Recruit Induction Center Architecture: Function and Information Models for the Uniform Distribution Process.

Research Sponsored by:

Volume IV

U.S. Defense Logistics Agency
(DLA900-87-D-0018-G0000)

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SJ-TR-ARCH-9411

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UNLIMITED

Research has been carried out to design and develop a generic architecture for an apparel enterprise that can serve as a blueprint for a computer-integrated apparel enterprise (CIAE). The Apparel Manufacturing Architecture (AMA) -- the first comprehensive architecture for manufacturing -- has been developed and validated in close collaboration with the apparel industry. AMA consists of a set of models the core of which is the information model which defines the schema of the shared information base for an apparel enterprise. The function model component of the architecture specifies how the activities carried out in an apparel manufacturing enterprise interact with each other through the shared information base. The third component of AMA, the dynamics model, describes how the interactions among the enterprise activities take place over time. The Recruit Induction Center Architecture (RIC) models the uniform distribution process at the Recruit Induction Center (RIC).

Volume IV provides the Recruit Induction Center (RIC).

Apparel Manufacturing; Enterprise Architecture; Information Architecture; Computer-Integrated Manufacturing; Modeling; Information Systems; Integrated Databases;

Unclassified

Unclassified

Unclassified

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NSN 7540-01-280-550
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PREFACE

The Recruit Induction Center Architecture (RICA) consists of the Function and Information Models of the uniform distribution process at recruit induction centers (RIC). The research on the development of RICA has been funded by the US Defense Logistics Agency.

RICA has been developed based on visits by the DLA Joint Working Group to the following RICs:

- US Coast Guard in Cape May, New Jersey
- US Army in Ft. Jackson, South Carolina
- US Marine Corps in Parris Island, South Carolina
- US Air Force in San Antonio, Texas
- US Navy in Orlando, Florida.

The personnel at the various RICs deserve sincere thanks and appreciation for their valuable input during the visits.

Any comments on RICA including suggestions for enhancements are welcome.

Sundaresan Jayaraman
Atlanta, Georgia
Recruit Induction Center Architecture: The Function Model
Operate Uniform Distribution Center (A0)

**Description:** Prepare recruits and distribute uniforms, accessories and towels to them. Also carry out support activities such as management of inventory and resources.

**Viewpoint:** Managers responsible for the day-to-day distribution activities.

**Purpose:** Develop an architecture for the implementation of computer-aided management of the uniform distribution center to facilitate customer-driven uniform manufacturing.
Issue Material to Recruits (A1)
Prepare the recruits; issue accessory items and towel. Issue work and dress uniforms; if necessary alter uniforms to suit each recruit’s measurements. Place special orders for items not in the typical size range.

Manage Inventory (A2)
Receive, stock and distribute goods. Reorder goods as needed.

Manage Resources (A3)
Manage people, facilities, and funds and initiate request for purchase. Generate reports covering the utilization of the resources.

Solve Problems (A4)
Communicate to DPSC any changes in orders and information about defects in the purchased goods. Resolve these issues in consultation with DPSC.
Prepare Recruits (A11)
Issue towels and accessory items to recruits and give them hair cuts.

Issue Work Uniform (A12)
Measure the recruits and issue work uniforms. If necessary, make the required alterations to the uniform; send out request for special order.

Issue Dress Uniform (A13)
Issue dress uniform and alter them as appropriate.

Process Special Orders (A14)
Determine if special orders are needed and place them with DPSC. Track special orders, issue the uniforms and maintain reports about special orders.

Manage Issue Process (A15)
Collect information about issues, alterations, special orders and quality problems, and prepare summary reports from them.
Issue Towels (A111)
Issue towels to recruits.

Issue Accessory Items (A112)
Issue accessory items such as sneakers and shorts to the recruits.

Give Hair Cut (A113)
Give hair cuts to recruits.
Measure Recruits for Work Uniform (A121)
Measure each recruit for different garments, such as trousers and shirts and other items such as shoes. The measurements may be mentioned quantitatively (e.g., sleeve length) or qualitatively (e.g., neck can be described as “sloping long neck,” “square medium neck,” and so on). Certain measurements are required only for special orders and these are entered on DD1111.

Give Work Uniform (A122)
Issue work uniforms that are closest to the recruit’s measurements.

Fit Work Uniform (A123)
Indicate the alterations that need to be made to the work uniform to fit the recruit. If necessary, exchange the uniform that has been issued to the recruit with a different one that fits the recruit better.

