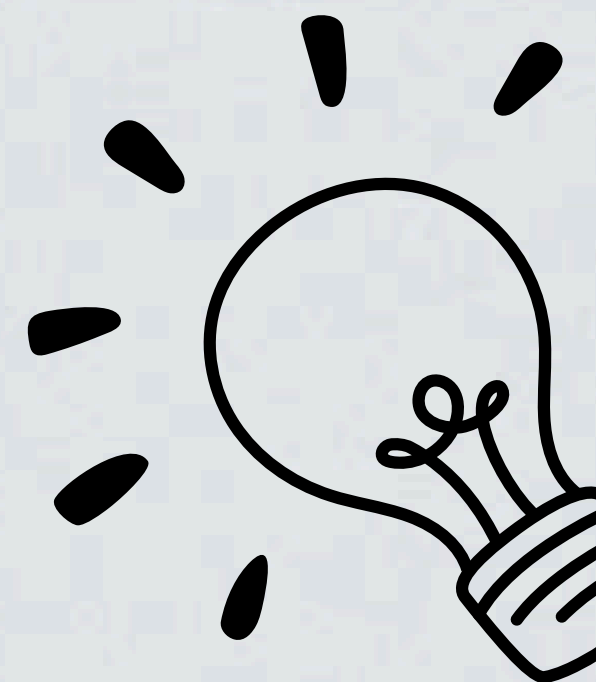# DEALYTICS

Presented By Group A2-1

MEET THE GROUP

2005031 - Soumik Bhattacharjee

2005033 - Somik Dasgupta

2005041 - Imtiaz Kabir

2005046 - Tusher Bhomik

2005047 - Akanta Das

2005058 - Shabab Mosharraf

SHOW RECOMMENDED DEALS WITH CUSTOM SEARCH

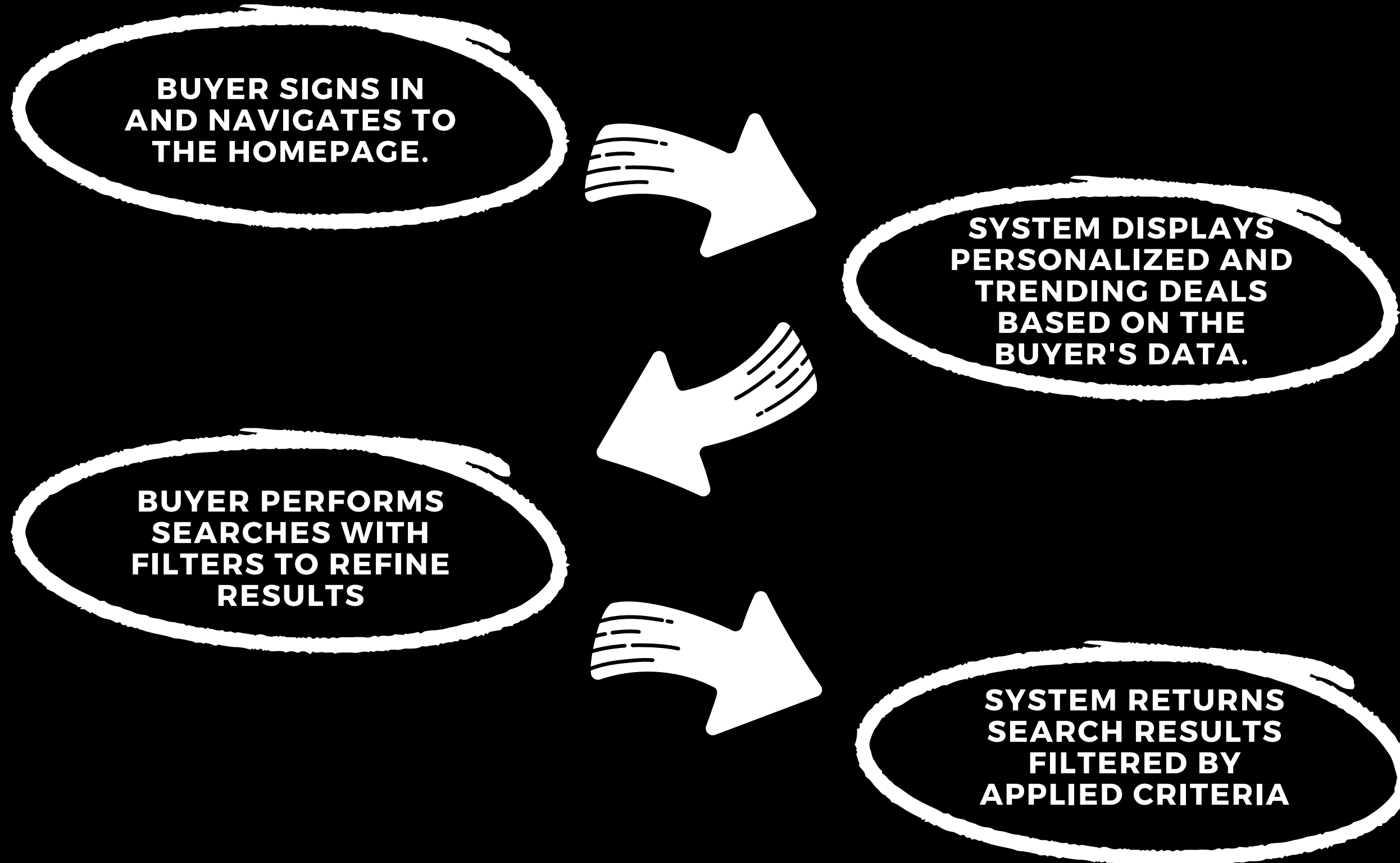THE SYSTEM PRESENTS RECOMMENDED DEALS WITH AN OPTION TO SEARCH AND FILTER PRODUCTS

ACTORS

- BUYER
- RECOMMENDATION ENGINE

PRECONDITIONS

- BUYER IS SIGNED IN
- LOCATION, BROWSING HISTORY, OR OTHER RELEVANT DATA IS AVAILABLE.

STEPS

BUYER SIGNS IN AND NAVIGATES TO THE HOMEPAGE.

