

Process Mining Virtual Internship

by

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(Affiliated to JNTUA & Approved by AICTE) (Accredited by NAAC with 'A' Grade & Accredited by NBA (EEE, ECE & CSE))
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Contents

- ✍ Course Objective
- ✍ Introduction
- ✍ Technology
- ✍ Applications
- ✍ Modules
- ✍ Real Time applications
- ✍ Learning outcomes
- ✍ GitHub Link
- ✍ Queries

Course Objective

- Understanding Process Mining Concepts.
- Process Discovery Techniques.
- How Process Model can be represent.
- Real-world Application.

Introduction

Founder of Process Mining: Professor Wil van der Aalst is widely considered the founder - or 'Godfather' - of process mining and was the first to establish the term across academic and business fields.

What is process mining?

- A process is very simply **a series of linked actions or steps** taken in order to achieve a particular end(goal).
- Process mining is the combination of two disciplines: **Data Science** and **Business Process Management**. Process Mining essentially uses Data Science techniques, such as Big Data and AI, to address Process Science problems such as process improvement and automation

Introduction

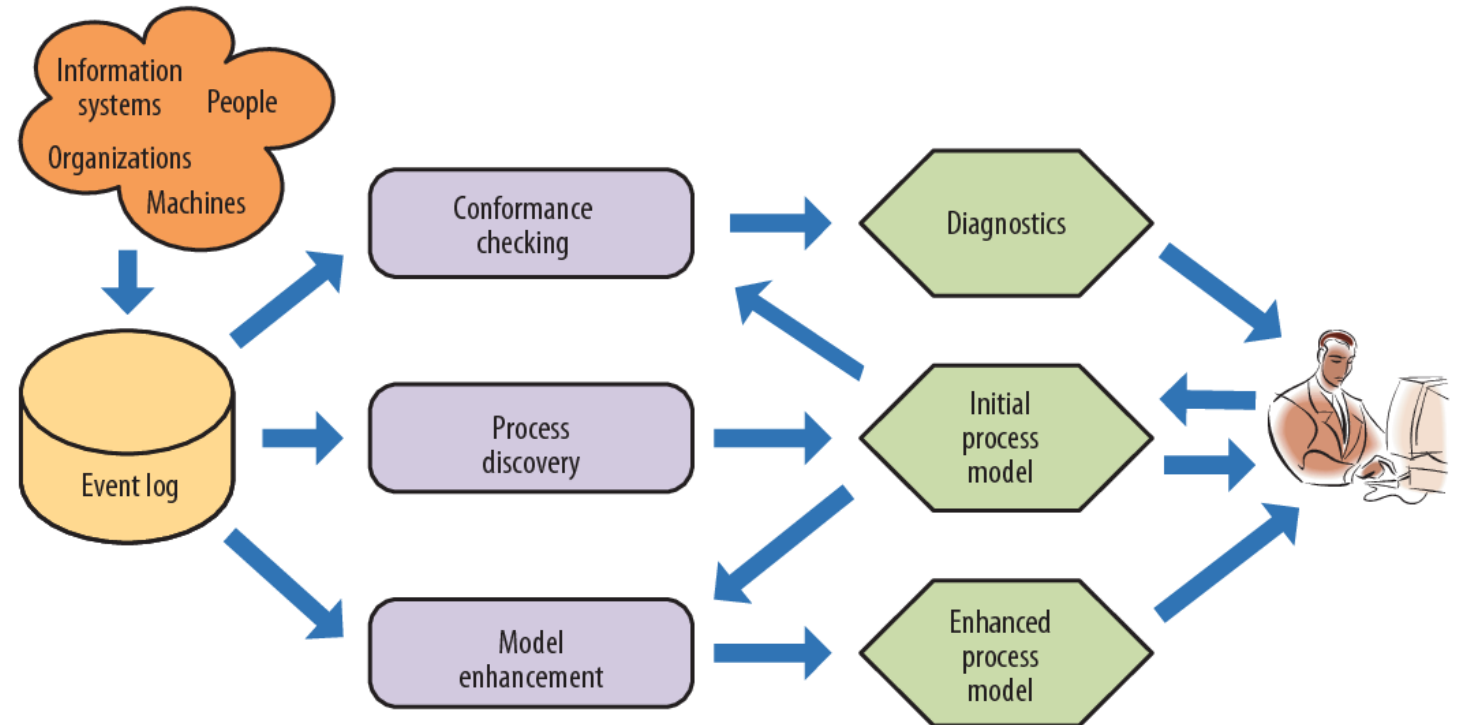
- We have done this internship under Eduskills in association with AICTE.
- Eduskills is a Non-profit organization which enables Industry 4.0 ready digital workforce in India.
- They are associated with 50 plus colleges and thousands of students registered in this platform. They are associated with govt.bodies like ESTD,ISTE,IETE.
- The process mining was done in the platform of Celonis website, it helps companies achieve process excellence through its platform by eliminating operational friction with their Intelligent Business Cloud platform
- Celonis is an American-German data processing company that offers software as a service (SaaS) to improve business processes

