

DAY: 2 FURNITURE E-COMMERCE

MARKETPLACE – TECHNICAL OVERVIEW

1. SYSTEM ARCHITECTURE OVERVIEW

FRONTEND (NEXT.JS): THE USER INTERFACE WHERE USERS INTERACT WITH YOUR FURNITURE MARKETPLACE. IT COMMUNICATES WITH THE BACKEND (SANITY CMS) AND THIRD-PARTY APIs.

UX/UI PRINCIPLES FOLLOWED:

- **SIMPLICITY:** THE INTERFACE IS CLEAN AND UNCLUTTERED, FOCUSING ONLY ON ESSENTIAL ELEMENTS TO GUIDE THE USER JOURNEY SEAMLESSLY.
- **CONSISTENCY:** VISUAL ELEMENTS (BUTTONS, LINKS, ICONS) MAINTAIN A CONSISTENT DESIGN PATTERN THROUGHOUT THE APPLICATION.
- **RESPONSIVENESS:** THE LAYOUT ADAPTS ACROSS SCREEN SIZES TO PROVIDE A CONSISTENT EXPERIENCE ON ALL DEVICES.
- **USER-CENTRIC:** PRIORITIZING EASE OF NAVIGATION, FAST LOADING TIMES, AND MINIMAL STEPS FOR USERS TO COMPLETE THEIR PURCHASE JOURNEY.

BACKEND (SANITY CMS): SANITY CMS SERVES AS THE BACKBONE OF THE BACKEND FOR MANAGING PRODUCTS, CUSTOMERS, AND ORDERS. IT PROVIDES A FLEXIBLE, REAL-TIME, HEADLESS CMS THAT EASILY INTEGRATES WITH NEXT.JS.

SANITY CMS FEATURES:

- **REAL-TIME CONTENT UPDATES:** SANITY CMS ENABLES QUICK AND REAL-TIME CHANGES TO PRODUCT LISTINGS, IMAGES, AND CONTENT. AS SOON AS DATA IS UPDATED IN SANITY, THE FRONTEND IS INSTANTLY SYNCED.
- **CUSTOMIZABLE DATA SCHEMA:** YOU CAN DEFINE CUSTOM SCHEMAS TO MANAGE ENTITIES LIKE PRODUCTS, ORDERS, USERS, AND INVENTORY.

SANITY CMS SCHEMA FOR FURNITURE PRODUCT

EXPORT DEFAULT {

NAME: 'PRODUCT',

TYPE: 'DOCUMENT',

FIELDS: [

{ NAME: 'NAME', TYPE: 'STRING', TITLE: 'PRODUCT NAME' },

{ NAME: 'DESCRIPTION', TYPE: 'TEXT', TITLE: 'PRODUCT DESCRIPTION' },

{ NAME: 'PRICE', TYPE: 'NUMBER', TITLE: 'PRICE' },

{ NAME: 'MATERIAL', TYPE: 'STRING', TITLE: 'MATERIAL' },

{ NAME: 'STOCK', TYPE: 'NUMBER', TITLE: 'STOCK LEVEL' },

{ NAME: 'DIMENSIONS', TYPE: 'STRING', TITLE: 'DIMENSIONS' },

{ NAME: 'IMAGE', TYPE: 'IMAGE', TITLE: 'PRODUCT IMAGE' },

```

    { NAME: 'CATEGORY', TYPE: 'STRING', TITLE: 'PRODUCT CATEGORY' }

]

};

```

ORDER SCHEMA EXAMPLE:

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EXPORT DEFAULT {

    NAME: 'ORDER',

    TYPE: 'DOCUMENT',

    FIELDS: [

        { NAME: 'CUSTOMERNAME', TYPE: 'STRING', TITLE: 'CUSTOMER NAME' },

        { NAME: 'ORDERITEMS', TYPE: 'ARRAY', TITLE: 'ORDER ITEMS', OF: [{ TYPE:
'REFERENCE', TO: [{ TYPE: 'PRODUCT' }] }] },

        { NAME: 'TOTALPRICE', TYPE: 'NUMBER', TITLE: 'TOTAL PRICE' },

        { NAME: 'PAYMENTSTATUS', TYPE: 'STRING', TITLE: 'PAYMENT STATUS' },

        { NAME: 'SHIPPINGADDRESS', TYPE: 'TEXT', TITLE: 'SHIPPING ADDRESS' }

    ]

