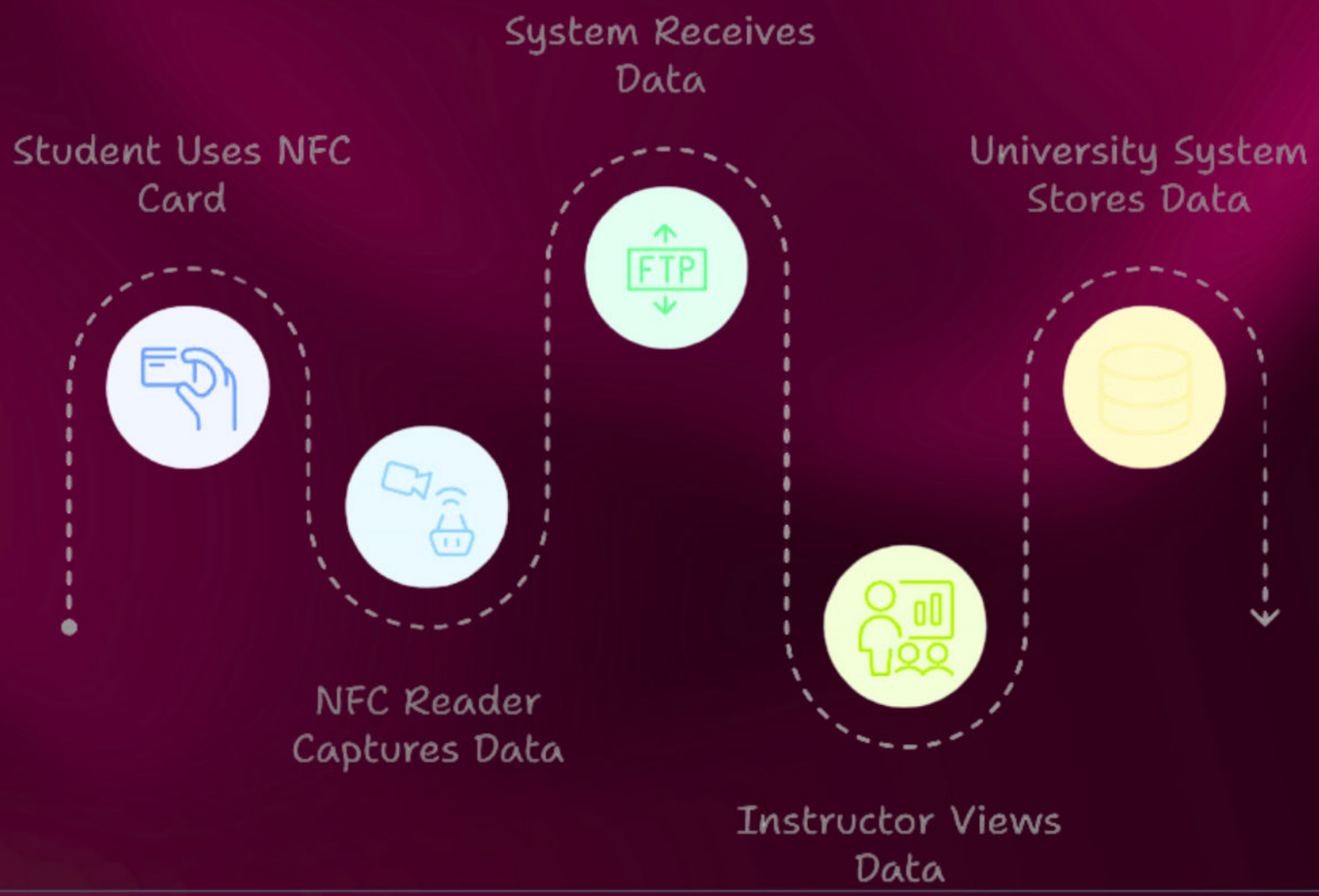
External Entities:

1. Student - Uses NFC cards to register attendance.
2. Instructor - Views and manages student attendance data.
3. University System - Receives and stores attendance records for integration with the college's systems.
4. NFC Reader - Captures attendance details by scanning student NFC cards.