SYSTEM DISPLAYS PERSONALIZED AND TRENDING DEALS BASED ON THE BUYER'S DATA.

BUYER PERFORMS SEARCHES WITH FILTERS TO REFINE RESULTS

SYSTEM RETURNS SEARCH RESULTS FILTERED BY APPLIED CRITERIA

TESTCASES OF SHOW RECOMMENDED DEALS WITH CUSTOM SEARCH

1.DISPLAY PERSONALIZED AND TRENDING DEALS FOR RETURNING USER
  (HOMEPAGE DISPLAYS RELEVANT PERSONALIZED AND TRENDING DEALS.)

2.DISPLAY GENERAL DEALS FOR NEW USER
  (DISPLAYS GENERAL TRENDING DEALS DUE TO LACK OF PERSONALIZATION DATA)

3. SEARCH WITH VALID FILTERS
  (FILTERED SEARCH RESULTS DISPLAYED SUCCESSFULLY.**)**

TESTCASES OF SHOW RECOMMENDED DEALS WITH CUSTOM SEARCH

4.SEARCH WITH NO MATCHING RESULTS
   (NO RESULTS FOUND MESSAGE DISPLAYED.)
5.EMPTY SEARCH TERM WITHOUT FILTERS
   (FILTERED RECOMMENDED DEALS DISPLAYED.)
6. INVALID SEARCH FILTERS
   (ERROR MESSAGE DISPLAYED FOR INVALID FILTERS.)

"name": "Search with Valid Filters",
"description": "Verify search results based on valid filters.",

```
"input": {
    "searchTerm": "",
    "filters": {
        "priceRange": "300-800",
        "location": "within 30 miles",
        "rating": "4+"
    },
    "buyerData": {
        "location": "Dhaka",
        "previousBrowsingHistory": [
            "Laptops",
            "Headphones"
        ],
        "userPreferences": [
            "High Ratings",
            "Discounts"
        ]
    }
}
```

```
"expected": {
    "outcome": "Filtered search results",
    "status": "Success",
    "searchResults": "Filtered by criteria"
}
```

TEST CASE: SEARCH WITH VALID FILTERS

DESCRIPTION: VERIFY THAT THE SYSTEM RETURNS SEARCH RESULTS BASED ON VALID FILTER CRITERIA

Input

Search Term: Smartphone,
Filters:
- Price Range: 300-800
- Location: within 30 miles
- Rating: 4+

Buyer Data:
- Location: Sylhet
- Browsing History: Walton, Laptops
- Preferences: Discounts, Low Price

Output

List of relevant deals filtered by criteria

VIEW DEAL DETAILS AND ANALYTICS

SCENARIO

BUYER VIEWS DEAL DETAILS WITH ANALYTICS SUCH AS PRICE TREND, RATING, QUALITY ETC. AND COMPARISON WITH RELATED PRODUCTS
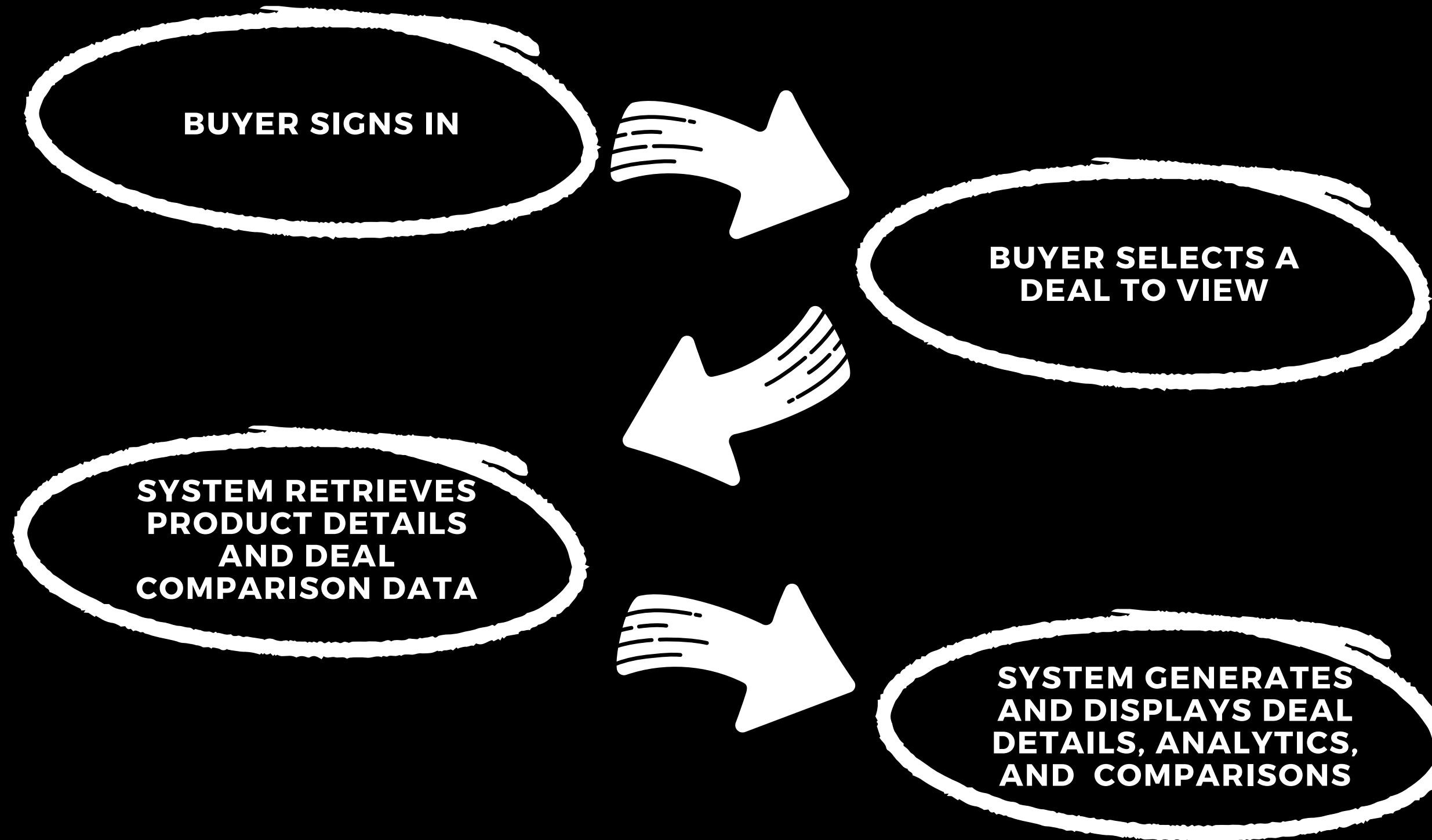
ACTORS

