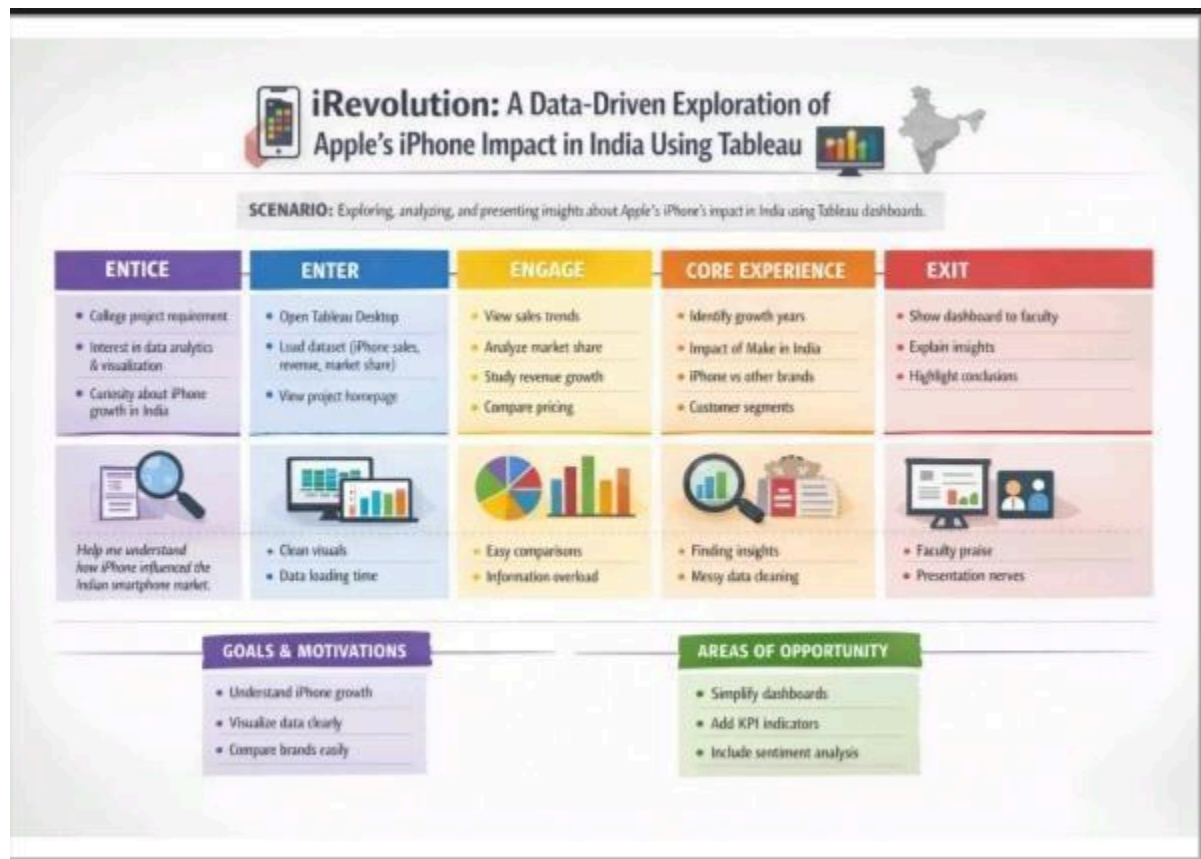


Customer journey map



Solution requirement

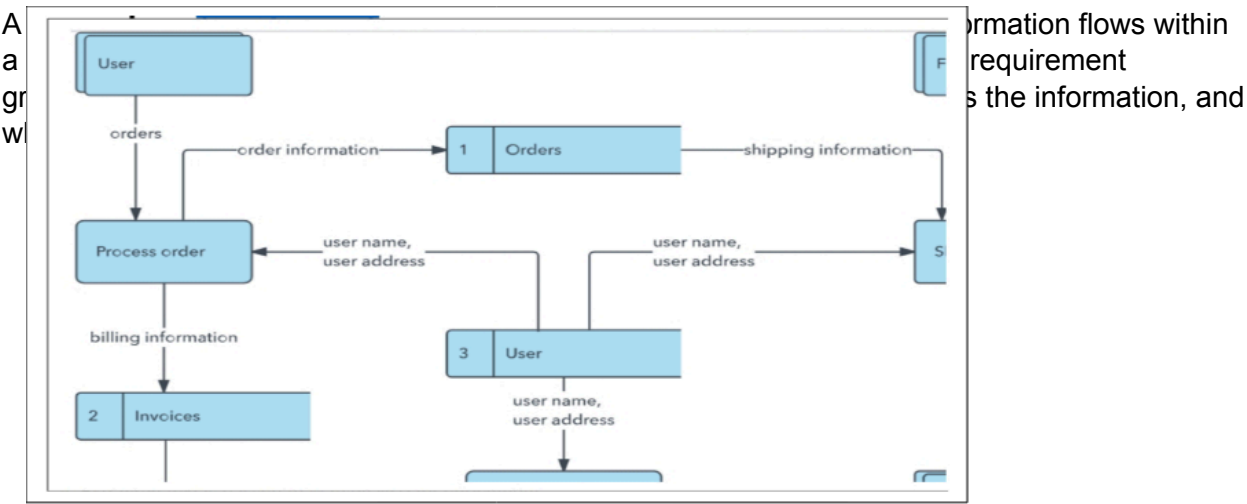
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Data Collection	<ul style="list-style-type: none"> Collect iPhone sales data in India Collect revenue & pricing data Collect market share data
FR-2	Data preparation	<ul style="list-style-type: none"> Clean missing values Remove duplicate records Format data for Tableau
FR-3	Dashboard development	<ul style="list-style-type: none"> Create sales trend charts Create market share comparison charts Create revenue growth visualization

		<ul style="list-style-type: none">▪ Add filters (Year, Model, Region)
FR-4	Data analysis	<ul style="list-style-type: none">▪ Identify growth patterns▪ Compare iPhone with other brands▪ Analyze pricing strategy impact

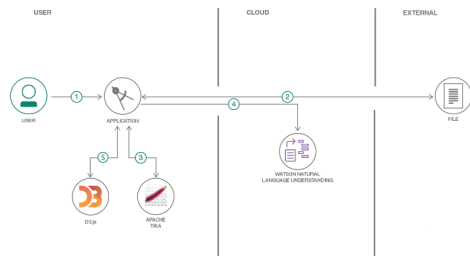
Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Dashboard should be simple, clean, and easy to understand
NFR-2	Security	Data should be stored securely and protected from unauthorized access
NFR-3	Reliability	Dashboard should display accurate and consistent results
NFR-4	Performance	Dashboard should load within few seconds
NFR-5	Availability	Project file should be accessible anytime for presentation
NFR-6	Scalability	System should handle additional future data (new iPhone models, new years)

Data Flow Diagrams:



Flow



1. User configures credentials for the Watson Natural Language Understanding service and starts the app.
2. User selects data file to process and load.
3. Apache Tika extracts text from the data file.
4. Extracted text is passed to Watson NLU for enrichment.
5. Enriched data is visualized in the UI using the D3.js library.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Student analysis	Data collection	USN-1	As a student, I want to collect iPhone sales data in India so that I can analyze growth trends	Dataset is collected and stored correctly	High	Sprint-1
Student analysis	Data preparation	USN-2	As a student, I want to clean and format raw data for analysis	No missing or duplicate values	High	Sprint-1
