



The Trick to Keeping High-Level Requirements High-Level

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Dan is the author of two books and numerous articles. He retired in 2019 after working and consulting in the IT industry for 48 years.

His first 10 years were spent working as a developer (called 'programmer' back then) in the United States and Canada. This was followed by two years teaching computer programming, database design, and data modelling.

The remainder of his career was spent as a business analyst, in Canada, Australia, and New Zealand. He continues to be passionate about quality requirements and helping business analysts produce them.

Objectives

- ▶ 3-Webinar Series Objective

Better Requirements for Information System-Based Solutions

- ▶ This Webinar's Objective

Clear guidelines for what constitutes a high-level requirement for an information system.

Agenda

- ▶ Introduction
- ▶ Information Systems
- ▶ High-Level Requirement Examples
- ▶ Wrap-Up

Problems with High-Level Requirements (HLRs)

- ▶ Lack of guidelines as to what is and isn't high-level
 - IIBA BABOK – Business, Stakeholder, Solution levels *
 - Requirements *Engineering* – Not 'Information Systems'
- ▶ Lack of good examples

Good Example?

"Each Customer record must be assigned a unique identifier."

* [What's In A BABOK Name?](#)

Assumptions

- ▶ Not 'Pure' Agile Development
- ▶ Not 'Just a change' to an existing system
- ▶ Managed Project to deliver a 'Chosen' IS-Based Solution
 - Traditional Waterfall
 - Agile-Waterfall Hybrid

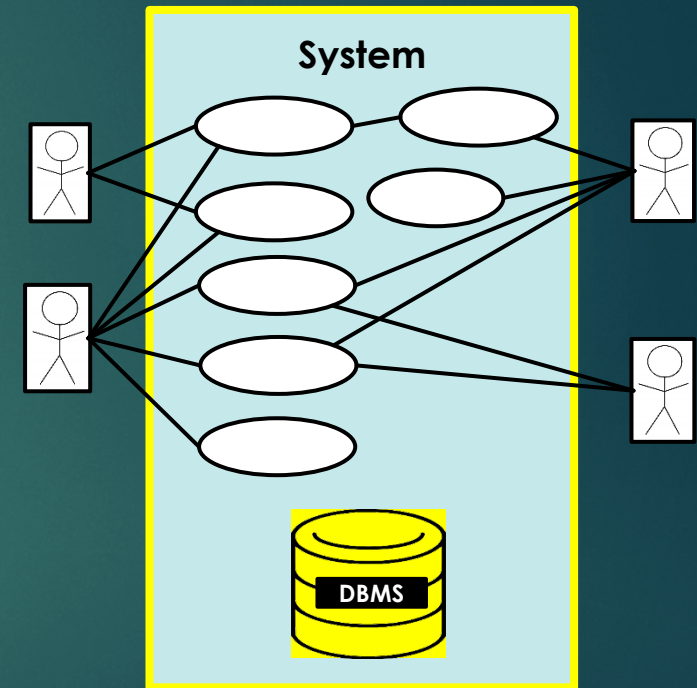
Not in Scope for Webinar Series

- ▶ Requirements Elicitation Techniques
- ▶ Quality of Service Requirements (NFRs)
- ▶ Business Process Improvement
- ▶ Usability / User Experience
- ▶ Stakeholder Management

Information System

A set of software capabilities that provides value by allowing authorized users to add, reference, and maintain data related to specific business activities.

- ▶ Information System (Functional Scope)
- ▶ Users (Persons, Systems)
- ▶ System-Supported Business Activities
- ▶ System-Managed Data (CRUD)