Technologies of Process Mining

Process Mining Technology are used to discover, model, analyze, validate and improve workflows.

- Several technologies and tools are applied in process mining to analyze event data, reconstruct process models, and derive valuable insights from business processes. Some of the commonly used technologies and tools in process mining include:

- 1.Data Extraction
- 2.Data preprocessing
- 3.Process Discovery
- 4.Conformance Checking
- 5.Model Enhancement
- 6.Performance Analysis



Applications

➤ Health Process Analysis:

- Analyze patient care pathways and resource utilization.
- Improve healthcare processes for better patient outcomes and operational efficiency.

➤ Predictive Analysis:

Forecast future process behavior based on historical data and patterns.

➤ Visualization and Reporting:

Provide visual representations of process models and performance metrics for better communication

➤ Manufacturing Process Optimization:

Analyzing production workflows to minimize waste, improve resource utilization, and enhance product quality.

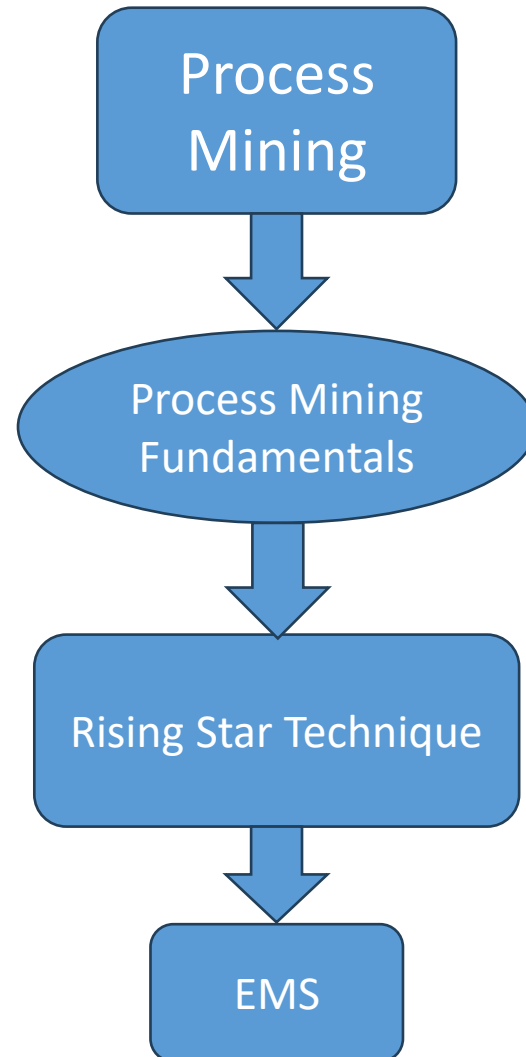
➤ Logistics and Transportation Analysis:

Optimizing routes, schedules, and resource allocation to improve delivery efficiency.