Data Flows

- Attendance Data flows from Student to ATLAS via NFC Reader.
- Attendance Reports are sent to Instructor from ATLAS.
- Synced Attendance Records are shared with the University System for centralized tracking and monitoring.

DFD (DATA FLOW DIAGRAM)



DFD (DATA FLOW DIAGRAM)

Synced Records Shared

Records are shared with the University System for tracking

Attendance Reports Sent

ATLAS generates and sends reports to instructors

Attendance Data Flow

Students use NFC Reader to send data

DFD (DATA FLOW DIAGRAM)

Level 1 : Detailed DFD Diagram

At Level 1, we break down the main processes within ATLAS:

Processes:

Process 1: Register Attendance

- Input: Scans student NFC card via NFC Reader.
- Data Stored: AttendanceRecord.
- Output: Updated attendance status, time, and date recorded in the system.
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Process 2: Manage Student Data

- Input: Student and attendance data.
- Operations: Allows instructors to view, filter, and export attendance records.
- Output: Attendance reports for instructors and departments.

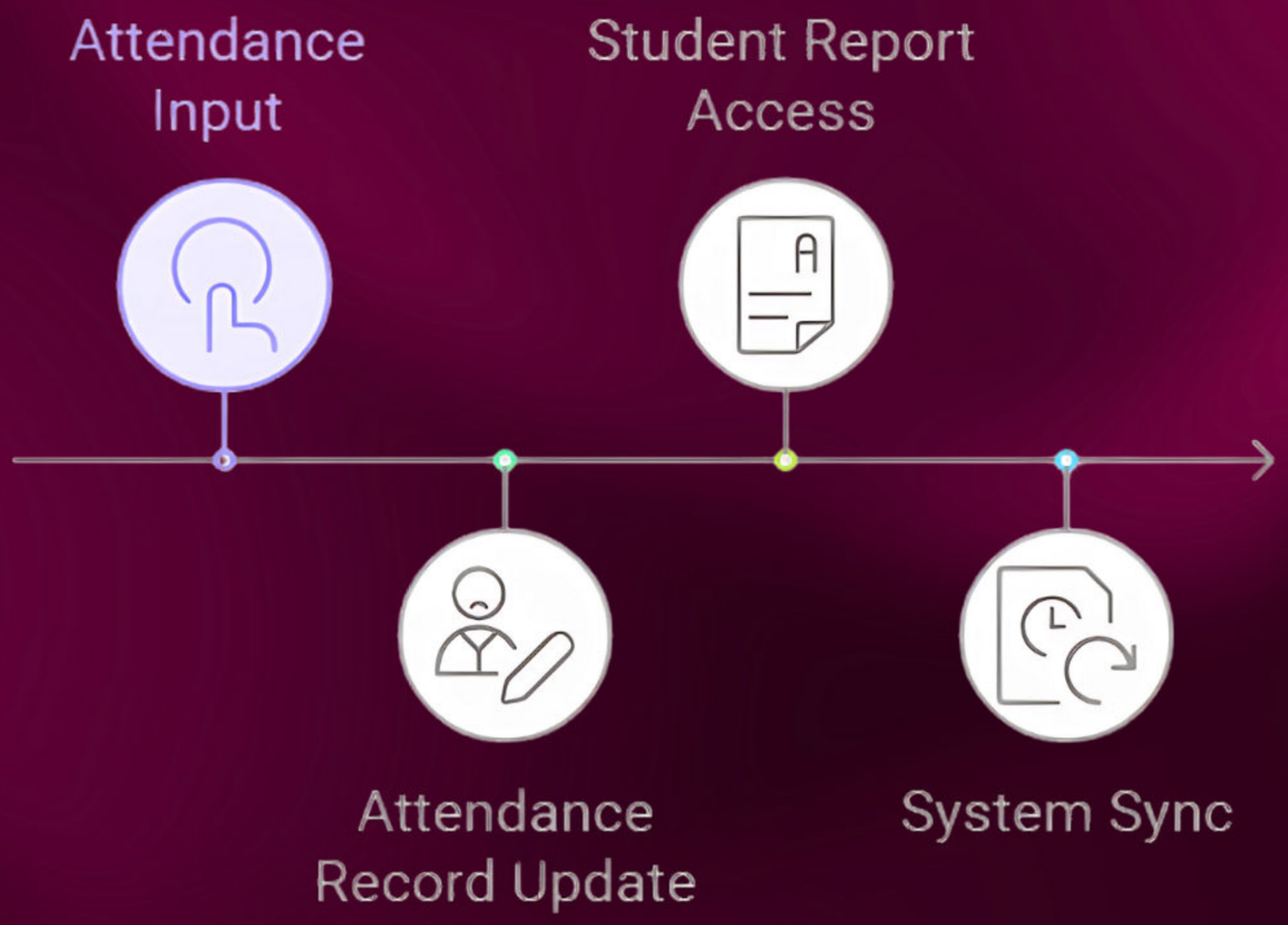
DFD (DATA FLOW DIAGRAM)