HLR Trick #1 – 5 Information System Capability Types

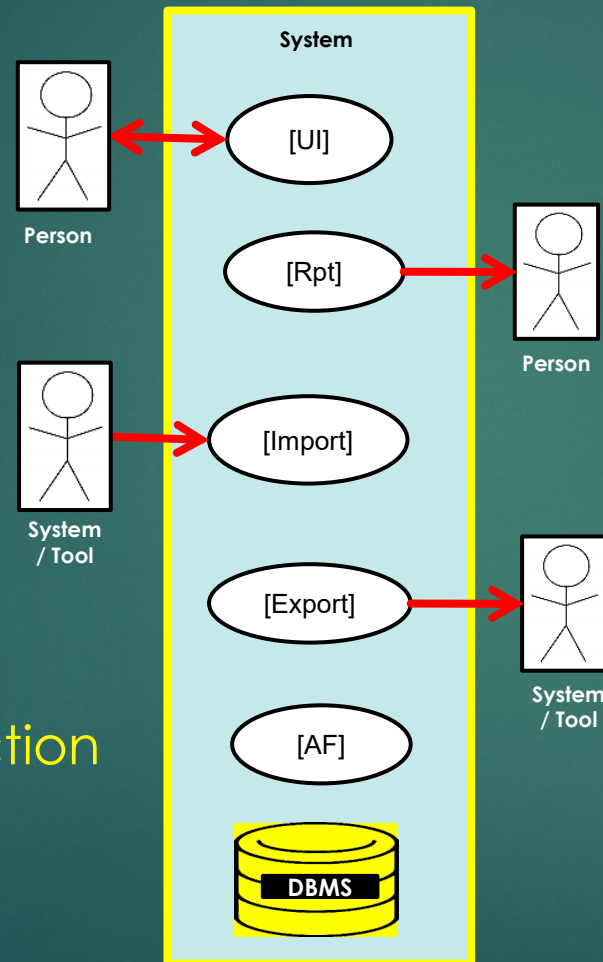
▶ User Interface

▶ Report

▶ Data Import

▶ Data Export

▶ Automated Function



➤ system able to provide real-time support to a person performing a business activity

➤ system able to produce a 'snapshot' of system-managed data available to a person offline

➤ system given access to machine-readable data that supports business activities

➤ system able to produce a 'snapshot' of system-managed data to be accessed by another system/tool

➤ system able to perform a business activity using available data

Project Scope-Driven HLRs

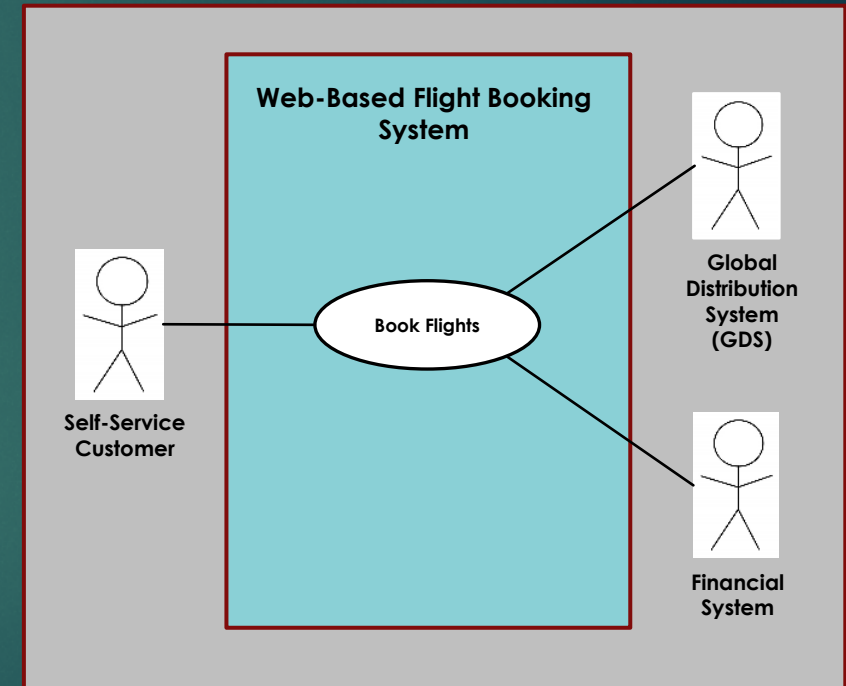
Example: Trips-R-You Case Study

► Project Charter Scope

- Customer Self-Service Flight Booking
- Flight Details from Global Distribution System (GDS)
- Ticket Sales Reporting to Financial System

► Out of Scope

- Other Booking Services (e.g. Hotel, Car Rental)
- Airline-Related Settlement



HLR Trick #2 – Elicited From SMEs Only

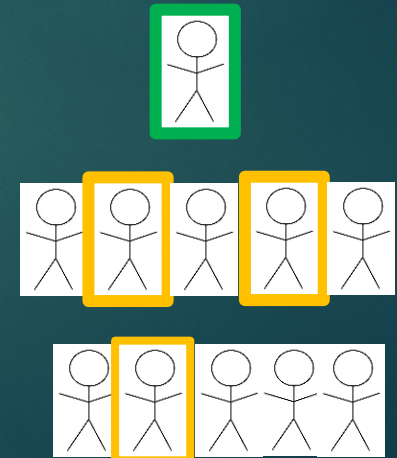
► Subject Matter Expert

“An individual with in-depth knowledge of a topic relevant to the business need or solution scope.” [IIBA BABOK v3]

► Stakeholder

“A group or individual with a relationship to the change, the need, or the solution.” [IIBA BABOK v3]

- Sponsor - Budget Source, Business Signatory (Delegated?)
- Solution Users - Staff / Customers / Suppliers / IT Operations
- Delivery Resources - PM, BAs, Architects, Designers, Developers, Testers