➤ Human Resources Process Analysis:

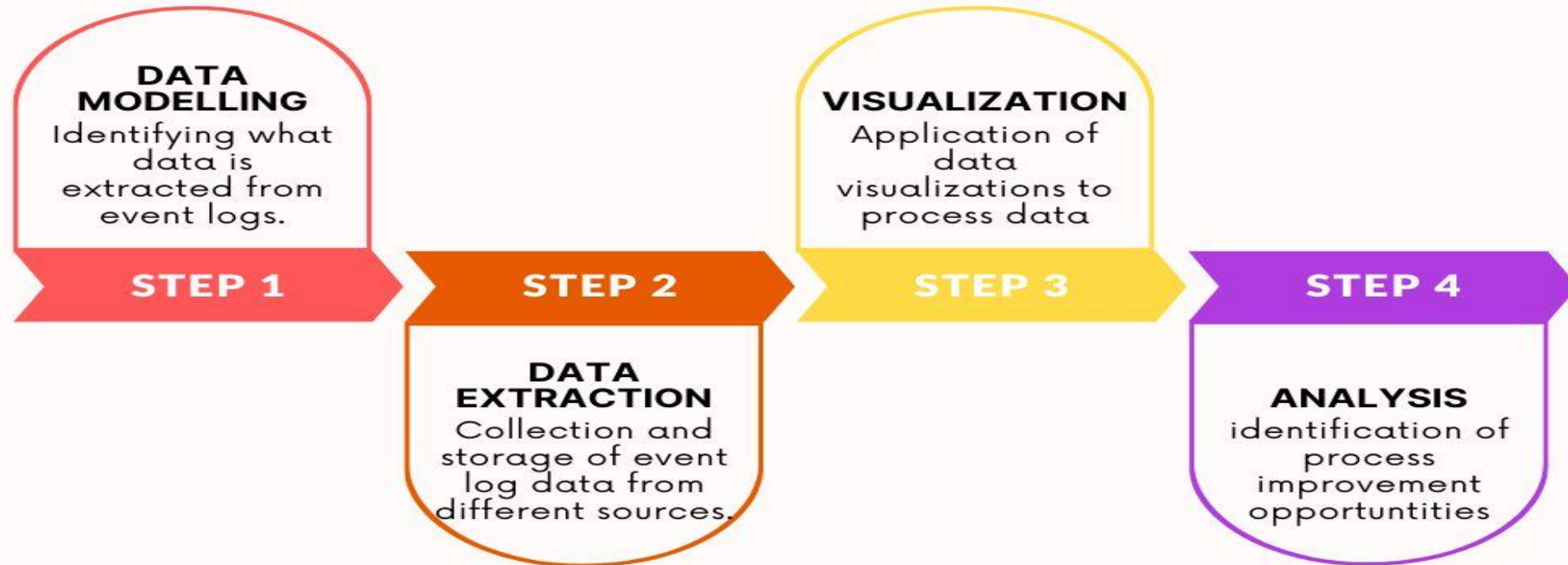
Evaluating recruitment, onboarding, and employee management processes for better workforce management.