- BUYER
- ANALYTICS ENGINE

PRECONDITIONS

- BUYER SIGNED IN
- BUYER SELECTED A DEAL TO VIEW

STEPS

BUYER SIGNS IN

BUYER SELECTS A DEAL TO VIEW

SYSTEM RETRIEVES PRODUCT DETAILS AND DEAL COMPARISON DATA

SYSTEM GENERATES AND DISPLAYS DEAL DETAILS, ANALYTICS, AND COMPARISONS

TESTCASES OF VIEW DEAL DETAILS AND ANALYTICS

1.DISPLAY ALL DEAL DETAILS AND ANALYTICS
   (ALL DEAL DETAILS AND ANALYTICS DISPLAYED, INCLUDING PRICE TRENDS, RATINGS, QUALITY ANALYSIS, AND COMPARISONS.**)**

2.DISPLAY LIMITED ANALYTICS
   (AVAILABLE DETAILS AND ANALYTICS DISPLAYED WITH 'NO ANALYTICS AVAILABLE' MESSAGE FOR MISSING DATA.)

3.DISPLAY ALL DETAILS WITHOUT DEAL COMPARISON
   (ALL DEAL DETAILS AND ANALYTICS DISPLAYED WITHOUT COMPARISONS WITH RELATED DEALS.)

"name": "Display deal details and analytics",
"description": "Verify that the full details of the deal, including price trends, ratings, quality analysis, and comparison with related products, are displayed

```
"input": {
        "dealID": "Deal567",
        "relatedDeals": [
                "Deal123",
                "Deal456"
        ]
}
```

```
"expected": {
        "outcome": "Deal details and analytics displayed,
                        including price trends, ratings, quality
                        analysis, and comparisons.",
        "status": "Success",
        "details": {
         "priceTrends": "visible",
         "ratings": "visible",
         "qualityAnalysis": "visible",
         "comparison": {
           "relatedDealsCompared": 2,
           "graphDisplayed": true
         },
         "pricePrediction": "visible",
         "optimalPurchaseTime": "visible"
        }
}
```

TEST CASE: DISPLAY DEAL DETAILS AND ANALYTICS

DESCRIPTION: VERIFY THAT THE FULL DETAILS OF THE DEAL, INCLUDING PRICE TRENDS, RATINGS, QUALITY ANALYSIS, AND COMPARISON WITH RELATED PRODUCTS, ARE DISPLAYED

Input

Deal ID: Deal567
Deals to compare:
- Deal123
- Deal456

Output

Details of the selected deal (price trend, rating, quality) including detailed analysis, and comparisons

SELLER ANALYTICS ON PRODUCT

SELLERS VIEW ANALYTICS RELATED TO THEIR PRODUCTS, INCLUDING SALES TRENDS, MARKET DEMAND, AND COMPETITOR PERFORMANCE, ENABLING DATA-DRIVEN DECISIONS.

ACTORS

- SELLER
- DEAL ANALYTICS ENGINE

PRECONDITIONS

- SELLER HAS PRODUCTS LISTED ON THE PLATFORM AND HAS ACCESS TO THE ANALYTICS DASHBOARD

STEPS

SELLER LOGS INTO THE PLATFORM AND ACCESS THE DASHBOARD

SELLER SELECTS SPECIFIC ANALYTICS OPTIONS

SYSTEM PROCESSES SELECTED DATA AND PROVIDES INSIGHTS

SELLER REVIEWS THE DATA AND EXPORTS TO MAKE DECISIONS

TESTCASE OF SELLER ANALYTICS SUBSYSTEM

1. **VIEW PRODUCT PERFORMANCE** (NORMAL CONDITION, NO SALES DATA)
2. **DEMAND FORECASTING** (SEASONAL PRODUCT, NEW PRODUCT)
3. **COMPETITOR ANALYSIS** (SIMILAR PRODUCT AVAILABLE, NO COMPETITION)
4. **SALES TREND ANALYSIS** (HIGH SALES VOLUME, LOW OR FLUCTUATING SALES)

TESTCASE OF SELLER ANALYTICS SUBSYSTEM

1. **INVENTORY RECOMMENDATIONS** (HIGH DEMAND, LOW DEMAND)
2. **PRICE OPTIMIZATION SUGGESTION** (HIGHLY COMPETITIVE, LESS COMPETITION)
3. **REVIEW AND FEEDBACK INSIGHTS** (HIGH VOLUME OF REVIEWS, LOW VOLUME OF REVIEWS)
4. **INVALID ANALYTICS REQUEST**

"name": "Competitor Analysis - Similar Product Available",
"description": "Verify that the seller can view competitor analysis for a product with similar listings, displaying competitors' prices, ratings, and recent trends."

"input": {
 "sellerID": "S1003",
 "productID": "P4001",
 "analyticsType": "competitor analysis"
},

"expected": {
 "outcome": "Competitor data displayed",
 "status": "Visible",
 "metrics": [
  "competitor prices",
  "ratings",
  "trends"
 ]
}

TEST CASE: INVENTORY RECOMMENDATIONS - HIGH DEMAND PRODUCT

DESCRIPTION: VERIFY THAT THE SYSTEM SUGGESTS OPTIMAL RESTOCK QUANTITIES AND TIMING FOR HIGH-DEMAND PRODUCTS BASED ON RECENT TRENDS.