Student analysis	Data visualization	USN-3	As a student, I want to create interactive dashboards in Tableau	Dashboard displays charts correctly	Low	Sprint-2
Student analysis	Dashboard	USN-4	As a student, I want to analyze year-wise iPhone sales growth	Sales trend chart is visible Medium	Medium	Sprint-1
Student analysis	Story	USN-5	As a student, I want to compare iPhone with other smartphone brands	Brand comparison chart works with filters	Low	Sprint-2
Student analysis	Performance testing	USN-6	As a faculty member, I want to review the dashboard insights	Insights are clearly explained	Medium	Sprint-3
Student analysis	Web integration	USN-7	As a student, I want to present findings confidently	Dashboard runs without errors	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Student analysis	Demonstration and Documentation	USN-8	As a student, I want to analyze year-wise iPhone sales growth	No missing or duplicate values	High	Sprint-1

Technology stack

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

<p>Guidelines:</p> <ul style="list-style-type: none"> Include all the processes (As an application logic / Technology Block) Provide infrastructural demarcation (Local / Cloud) Indicate external interfaces (third party API's etc.) Indicate Data Storage components / services Indicate interface to machine learning models (if applicable) 	<p>Reference:</p> <p>https://www.geogebra.org/m/htdemics/order-processing-during-pandemics/</p>
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Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chabot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Java / Python

3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudland etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local File system
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.

Table-2: Application Characteristics:

S.N o	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Open source framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Technology used