Alter Work Uniform (A124)
Alter work uniforms as required to correctly fit the recruit. This is done very infrequently

Return Work Uniform (A125)
Returned altered work uniforms to the recruits.

Collect Measurement & Data Sheets (A126)
Collect data from standard data sheets for work uniforms issue and fitting. In case of any error in the data, return the data sheets to the recruits and/or personnel responsible for fitting uniforms.
Measure Recruits for Dress Uniform (A131)

Measure each recruit for the dress uniform. The measurements may be mentioned quantitatively (e.g., sleeve length) or qualitatively (e.g., neck can be described as "sloping long neck," "Square medium neck," and so on). Certain measurements are required only for special orders and these are entered on DD1111.

Give Dress Uniform (A132)

Issue dress uniforms that are closest to the recruit’s measurements.

Fit Dress Uniform (A133)

Indicate the alterations that need to be made to the dress uniform to fit the recruit. If necessary, exchange the uniform that has been issued to the recruit with a different one that fits the recruit better.

Alter Dress Uniform (A134)

Alter dress uniforms as required to correctly fit the recruit.

Inspect Dress Uniform (A135)

Inspect altered uniforms. If they are ill-fitting, return them to the alteration section.

Collect Measurement & Data Sheets (A136)

Collect data from standard data sheets for dress uniforms issue and fitting. In case of any error in the data, return the data sheets to the recruits and/or personnel responsible for fitting uniforms.
Determine Need for Special Order (A141)
When a request is made, determine the need for a special order based on measurements, current inventory and budgetary constraints.

Place Order with DPSC (A142)
Place special orders with DPSC based on the requirements.

Review Order Status Periodically (A143)
Follow-up with DPSC to ensure timely delivery of special orders.

Fit and Issue Uniform Items (A144)
Fit and issue the special order uniforms to the recruits for whom they were ordered.

Prepare Reports (A145)
Prepare reports about special orders, issue and stock of special order items.
Collect & Organize Measurement Slips (A151)
Collect all measurement slips from remits and organize them for storage.

Collect & Organize Data Sheets (A152)
Collect data sheets and generate information to prepare issue reports.

Prepare QDRs (A153)
Prepare Quality Deficiency Reports from measurement slips and data sheets.

Prepare Non-Quality Problem Reports (A154)
Prepare non-quality problem reports based on data sheet reports and measurement slips.

Prepare Summary Reports (A155)
Prepare comprehensive summaries of both QDRs and non-quality problem reports.
Receive Goods (A21)
Receive garments and accessories from suppliers.

Stock Goods (A22)
Stock goods at storage locations and update inventory data.

Reorder Goods (A23)
Reorder goods as per requirements.

Take and Record Inventory (A24)
Check the current inventory and update inventory data.

Survey Garments (A25)
Physically survey stored garments, compare with inventory data and generate inventory reports.
Order Delivery System

Receive Goods

Stock Goods

Reorder Goods

Take and Record Inventory

Survey Garments

Node: A2  Title: Manage Inventory  Number: 

1. New Goods Report
2. Stock Status Report

Notes: 1 2 3 4 5 6 7 8 9 10
Manage People (A31)
Manage people involved in the distribution activities by assigning them to specific tasks and following up on the assignments.

Manage Facilities (A32)
Manage the facilities of the distribution center by assigning them to specific tasks and following up on the assignments.

Manage Funds (A33)
Manage funds by appropriate them for various activities through a budget. Record the actual amounts spent against the appropriations.

Initiate Request for Purchase (A34)
Based on the requirements, budget and the regulations, initiate request for the purchase of goods.
Process Changes (A41)
Prepare information regarding changes in current orders for communication to DPSC.

Solve Other Problems (A42)
Deal with defects in goods and other problems.

