**Use Case Document: PrintDesk**

## 📅 Date: [Insert Date Here]

## 👤 Prepared By: [Your Name / Organization]

### 📄 Project Name: PrintDesk

**Description:** A web platform for analyzing and visualizing printer usage data using Power BI, with support for role-based access and Excel uploads.

## 🔐 Use Case 1: User Login via SSO

* **Use Case ID:** UC-001
* **Actor:** All users (Admin, Uploader, Viewer)
* **Goal:** Log into the PrintDesk system via SSO
* **Preconditions:** User must have valid enterprise credentials
* **Postconditions:** User is redirected to the dashboard according to their role
* **Basic Flow:**
  1. User accesses login page
  2. SSO authentication request is initiated
  3. User enters enterprise credentials
  4. User is redirected to appropriate dashboard
* **Exceptions:**
  + Invalid credentials → Error message shown
  + SSO service down → System temporarily unavailable

## 🔐 Use Case 2: Upload Excel File

* **Use Case ID:** UC-002
* **Actor:** Uploader, Admin
* **Goal:** Upload an Excel file containing print data
* **Preconditions:** User is logged in and has upload permission
* **Postconditions:** Data is extracted and stored in the database
* **Basic Flow:**
  1. User navigates to upload page
  2. Clicks “Upload File” and selects Excel file
  3. System validates format and content
  4. Data is inserted into the database
  5. Success message is shown
* **Exceptions:**
  + Invalid file format → Error and re-upload prompt
  + Duplicate file → Warning message displayed

## 🔐 Use Case 3: View Data Dashboard

* **Use Case ID:** UC-003
* **Actor:** All users
* **Goal:** View visual analytics of printer usage
* **Preconditions:** Data is available; user is logged in
* **Postconditions:** Power BI dashboard is rendered with interactive filters
* **Basic Flow:**
  1. User logs in
  2. User accesses dashboard page
  3. Dashboard loads with filtered data
  4. User applies filters (e.g., time, department)
* **Exceptions:**
  + No data found → Empty state message
  + Power BI embed token expired → Reload dashboard or re-authenticate

## 🔐 Use Case 4: Manage User Roles

* **Use Case ID:** UC-004
* **Actor:** Admin
* **Goal:** Assign or remove user permissions
* **Preconditions:** Admin is logged in
* **Postconditions:** User rights are updated in the database
* **Basic Flow:**
  1. Admin accesses user management panel
  2. Selects user and updates their role
  3. System saves changes
  4. Confirmation shown
* **Exceptions:**
  + Invalid role selection → Error prompt
  + Admin tries to remove their own access → Warning shown

## 🔐 Use Case 5: Filter Reports

* **Use Case ID:** UC-005
* **Actor:** All users
* **Goal:** Apply filters to view specific reports
* **Preconditions:** Dashboard is loaded
* **Postconditions:** Filtered analytics are displayed
* **Basic Flow:**
  1. User selects filter (e.g., date, printer, department)
  2. System updates dashboard view accordingly
* **Exceptions:**
  + Invalid filter combo → “No data available” message

## 🔐 Use Case 6: View Top Usage Reports

* **Use Case ID:** UC-006
* **Actor:** All users
* **Goal:** Identify usage patterns such as top printers/users
* **Preconditions:** Data available and filters applied
* **Postconditions:** Top usage data visualized
* **Basic Flow:**
  1. User selects report type: Top printers, users, large print jobs
  2. System fetches and renders data accordingly
* **Exceptions:**
  + No significant data → Graph displays minimal results

## 🔧 System Notes

* Data stored in Microsoft SQL Server
* Processed using Python Flask via ODBC
* Dashboards powered by Power BI Embedded

Let me know if you’d like diagrams or PDF export of this document.