Modules

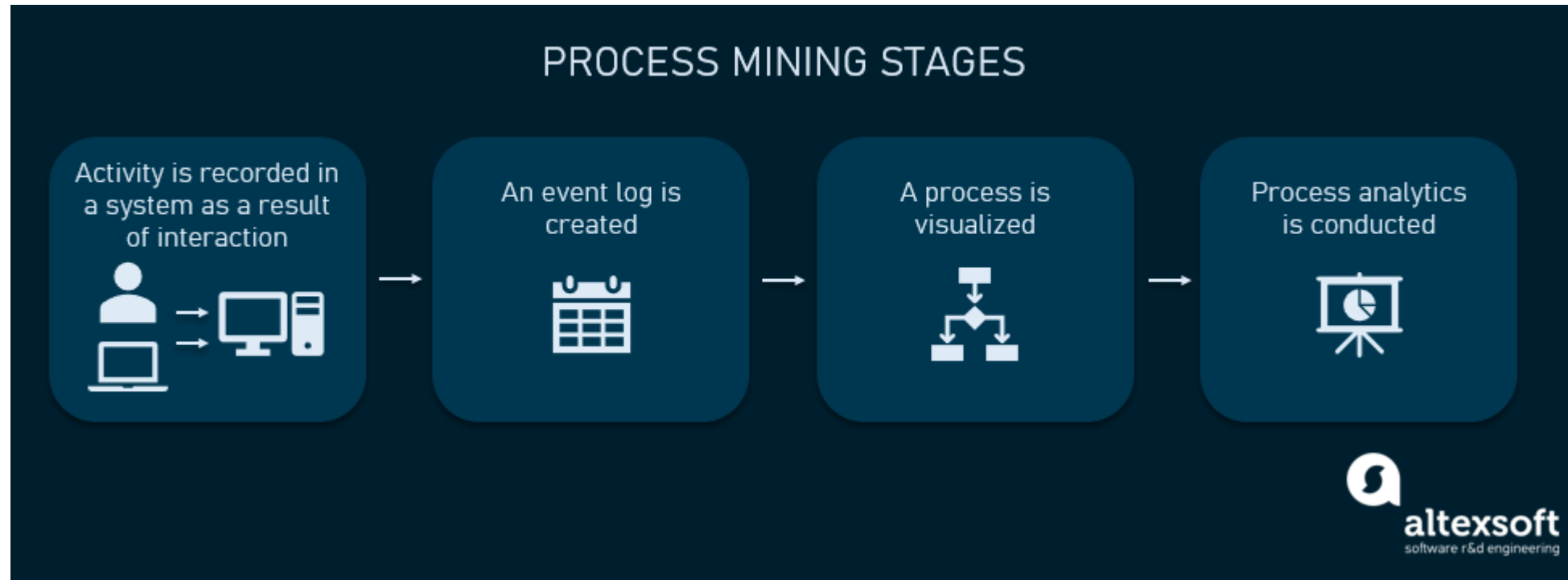


Process Mining Steps

Four Key Steps of Process Mining



Process Mining Stages



How Process Model can be Visualize

Process models are visual representations of how a particular process operates. They can take different forms depending on the notation used and the complexity of the process. Here are a few examples of process models:

1.Flowchart: A flowchart is a simple and widely used process model. It uses various shapes to represent different steps, decisions, and actions in a process. Arrows connect the shapes to show the flow of the process. Flowcharts are often used to illustrate high-level process overviews.

2.BPMN (Business Process Model and Notation): BPMN is a standardized notation for process modeling. It uses a set of symbols and shapes to represent various elements of a process, such as tasks, gateways, events, and flows. BPMN diagrams can range from basic to complex, providing a clear visualization of process flow, decisions, and interactions.

3.State Transition Diagram: This type of diagram models the states an object or system can be in, as well as the transitions between those states. It's commonly used to model processes where entities can undergo different states over time.

4.Customer Journey Map: While not a traditional process model, a customer journey map illustrates the steps a customer takes when interacting with a company, product, or service. It helps visualize the customer experience and identify areas for improvement

Execution Management System

➤ Execution Management is a strategic approach to managing and improving business processes using real-time insights, data analysis, and continuous monitoring.

➤ **Benefits of Execution Management in Celonis:**

- **Real-Time Decision-Making:**

Make timely and informed decisions based on current process data.