Input

Input:
- **Seller ID: S1005**
- **Product ID: P6001**
- **Analytics Type: Inventory Recommendation**

Output

Restock recommendation displayed on a given time frame (eg. next week)

PRODUCT ADDITION BY SELLER

SCENARIO

SELLER ADDS A NEW PRODUCT THROUGH A DETAILED FORM IN DEALYTICS UI. UPON ADDITION, BACKEND SERVICE CATEGORIZZ,RATE AND RANK THE PRODUCT AND NOTIFY SUBSCRIBERS

ACTORS

- SELLER
- DEALYTICS SYSTEM

PRECONDITIONS

- SELLER IS LOGGED INTO THE DEALYTICS DASHBOARD
- REQUIRED FIELDS IN THE PRODUCT FORM ARE COMPLETED

STEPS

SELLER NAVIGATES TO THE 'ADD PRODUCT' SECTION IN THE DASHBOARD OR API DETECTS PRODUCT ADD

SELLER COMPLETES THE PRODUCT FORM, INCLUDING LOCATION, PRICING, STOCK LEVELS, AND OTHER PRODUCT DETAILS.

SYSTEM PROCESSES THE ADDITION, CATEGORIZES AND RATES THE PRODUCT.

BACKEND NOTIFIES RELEVANT SUBSCRIBERS OF THE PRODUCT ADDITION, INCLUDING PRICE TRENDS AND AVAILABILITY.

SYSTEM RANKS THE PRODUCT AND STORES ALL DATA IN THE DATABASE.
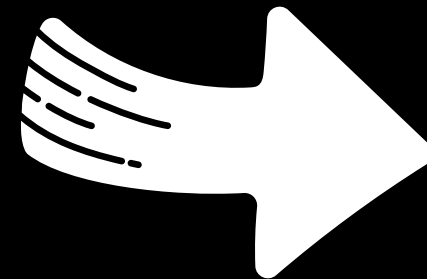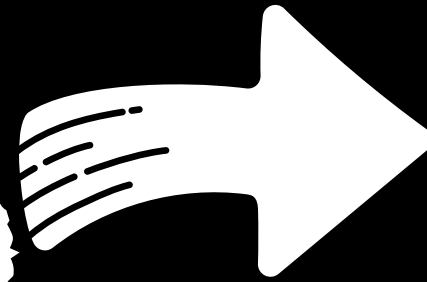
TESTCASES OF PRODUCT ADDITION BY SELLER VIA UI OR API

1. **SUCCESSFUL PRODUCT ADDITION**
   (PRODUCT ADDED AND SUBSCRIBERS NOTIFIED)
2. **PRODUCT ADDITION VIA API**
   (PRODUCT ADDED AND SUBSCRIBERS NOTIFIED)
3. **MISSING REQUIRED FIELD**
   (PRODUCT ADDITION FAILED)
4. **INVALID FORMAT OF INPUT**
   (PRODUCT ADDITION FAILED)

PRODUCT UPDATE BY SELLER

SCENARIO

SELLER UPDATES THE PRODUCT'S DETAILS (PRICE, STOCK, ETC.) THROUGH THE DEALYTICS UI. THE SYSTEM RE-CATEGORIZES, RE-RATES, AND RE-RANKS THE PRODUCT AND NOTIFIES SUBSCRIBERS.
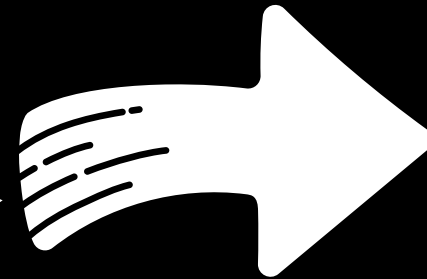
ACTORS

- SELLER
- DEALYTICS SYSTEM

PRECONDITIONS

- SELLER IS LOGGED INTO THE DEALYTICS DASHBOARD
- THE PRODUCT IS ALREADY ADDED TO THE SYSTEM BY THE SELLER

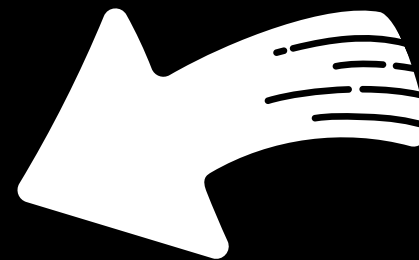# STEPS

SELLER ACCESSES THE PRODUCT IN THEIR DASHBOARD AND CHOOSES TO EDIT DETAILS

SELLER MODIFIES PRODUCT DETAILS.

SYSTEM UPDATES PRODUCT INFORMATION, RE-CATEGORIZES, RE-RATES, AND RE-RANKS IT.

BACKEND NOTIFICATION SYSTEM ALERTS SUBSCRIBERS OF SIGNIFICANT CHANGES, INCLUDING PRICE DROPS OR UPDATED STOCK LEVELS.

TESTCASES OF PRODUCT UPDATE BY SELLER

1. **SUCCESSFUL PRODUCT UPDATE**
   (PRODUCT UPDATED AND SUBSCRIBERS NOTIFIED)
2. **UPDATE WITH SIGNIFICANT PRICE DROP**
   (PRODUCT UPDATED AND SUBSCRIBERS NOTIFIED)
3. **UPDATE NON-EXISTENT PRODUCT**
   (PRODUCT UPDATE FAILED)

PRODUCT REVIEW BY BUYER

SCENARIO

BUYERS CAN SUBMIT A REVIEW FOR A PRODUCT THEY PURCHASED FROM A SELLER. REVIEWS INCLUDE A RATING, COMMENT, AND AN OPTIONAL PICTURE. A BUYER CAN ONLY SUBMIT ONE REVIEW PER PRODUCT.

ACTORS

- BUYER
- PRODUCT REVIEW SYSTEM

PRECONDITIONS

- BUYER HAS PURCHASED THE PRODUCT FROM THE SELLER AND IS LOGGED INTO THEIR ACCOUNTREQUIRED FIELDS IN THE PRODUCT FORM ARE COMPLETED

STEPS

**BUYER NAVIGATES TO THE PRODUCT PAGE OF THE PURCHASED ITEM.**

BUYER CLICKS ON THE 'WRITE A REVIEW' BUTTON.