Deal with DPSC (A43)
Communicate changes in orders and other special needs to DPSC.
Recruit Induction Center Architecture: The Information Model
E1/RECRUIT

RecruitNo
RecruitName
Sex
DivisionID(FK)
SubDivID(FK)
Rank
ScheduleID(FK)
Status

n

has size specified by

E4/RECRUIT_SIZE

RecruitNo(FK)
SizeSpecID(FK)
MeasuredDate
Comments

n

E2/SCHEDULE

ScheduleID

specifies dates for issue of materials to

n

E3/SCHEDULE_ITEM

ScheduleID(FK)

contains

n

ItemNo

ScheduleID(FK)

ItemName

ScheduleID(FK)

Status

ScheduleID(FK)

Comments

E5/SIZE_SPEC

SizeSpecID

specifies the size of

n

GarmentID(FK)

RevisedOn

contains

n

E6/SIZE_SPEC_ITEM

SizeSpecID(FK)

ItemNo

SizeSpecID(FK)

SpecItemName

SizeSpecID(FK)

SpecItemValu

SizeSpecID(FK)

Comments

SIZE:

cdum/F100-0

TITLE:
Measure Recruits and Plan for Issue

NUMBER:
KS1
# TABLE OF ENTITIES AND THEIR ATTRIBUTES

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>RecruitNo</td>
<td>Y</td>
<td>N</td>
<td>n</td>
<td>Unique ID for the recruit</td>
</tr>
<tr>
<td>RecruitName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Last name, first name</td>
</tr>
<tr>
<td>Sex</td>
<td>N</td>
<td>N</td>
<td>a(6)</td>
<td>Male/Female</td>
</tr>
<tr>
<td>DivisionID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Major division recruited for</td>
</tr>
<tr>
<td>SubDivID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Sub-division recruited for</td>
</tr>
<tr>
<td>Rank</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Recruit’s rank</td>
</tr>
<tr>
<td>ScheduleID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Issuing schedule for recruit</td>
</tr>
<tr>
<td>Status</td>
<td>N</td>
<td>N</td>
<td>m</td>
<td>Current status</td>
</tr>
</tbody>
</table>

**ENTITY NO: 1 ENTITY NAME: RECRUIT**
This entity represents recruits at all stages (from a fresh recruit to a fully clothed recruit).

**ENTITY NO: 2 ENTITY NAME: SCHEDULE**
Dates on which a group of recruits are to be issued towels, accessories, uniforms, and so on.

ScheduleID    Y    N    a(30)    Unique ID for a schedule

**ENTITY NO: 3 ENTITY NAME: SCHEDULE_ITEM**
Each item on a schedule, e.g., Issue Towel and Issue Work Uniform.

ScheduleID    Y    Y    *        Schedule to which item belongs
ItemNo        Y    N    n(3)     Ordinal # within the schedule
itemName      N    N    a(30)    “Issue Towel,” etc.
ItemDate      N    N    d        Scheduled date
Status        N    N    a(30)    “Issued,” “Pending,” etc.
Comments      N    N    m        Notes on problems, etc.

**ENTITY NO: 4 ENTITY NAME: RECRUIT_SIZE**
Each record in this table gives the size spec. of a recruit for a particular garment.

RecruitNo      Y    Y    *        |
SizeSpecID     Y    Y    *        |
MeasuredDate   N    N    d        Date on which recruit was measured
Comments       N    N    a(30)    Notes on special requirements, etc.

n: Number; a(x): Alphanumeric string of length x; d: date; m: memo; $: Currency
<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SizeSpecID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>ID for a particular size</td>
</tr>
<tr>
<td>GarmentID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Garment whose size is specified</td>
</tr>
<tr>
<td>RevisedOn</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Latest revision date</td>
</tr>
</tbody>
</table>

**ENTITY NO: 6 ENTITY NAME: SIZE_SPEC_ITEM**
Size specification for each feature in a garment, e.g., sleeve length of a coat.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>PK</th>
<th>FK</th>
<th>Attr Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>SizeSpecID</td>
<td>Y</td>
<td>Y</td>
<td>*</td>
<td>Feature number</td>
</tr>
<tr>
<td>ItemNo</td>
<td>Y</td>
<td>N</td>
<td>n(2)</td>
<td>Name of the feature</td>
</tr>
<tr>
<td>SpecItemName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Specific value for the feature</td>
</tr>
<tr>
<td>SpecItemValu</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Notes on any special requirements</td>
</tr>
</tbody>
</table>

**ENTITY NO: 7 ENTITY NAME: ORDER**
Purchase order for one or more garment types.

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>PK</th>
<th>FK</th>
<th>Attr Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>OrderID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique number for each order</td>
</tr>
<tr>
<td>Date</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date of issue of order</td>
</tr>
<tr>
<td>VendorID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Vendor to whom order was sent</td>
</tr>
<tr>
<td>OrderType</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Special order or stock order</td>
</tr>
</tbody>
</table>