};

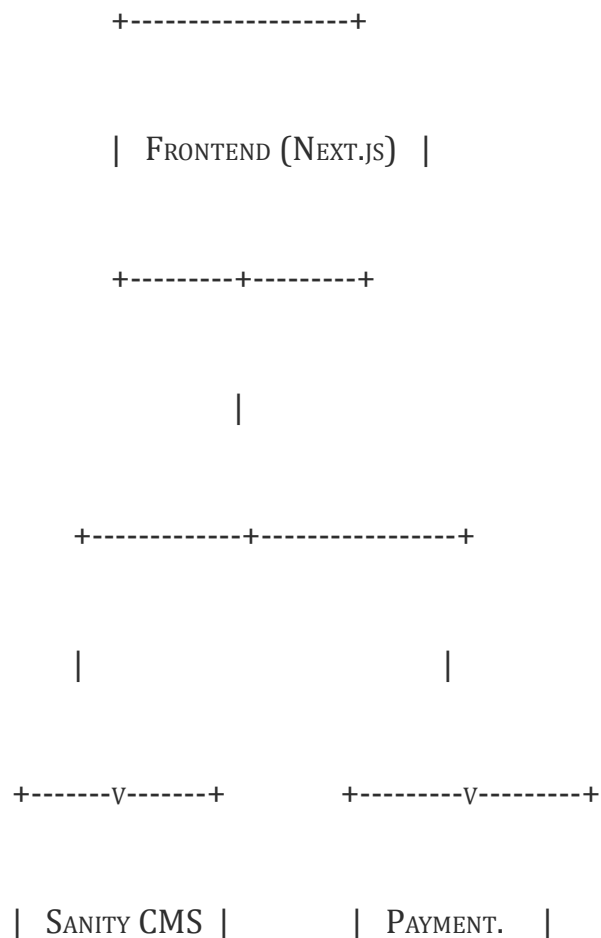
```

THIRD-PARTY APIs: FOR FUNCTIONALITIES LIKE PAYMENT GATEWAYS, SHIPMENT TRACKING, ETC.

EXPLANATION:

- THE FRONTEND FETCHES PRODUCT DETAILS FROM SANITY CMS VIA PRODUCT DATA API.
- ORDERS AND CUSTOMER DETAILS ARE STORED IN SANITY CMS.
- THIRD-PARTY APIS LIKE PAYMENT GATEWAY AND SHIPMENT TRACKING API MANAGE TRANSACTIONS AND REAL-TIME SHIPMENT DATA.

SYSTEM ARCHITECTURE DIAGRAM:



| GATEWAY |

| PRODUCT API |

| SHIPMENT |

| API |

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| DATABASE |

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2. WORKFLOWS

USER REGISTRATION:

- THE USER SIGNS UP → DATA IS SAVED IN SANITY CMS → A CONFIRMATION IS SENT TO THE USER.

PRODUCT BROWSING:

- USER VIEWS THE FURNITURE PRODUCTS → DATA IS FETCHED FROM SANITY CMS → PRODUCTS ARE DISPLAYED.

ORDER PLACEMENT:

- USER ADDS PRODUCTS TO CART → CHECKOUT IS DONE → ORDER DETAILS SAVED IN SANITY CMS.

SHIPMENT TRACKING:

- ORDER STATUS UPDATES FETCHED FROM THIRD-PARTY APIs → DISPLAYED TO THE USER.

3. API REQUIREMENTS

- METHOD: GET

NAME: /PRODUCT

DESCRIPTION: FETCH ALL FURNITURE PRODUCTS

EXAMPLE: { "ID": 1, "NAME": "SOFA", "PRICE": 250, "IMAGE": "IMG_URL" }

- METHOD: POST

NAME: /ORDERS

DESCRIPTION: CREATE A NEW ORDER

EXAMPLE: { "CUSTOMERNAME": "JOHN DOE", "TOTALPRICE": 500, "PAYMENTSTATUS": "SUCCESS" }

- METHOD: GET

NAME: /SHIPMENT/{ORDERID}

DESCRIPTION: GET SHIPMENT TRACKING INFO

EXAMPLE: { "orderId": 123, "status": "SHIPPED", "trackingId": "ABC123",
"expectedDelivery": "2025-01-25" }