Level 1 : Detailed DFD Diagram

Process 3: Sync with University System

- **Input: Data collected from AttendanceRecord.**
- **Operations: Periodic updates to synchronize student attendance records with the university's central database.**
- **Output: Updated student attendance records accessible in the university's main system.**

DFD (DATA FLOW DIAGRAM)



MAINTENANCE PLUS APPLICATION - GANTT CHART

Phase	Task	Duration	Start Date	End Date	Dependencies
1. Planning & Research	Requirements Gathering	2 weeks	Day 1	Day 14	-
	Competitor Analysis	1 week	Day 3	Day 10	Requirements Gathering
	Feasibility Study	1 week	Day 5	Day 12	Requirements Gathering
2. Design	UI/UX Design	3 weeks	Day 15	Day 36	Competitor Analysis
	Database Schema Design	1 week	Day 20	Day 27	Feasibility Study
	System Architecture	2 weeks	Day 25	Day 41	Feasibility Study
3. Development	Frontend Development	4 weeks	Day 37	Day 65	UI/UX Design
	Backend Development	5 weeks	Day 37	Day 70	System Architecture
	Database Setup	2 weeks	Day 42	Day 56	Database Schema Design
	API Development	3 weeks	Day 57	Day 78	Backend Development

MAINTENANCE PLUS APPLICATION - GANTT CHART

4. Integration	Integrate Frontend & Backend	2 weeks	Day 66	Day 86	Frontend, Backend Dev
	Integrate Database	1 week	Day 79	Day 93	API Development
	Testing and Debugging	3 weeks	Day 94	Day 114	Integration Complete
5. Testing	Alpha Testing	2 weeks	Day 115	Day 128	Testing and Debugging
	Beta Testing	2 weeks	Day 129	Day 143	Alpha Testing
6. Deployment	Initial Deployment	1 week	Day 144	Day 151	Beta Testing
	User Training	1 week	Day 152	Day 159	Initial Deployment
7. Maintenance & Support	Bug Fixes and Updates	4 weeks	Day 160	Day 188	User Training
	Documentation	2 weeks	Day 160	Day 174	Beta Testing
	Ongoing Support	Ongoing	Day 188+	-	Documentation Completion
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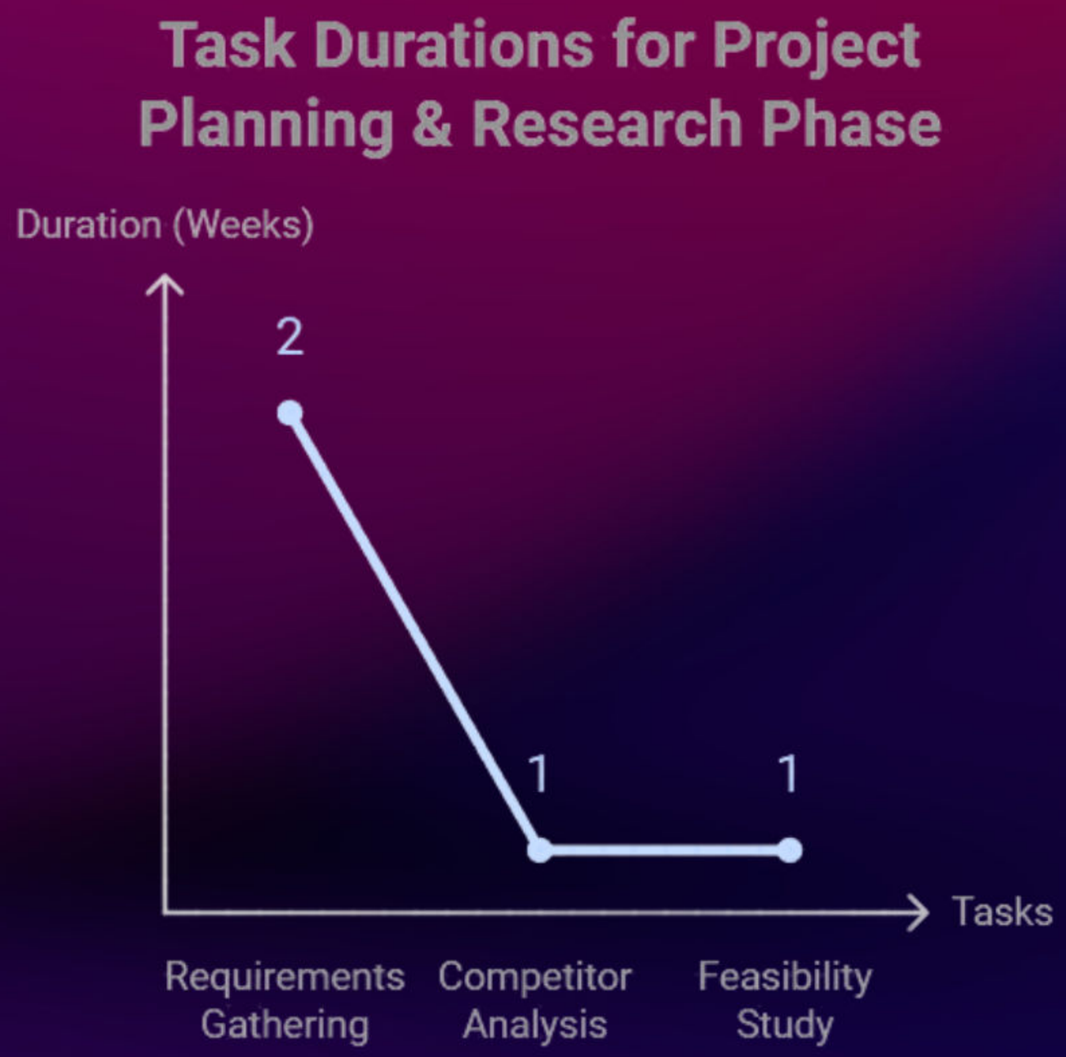
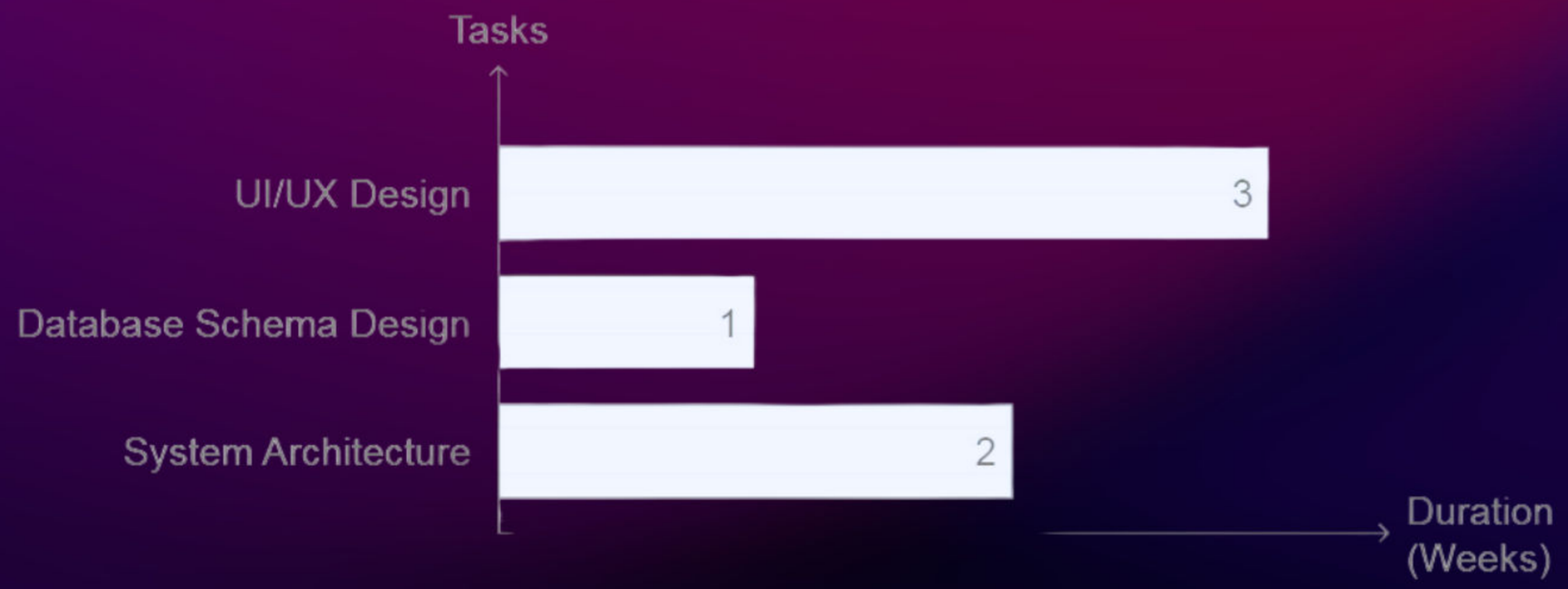
MAINTENANCE PLUS APPLICATION - GANTT CHART