**ENTITY NO: 8 ENTITY NAME: ORDER_ITEM**
Each item in a purchase order (for a particular item).

<table>
<thead>
<tr>
<th>Attribute Name</th>
<th>PK</th>
<th>FK</th>
<th>Attr Type</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>OrderID</td>
<td>Y</td>
<td>Y</td>
<td>*</td>
<td>Order to which the item belongs</td>
</tr>
<tr>
<td>ItemNo</td>
<td>Y</td>
<td>N</td>
<td>n</td>
<td>Ordinal # within the order</td>
</tr>
<tr>
<td>SizeSpecID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Size of the garment ordered</td>
</tr>
<tr>
<td>OrderedNo</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Number of garments ordered</td>
</tr>
<tr>
<td>ReceivedNo</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Number of garments received</td>
</tr>
<tr>
<td>RequestDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date on which delivery was requested</td>
</tr>
<tr>
<td>PromisedDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date on which delivery was promised</td>
</tr>
<tr>
<td>DelivDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date on which delivery was made</td>
</tr>
<tr>
<td>Status</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>&quot;Delivered,&quot; &quot;Cancelled,&quot; etc.</td>
</tr>
</tbody>
</table>

n: Number; a(x): Alphanumeric string of length x; d: date; m: memo; $: Currency
ENTITY NO: 9 ENTITY NAME: GARMENT
Representation of all types of garments. The recruit to whom a garment has been issued can be found through the issue number.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GarmentID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique ID for each garment</td>
</tr>
<tr>
<td>GarmentName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Descriptive name for the garment</td>
</tr>
<tr>
<td>Cost</td>
<td>N</td>
<td>N</td>
<td>$</td>
<td>Standard cost</td>
</tr>
<tr>
<td>IssueNo</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>ID for garment issue</td>
</tr>
</tbody>
</table>

ENTITY NO: 10 ENTITY NAME: ACCESSORY
Includes accessories and towels. The recruit to whom a towel/accessory item has been issued can be found through the issue number.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>AccessoryID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique ID for each accessory</td>
</tr>
<tr>
<td>AcsrlyName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Descriptive name for the accessory</td>
</tr>
<tr>
<td>Cost</td>
<td>N</td>
<td>N</td>
<td>$</td>
<td>Standard cost</td>
</tr>
<tr>
<td>IssueNo</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>ID for accessory issue</td>
</tr>
</tbody>
</table>

ENTITY NO: 11 ENTITY NAME: STORED_ITEM
Inventory unit: includes both garments and accessories.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>StoredItemID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>ID for the inventory unit</td>
</tr>
<tr>
<td>GarmentID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Applicable if the item is a garment</td>
</tr>
<tr>
<td>AccessoryID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Applicable if the item is an accessory</td>
</tr>
<tr>
<td>Unit</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Unit of measure (e.g., doz. and box)</td>
</tr>
<tr>
<td>LocationID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Current location</td>
</tr>
<tr>
<td>OriginalQty</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Originally stored quantity</td>
</tr>
<tr>
<td>RemainingQty</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Currently remaining quantity</td>
</tr>
<tr>
<td>Status</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>“Allotted,” “Available,” etc.</td>
</tr>
<tr>
<td>OrderID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>P.O. through which purchased</td>
</tr>
<tr>
<td>ItemNo</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>P.O. Item number</td>
</tr>
</tbody>
</table>

ENTITY NO: 12 ENTITY NAME: ISSUE
Each record represents issue of a particular item to a recruit.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>IssueNo</td>
<td>Y</td>
<td>N</td>
<td>n</td>
<td>Unique ID for an issue</td>
</tr>
<tr>
<td>RecruitNo</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>The recruit to whom issue is made</td>
</tr>
<tr>
<td>Date</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date of issue</td>
</tr>
<tr>
<td>IssueRemarks</td>
<td>N</td>
<td>N</td>
<td>m</td>
<td>Comments</td>
</tr>
</tbody>
</table>

n: Number; a(x): Alphanumeric string of length x; d: date; m: memo; $: Currency
<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>PersonnelID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique ID for each employee</td>
</tr>
<tr>
<td>Name</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Last name, first name</td>
</tr>
<tr>
<td>DepartmentID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Department to which employee belongs</td>
</tr>
<tr>
<td>JobID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Job category</td>
</tr>
<tr>
<td>JoinDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Date of joining</td>
</tr>
<tr>
<td>StreetAddress</td>
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<td>N</td>
<td>a(50)</td>
<td>Street address</td>
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<tr>
<td>City</td>
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</tr>
<tr>
<td>Rating</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Performance rating of employee</td>
</tr>
</tbody>
</table>