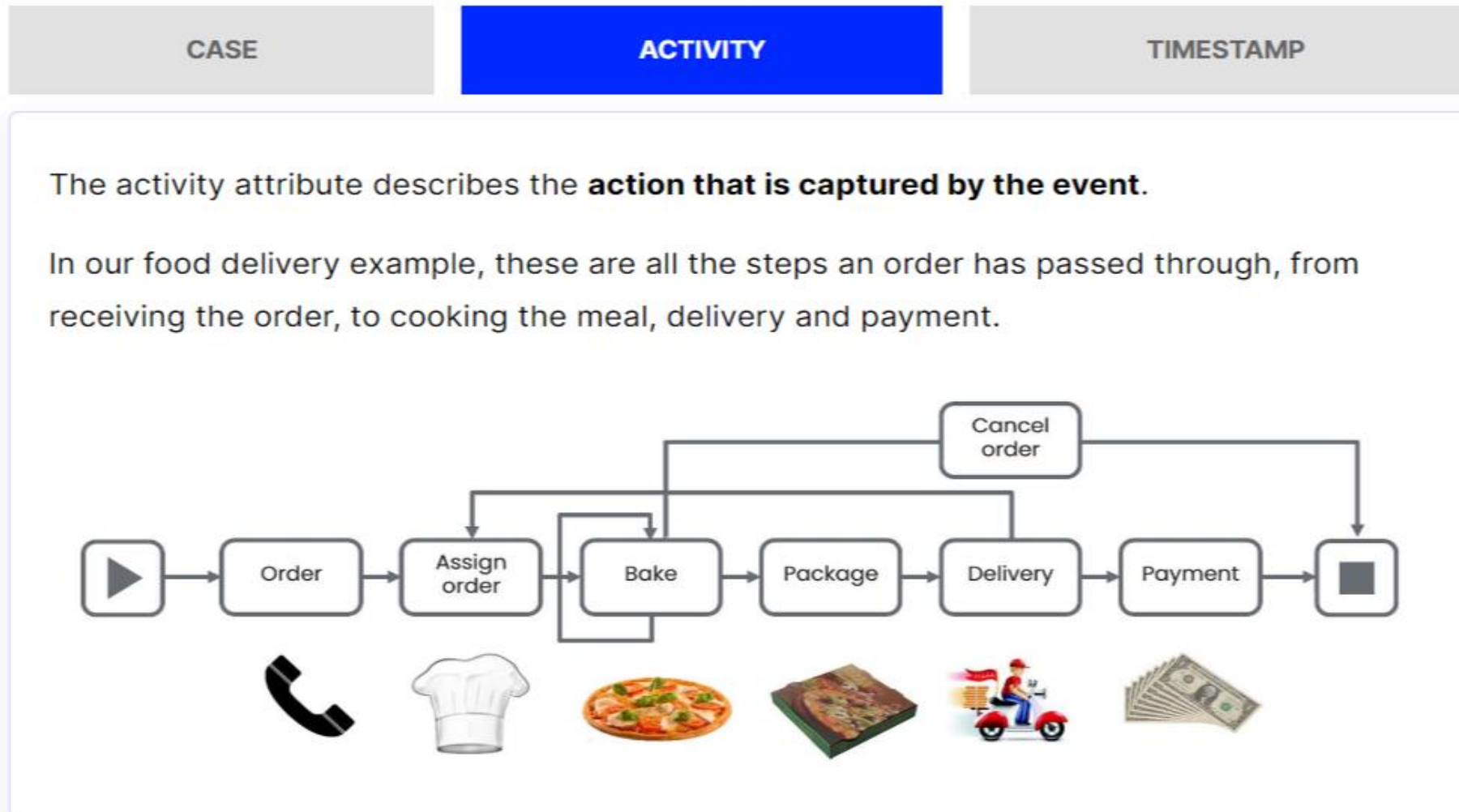
- **Improved Customer Experience:**

Respond to customer needs faster and provide a seamless experience .

- **Adaptive Workflows:**

Adjust workflows dynamically based on changing business conditions and priorities.

Real time Example



Learning Outcomes

- Gaining practical experience in analyzing and optimizing business processes
- Understanding how to use process Mining Tools
- Learning about real-world applications of process improvement techniques

Git Hub Dashboard

The screenshot shows the GitHub repository page for PEDDAPPOLLAKEERTHANA / SUMMERINTERNSHIP-1. The repository is public and has 1 branch (main) and 0 tags. The repository contains three files: PEDDAPPOLLAKEERTHANA (Add files via upload, fc334c0, 15 hours ago, 2 commits), PROCESS MINING CERTIFICATE (2).pdf (Add files via upload, 5 days ago), and Process Mning document final(keerth... (Add files via upload, 15 hours ago). A blue banner prompts the user to add a README. The right sidebar shows the repository's activity, including 0 stars, 1 watching, and 0 forks. The Releases and Packages sections indicate no published releases or packages.

PEDDAPPOLLAKEERTHANA / SUMMERINTERNSHIP-1

Type to search

<> Code Issues Pull requests Actions Projects Wiki Security Insights Settings

SUMMERINTERNSHIP-1 Public

Pin Unwatch 1 Fork 0 Star 0

main 1 branch 0 tags

Go to file Add file <> Code

PEDDAPPOLLAKEERTHANA Add files via upload fc334c0 15 hours ago 2 commits

PROCESS MINING CERTIFICATE (2).pdf Add files via upload 5 days ago

Process Mning document final(keerth... Add files via upload 15 hours ago

Help people interested in this repository understand your project by adding a README. Add a README

About

No description, website, or topics provided.

Activity

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

<https://github.com/PEDDAPPOLLAKEERTHANA>

Any Queries?

Thank You!!!