1. Planning & Research



MAINTENANCE PLUS APPLICATION - GANTT CHART

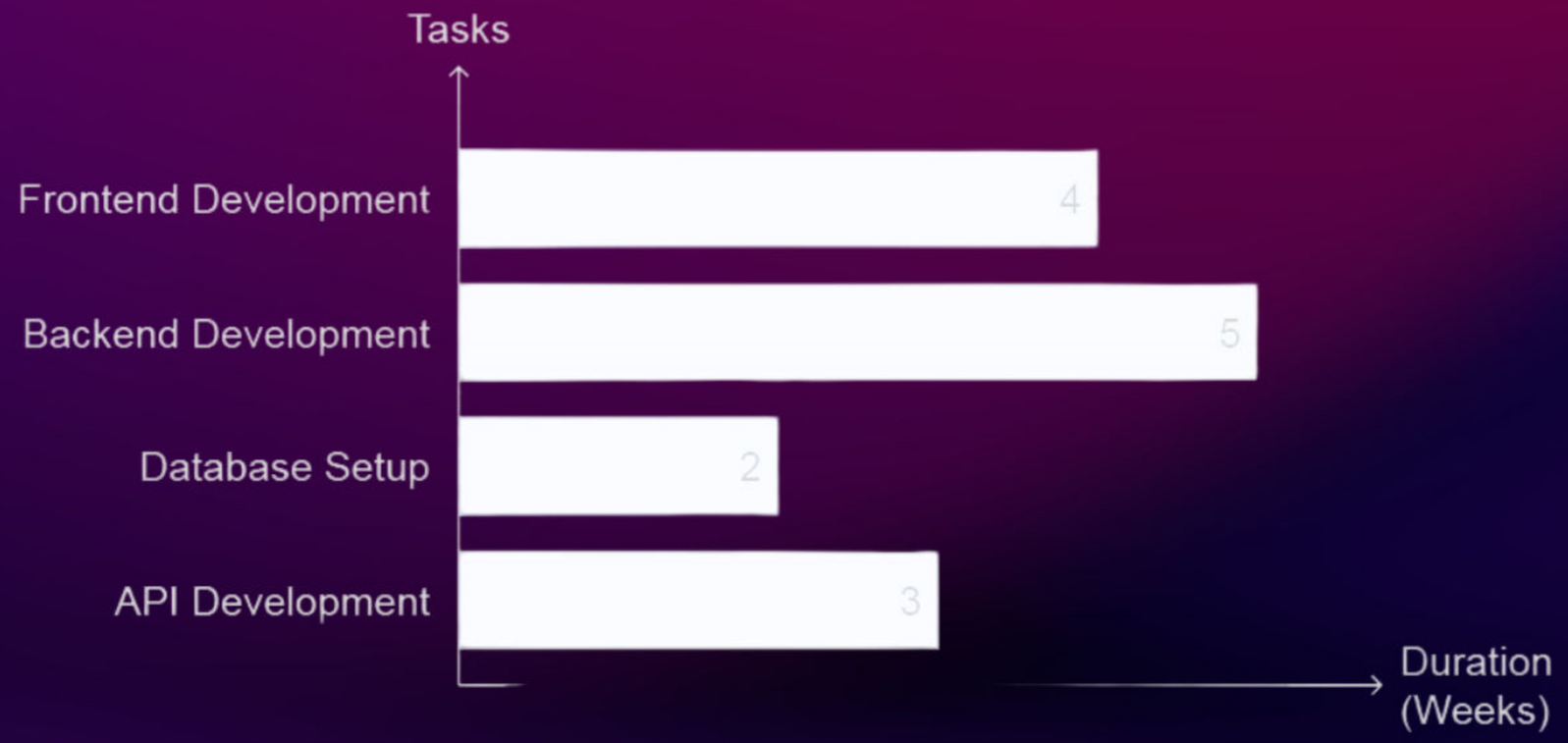
2. Design



Design Phase Task Durations

MAINTENANCE PLUS APPLICATION - GANTT CHART

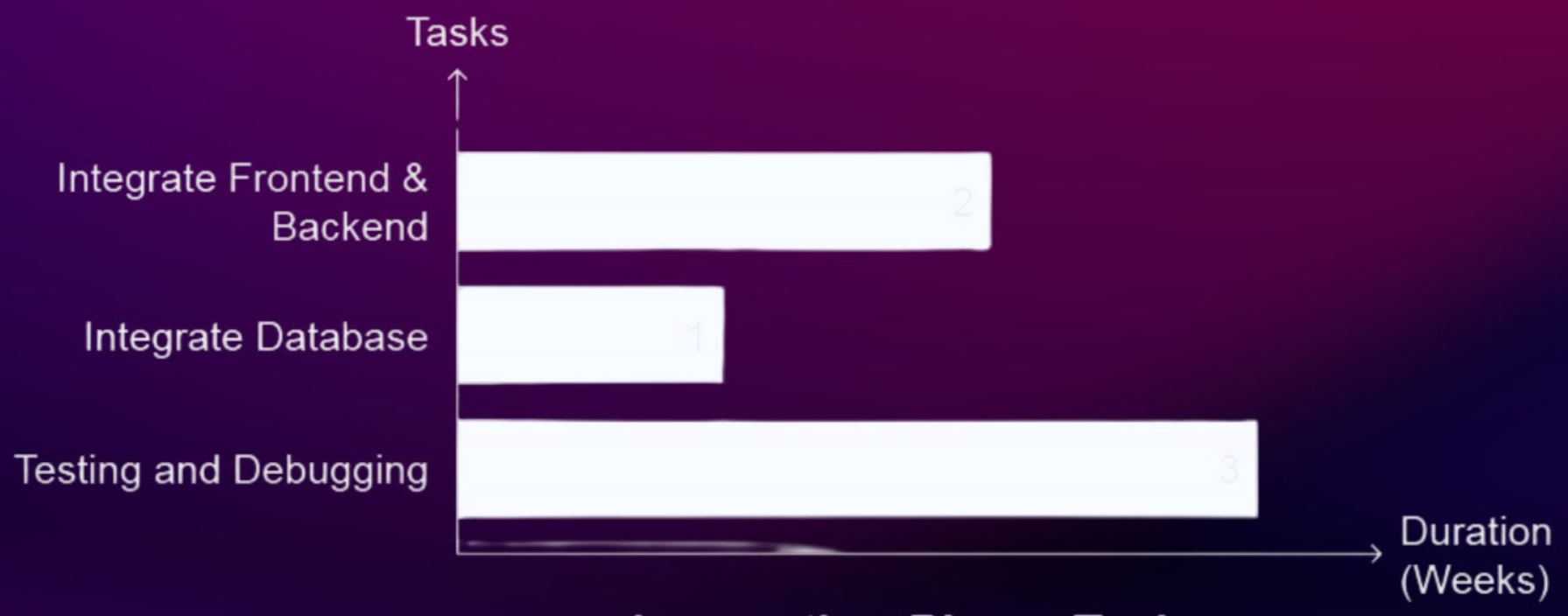
3. Development



Development Phase Task Durations

MAINTENANCE PLUS APPLICATION - GANTT CHART

4. Integration