BUYER ENTERS A RATING (1-5 STARS), A COMMENT, AND OPTIONALLY UPLOADS A PICTURE.

IF VALID, SYSTEM SAVES THE REVIEW AND ASSOCIATES IT WITH THE PRODUCT AND BUYER.

SYSTEM VALIDATES THE INPUT AND CHECKS IF THE BUYER HAS PREVIOUSLY REVIEWED THE PRODUCT.

BUYER IS NOTIFIED THAT THEIR REVIEW HAS BEEN SUBMITTED SUCCESSFULLY.
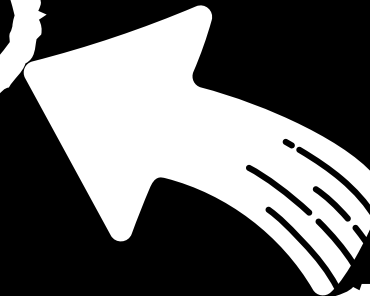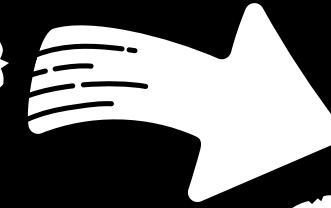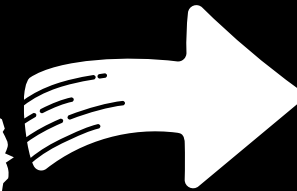
TESTCASES OF PRODUCT REVIEW BY BUYER

1. **SUCCESSFUL PRODUCT REVIEW SUBMISSION**
2. **ATTEMPT TO SUBMIT MULTIPLE REVIEWS FOR THE SAME PRODUCT**
3. **INVALID REVIEW SUBMISSION WITH MISSING RATING**
4. **REVIEW SUBMISSION ATTEMPT WITHOUT PURCHASE**

BUYER SUBSCRIPTION TO PRODUCTS

SCENARIO

BUYERS CAN SUBSCRIBE TO PRODUCTS THAT ARE UPCOMING OR ALREADY IN THE MARKETPLACE. THEY CAN ALSO UNSUBSCRIBE FROM THESE SUBSCRIPTIONS.
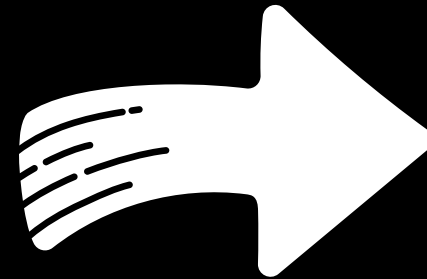
ACTORS

- BUYER
- BACKEND SUBSCRIPTION SYSTEM

PRECONDITIONS

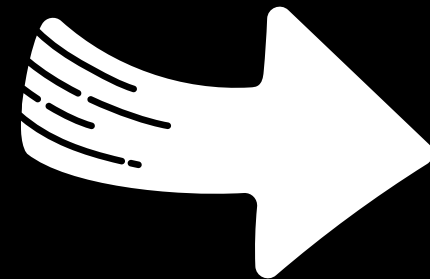- BUYER IS LOGGED IN AND HAS SELECTED A PRODUCT FOR SUBSCRIPTION.

STEPS

BUYER NAVIGATES TO THE PRODUCT PAGE FOR AN UPCOMING OR EXISTING PRODUCT.

BUYER CLICKS ON THE 'SUBSCRIBE' BUTTON FOR THE PRODUCT.

SYSTEM SAVES THE BUYER'S SUBSCRIPTION PREFERENCE FOR THE SELECTED PRODUCT.

BUYER CAN CLICK 'UNSUBSCRIBE' TO REMOVE THE SUBSCRIPTION AT ANY TIME.

BUYER CAN VIEW THEIR ACTIVE SUBSCRIPTIONS IN THEIR PROFILE.

TESTCASES OF BUYER SUBSCRIPTION TO PRODUCTS

1. **SUCCESSFUL PRODUCT SUBSCRIPTION**
2. **SUCCESSFUL UNSUBSCRIPTION FROM PRODUCT**
3. **UNSUCCESSFUL SUBSCRIPTION TO ALREADY SUBSCRIBED PRODUCT**
4. **SELLER SUBSCRIPTION TO PRODUCT CATEGORIES**

SELLER SUBSCRIPTION TO PRODUCT CATEGORIES

SCENARIO

SELLERS CAN SUBSCRIBE TO NOTIFICATIONS BASED ON SPECIFIC PRODUCT CATEGORIES. THEY CAN ALSO UNSUBSCRIBE FROM THESE SUBSCRIPTIONS.