**ENTITY NO: 14 ENTITY NAME: ASSIGNMENT**
Assignment of an employee or a facility for a task.

| ASSIGNMENTID    | Y  | N  | a(30)     | Unique ID for each assignment                |
| PersonelID      | N  | Y  | *         | Employee being assigned                       |
| FacilityID      | N  | Y  | *         | Facility being assigned                       |
| StartDate       | N  | N  | a(30)     | Beginning of assignment period                |
| EndDate         | N  | N  | a(30)     | End of assignment period                      |
| TaskID          | N  | Y  | *         | Task for which assignment is made             |
| Remarks         | N  | N  | m         | Comments                                      |

**ENTITY NO: 15 ENTITY NAME: FACILITY**
Resources other than employees (computers, sewing machines for alteration, etc.).

| FACILITYID      | Y  | N  | a(30)     | Unique ID for each facility                  |
| FacilityType    | N  | N  | a(50)     | Category of the facility                     |
| DescriprName    | N  | N  | a(50)     | Descriptive name of the facility             |
| DepartmentID    | N  | Y  | *         | Department to which it belongs               |
| Remarks         | N  | N  | m         | Comments                                      |

n: Number; a(x): Alphanumeric string of length x; d: date; m: memo; $: Currency
<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>DefectID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique ID for each defect occurrence</td>
</tr>
<tr>
<td>GarmentID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Garment in which defect is found</td>
</tr>
<tr>
<td>AccessoryID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Accessory in which garment is found</td>
</tr>
<tr>
<td>DefectName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Descriptive name of the defect</td>
</tr>
<tr>
<td>DefectGrade</td>
<td>N</td>
<td>N</td>
<td>a(15)</td>
<td>Severity of the defect</td>
</tr>
</tbody>
</table>

**ENTITY NO: 16 ENTITY NAME: DEFECT_OCCURRENCE**
Record of defect occurrences in garments and accessories.

**ENTITY NO: 17 ENTITY NAME: BUDGET**
Allocation of funds for a department in a particular period.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BudgetID</td>
<td>Y</td>
<td>N</td>
<td>a(30)</td>
<td>Unique ID for a budget</td>
</tr>
<tr>
<td>DepartmentID</td>
<td>N</td>
<td>Y</td>
<td>*</td>
<td>Department to which budget applies</td>
</tr>
<tr>
<td>StartDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>Beginning of budget period</td>
</tr>
<tr>
<td>EndDate</td>
<td>N</td>
<td>N</td>
<td>d</td>
<td>End of budget period</td>
</tr>
<tr>
<td>Status</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>“Proposed,” “Approved,” etc.</td>
</tr>
</tbody>
</table>

**ENTITY NO: 18 ENTITY NAME: BUDGET_ITEM**
Each record shows the allocation and the actual spending for each item in a budget.

<table>
<thead>
<tr>
<th>ATTRIBUTE NAME</th>
<th>PK</th>
<th>FK</th>
<th>ATTR TYPE</th>
<th>COMMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>BudgetID</td>
<td>Y</td>
<td>Y</td>
<td>*</td>
<td>Budget to which item belongs</td>
</tr>
<tr>
<td>ItemNo</td>
<td>N</td>
<td>N</td>
<td>n</td>
<td>Ordinal # within the budget</td>
</tr>
<tr>
<td>ItemName</td>
<td>N</td>
<td>N</td>
<td>a(30)</td>
<td>Description of the budget item</td>
</tr>
<tr>
<td>RequestAmt</td>
<td>N</td>
<td>N</td>
<td>$</td>
<td>Requested amount</td>
</tr>
<tr>
<td>AllotAmt</td>
<td>N</td>
<td>N</td>
<td>$</td>
<td>Allotted amount</td>
</tr>
<tr>
<td>SpentAmt</td>
<td>N</td>
<td>N</td>
<td>$</td>
<td>Actually spent amount</td>
</tr>
<tr>
<td>Remarks</td>
<td>N</td>
<td>N</td>
<td>m</td>
<td>Reason for over/under spending, etc.</td>
</tr>
</tbody>
</table>

n: Number; a(x): Alphanumeric string of length x; d: date; m: memo; $: Currency