Integration Phase Task Durations

MAINTENANCE PLUS APPLICATION - GANTT CHART

5. Testing

Testing Phases of Project

Day 115
Start Alpha Testing

Day 128
End Alpha Testing

Day 129
Start Beta Testing

Day 143
End Beta Testing

MAINTENANCE PLUS APPLICATION - GANTT CHART

6. Deployment

Project Deployment Timeline

Day 144
Initial Deployment starts

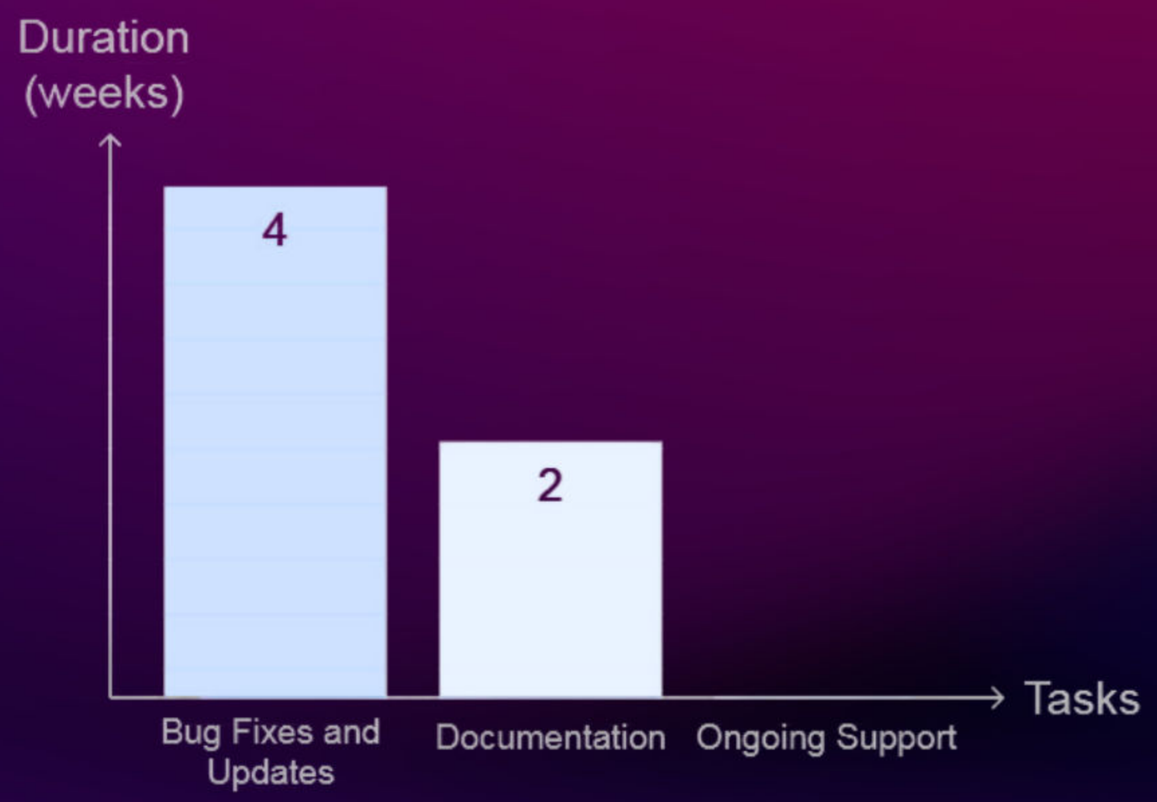
Day 151
Initial Deployment ends

Day 152
User Training starts

Day 159
User Training ends

MAINTENANCE PLUS APPLICATION - GANTT CHART

7. Maintenance & Support



Project Task Durations

TEAM

- عبدالله محمود سمير
- عبدالله فيصل شوقى
- إسلام محمود عمران
- عمرو خالد جمال الدين
- فاروق منصور فاروق
- شهد محي الدين محمد

Under The Supervision

PROF / IBRAHIM AL-AWDY