ACTORS

- SELLER
- BACKEND SUBSCRIPTION SYSTEM

PRECONDITIONS

- SELLER IS LOGGED IN AND HAS SELECTED PRODUCT CATEGORIES FOR SUBSCRIPTION.
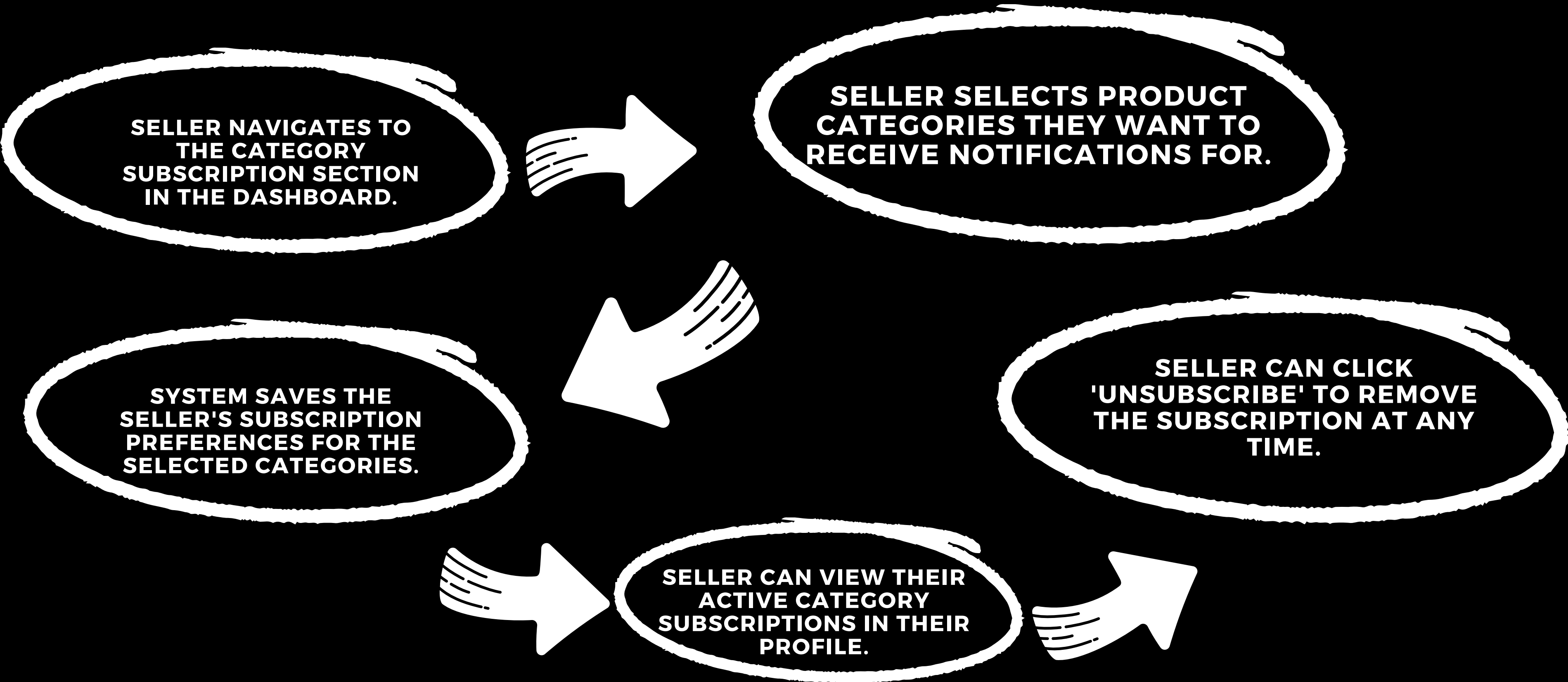
STEPS

SELLER NAVIGATES TO THE CATEGORY SUBSCRIPTION SECTION IN THE DASHBOARD.

SELLER SELECTS PRODUCT CATEGORIES THEY WANT TO RECEIVE NOTIFICATIONS FOR.

SYSTEM SAVES THE SELLER'S SUBSCRIPTION PREFERENCES FOR THE SELECTED CATEGORIES.

SELLER CAN CLICK 'UNSUBSCRIBE' TO REMOVE THE SUBSCRIPTION AT ANY TIME.

SELLER CAN VIEW THEIR ACTIVE CATEGORY SUBSCRIPTIONS IN THEIR PROFILE.
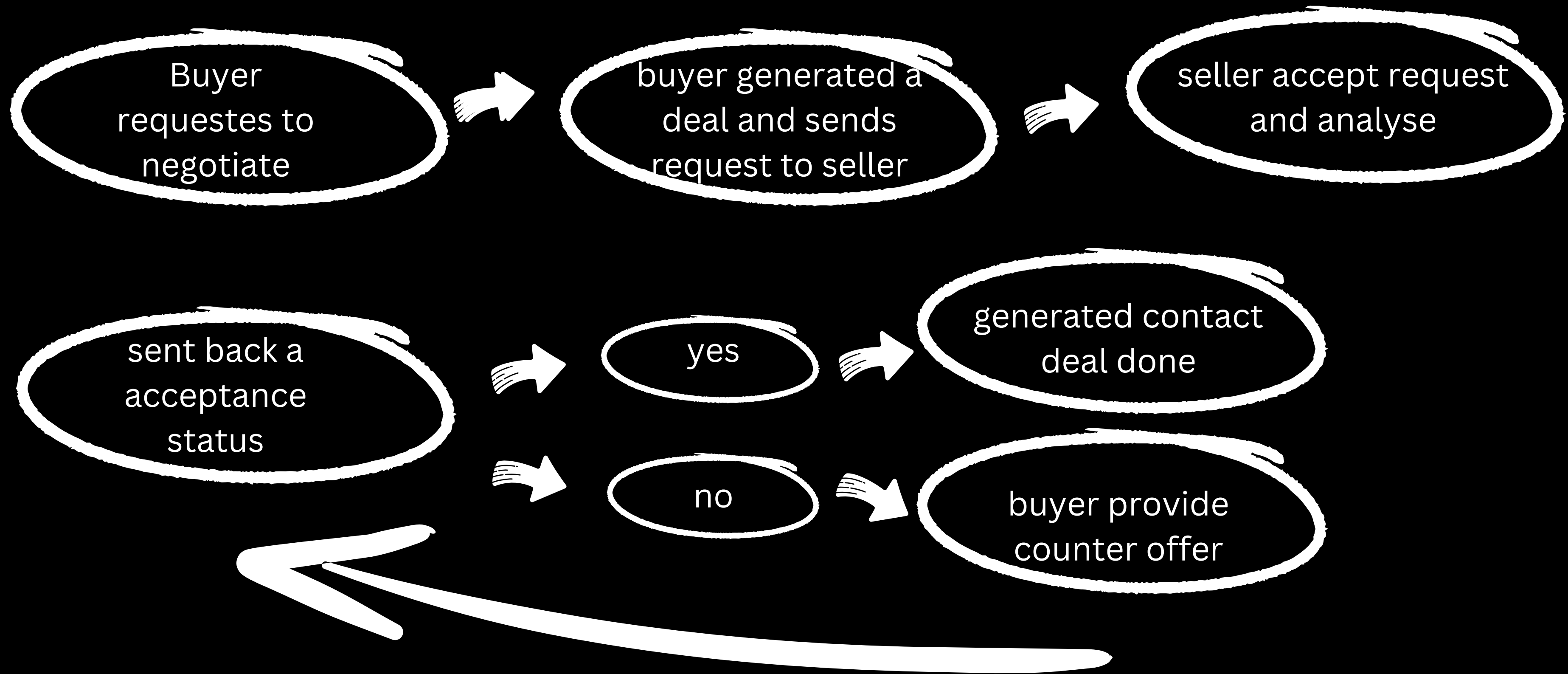
INITIATE NEGOTIATION

THE BUYER SEES A 'NEGOTIATE' BUTTON ON A PRODUCT PAGE, INDICATING THAT THE PRODUCT IS NEGOTIABLE. BY CLICKING THIS BUTTON, THE BUYER INITIATES A NEGOTIATION AND DEFINES TERMS BASED ON ALLOWED PARAMETERS.

ACTORS

1. BUYER
2. SELLER

PRECONDITIONS

- BUYER HAS SELECTED A PRODUCT TO NEGOTIATE.

```mermaid
flowchart
  A(Buyer requestes to negotiate) --> B(buyer generated a deal and sends request to seller)
  B --> C(seller accept request and analyse)
  D(sent back a acceptance status) --> yes
  yes --> E(generated contact deal done)
  D --> no
  no --> F(buyer provide counter offer)
  F --> D
```

Buyer requestes to negotiate → buyer generated a deal and sends request to seller → seller accept request and analyse

sent back a acceptance status → yes → generated contact deal done

sent back a acceptance status → no → buyer provide counter offer → (loops back)

TESTCASE OF SELLER NEGOTIATION SUBSYSTEM

1. **START NEGOTIATION WITH VALID TERMS**
   (NEGOTIATION GENERATED)
2. **ACCEPT OFFER**
   (NEGOTIATION CLOSED)
3. **COUNTER OFFER**
   (COUNTER-OFFER SUBMITTED)
4. **PROCEED WITH SHIPMENT**
   (SHIPMENT PROCESS INITIATION)

SELLER NOTIFICATION FOR DEMAND AND PRICING CHANGES

THE SYSTEM NOTIFIES SELLERS WHEN THEIR SUBSCRIBED CATEGORY PRODUCTS NEED TO BE PRODUCED MORE DUE TO HIGH MARKET DEMAND OR WHEN PRICES NEED TO BE ADJUSTED DUE TO COMPETITOR MARKET CONDITIONS.
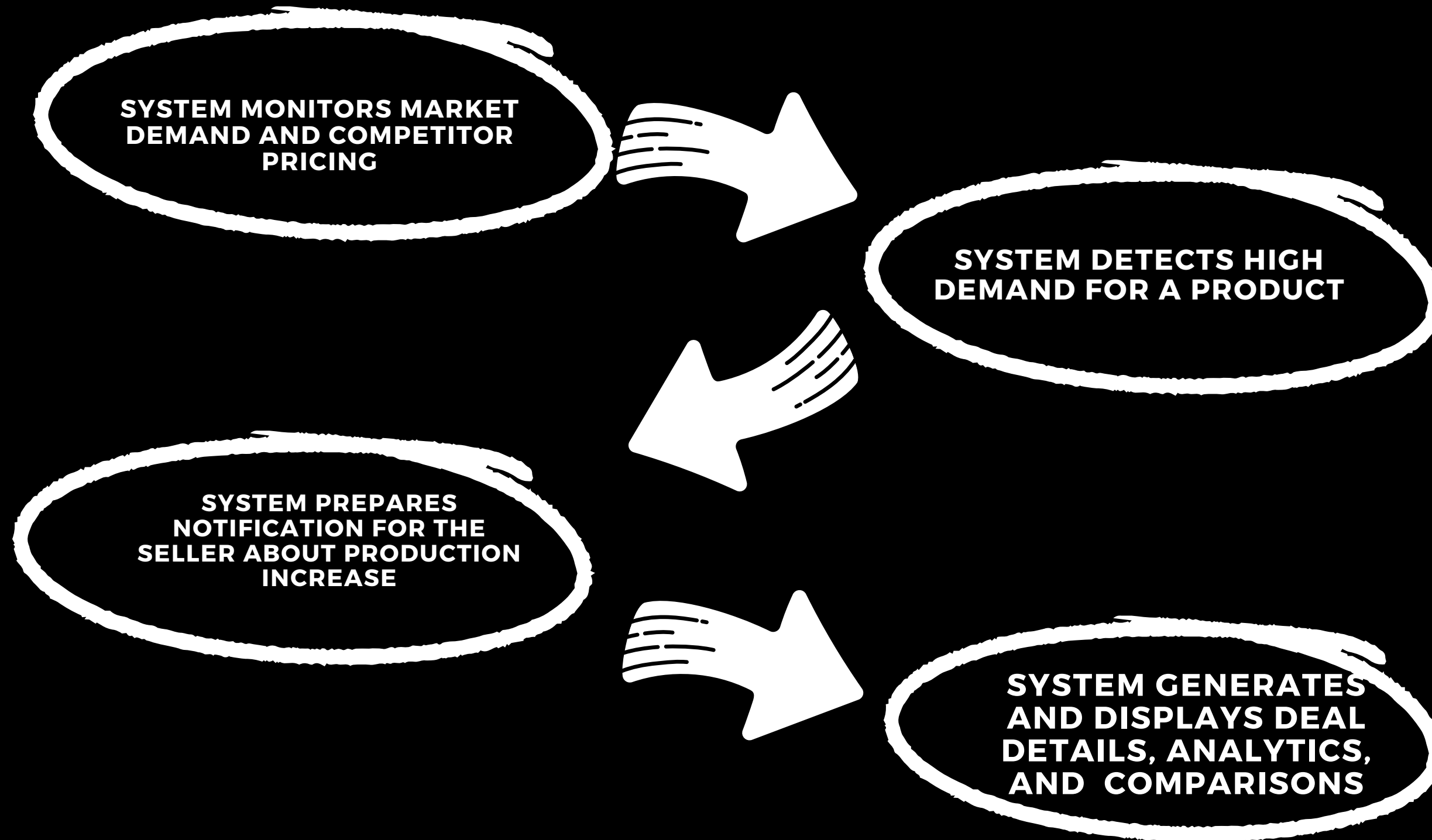
ACTORS

- **SELLER**
- **SYSTEM**

PRECONDITIONS

- SELLER HAS PRODUCTS LISTED ON THE PLATFORM AND HAS ACCESS TO THE ANALYTICS DASHBOARDSELLERS ARE SUBSCRIBED TO PRODUCT CATEGORIES, DATABASE IS ACCESSIBLE

STEPS

SYSTEM MONITORS MARKET DEMAND AND COMPETITOR PRICING

SYSTEM DETECTS HIGH DEMAND FOR A PRODUCT

SYSTEM PREPARES NOTIFICATION FOR THE SELLER ABOUT PRODUCTION INCREASE

SYSTEM GENERATES AND DISPLAYS DEAL DETAILS, ANALYTICS, AND COMPARISONS

BUYER NOTIFICATION FOR PRICE DROPS AND NEW DEALS

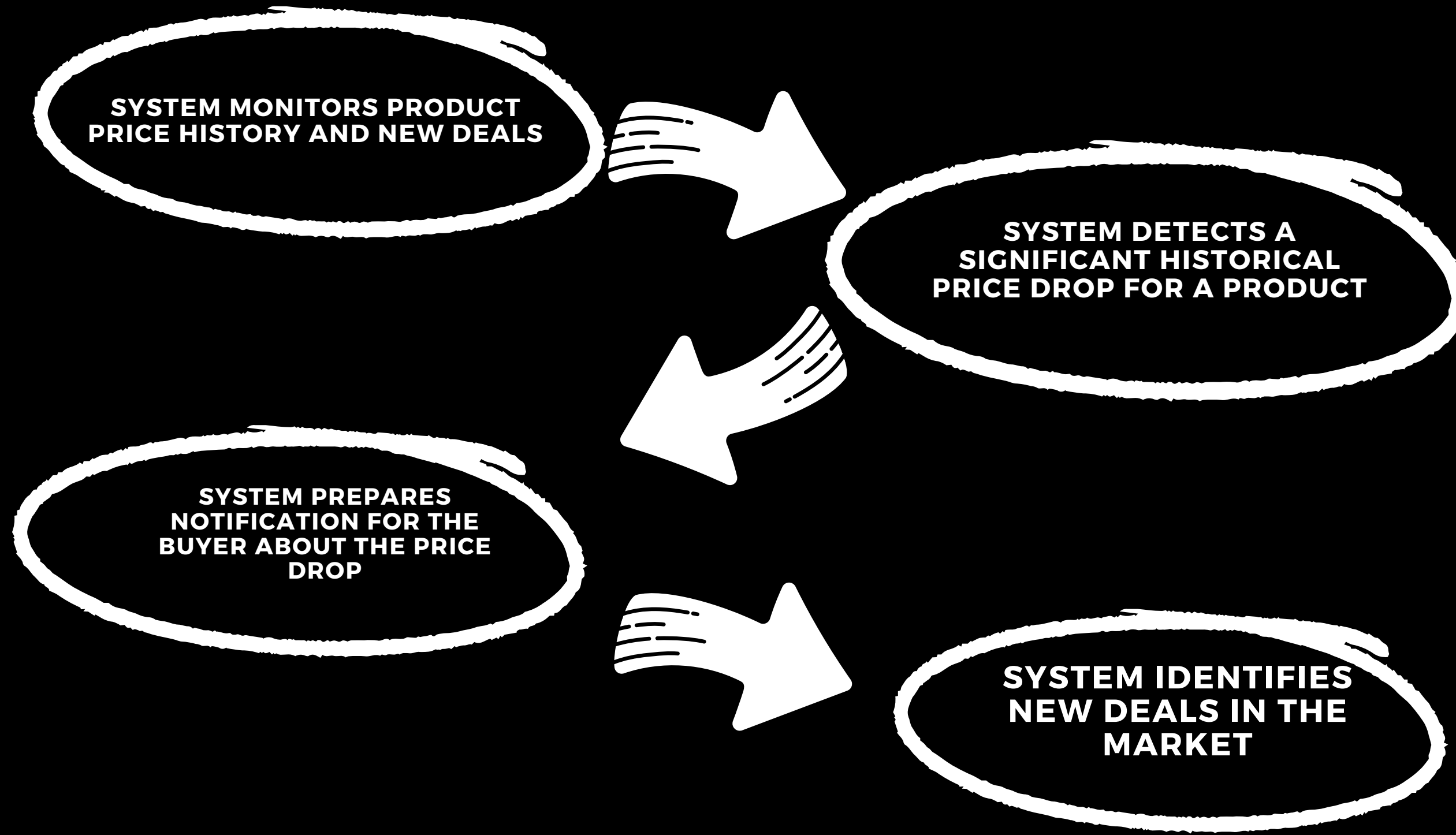THE SYSTEM NOTIFIES BUYERS OF HISTORICAL PRICE DROPS OR NEW DEALS IN THE MARKET.

ACTORS

- **SELLER**
- **BUYER**

- MARKET MONITORING IS ACTIVE, DATABASE IS ACCESSIBLE

STEPS

SYSTEM MONITORS PRODUCT PRICE HISTORY AND NEW DEALS

SYSTEM DETECTS A SIGNIFICANT HISTORICAL PRICE DROP FOR A PRODUCT

SYSTEM PREPARES NOTIFICATION FOR THE BUYER ABOUT THE PRICE DROP

SYSTEM IDENTIFIES NEW DEALS IN THE MARKET

TESTCASE OF NOTIFICATION SUBSYSTEM

1. **NOTIFY SELLER OF COMPETITOR PRICE CHANGE**
2. **NOTIFY SELLER OF INCREASED DEMAND FOR MULTIPLE PRODUCTS**
3. **NOTIFY SELLER OF MULTIPLE COMPETITOR PRICE CHANGES**
4. **NOTIFY BUYER OF MULTIPLE PRICE DROPS**
5. **NOTIFY BUYER OF HISTORICAL PRICE DROP**
6. **SELLER NOTIFICATION FOR DEMAND AND PRICING CHANGES**

THANK YOU