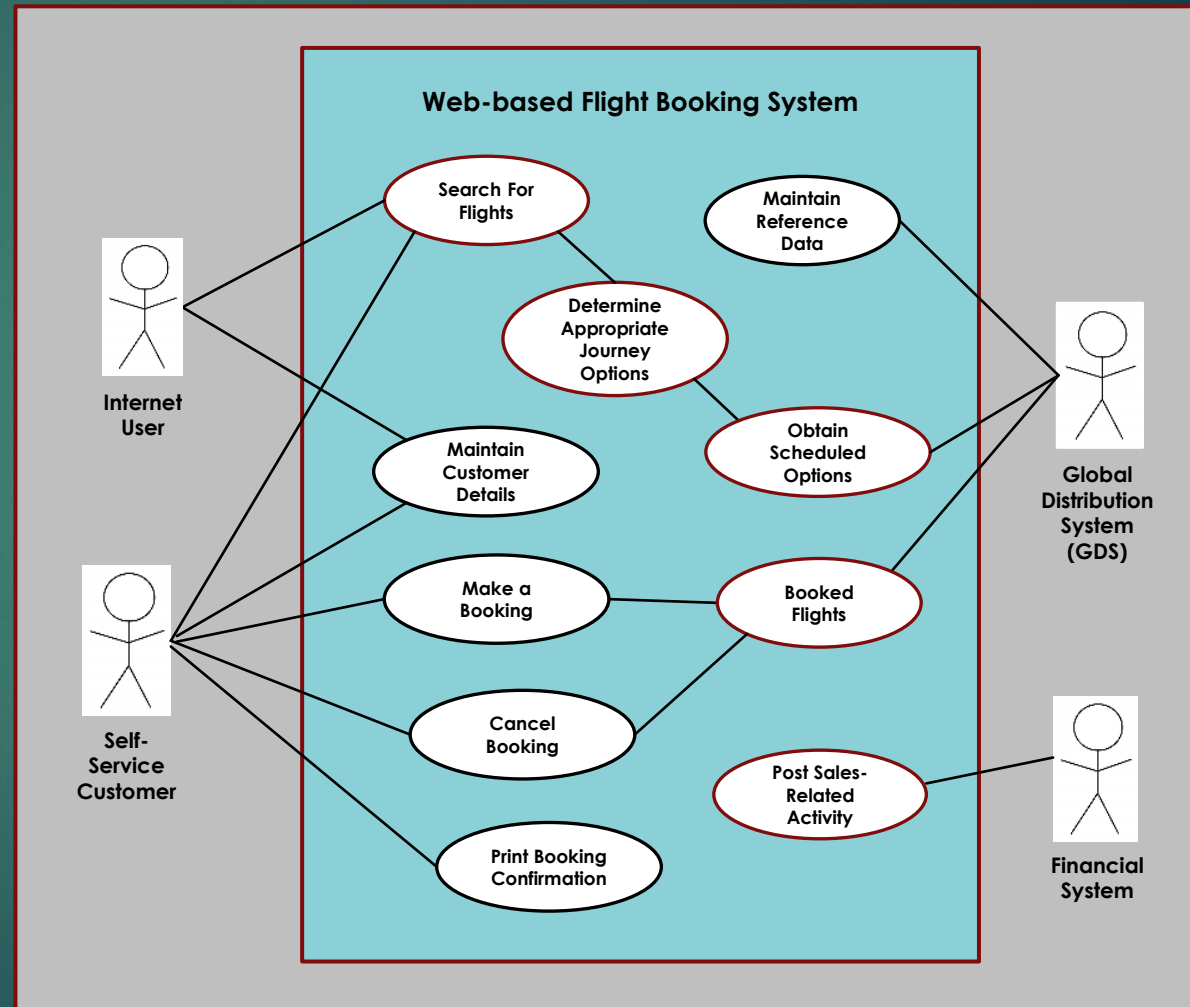
HLR Trick #3 – “Requirements Planning”

“Planning” not “Gathering”

Trips-R-You Example

Required SME Resources:

- Self-Service Customer
- Global Distribution System
- Financial System



Example “Capability Level” HLR

User Story

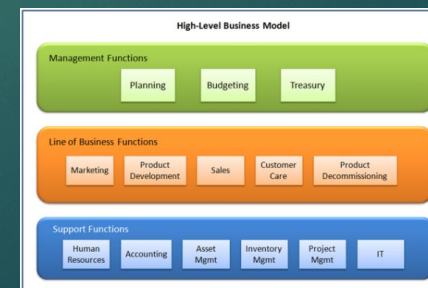
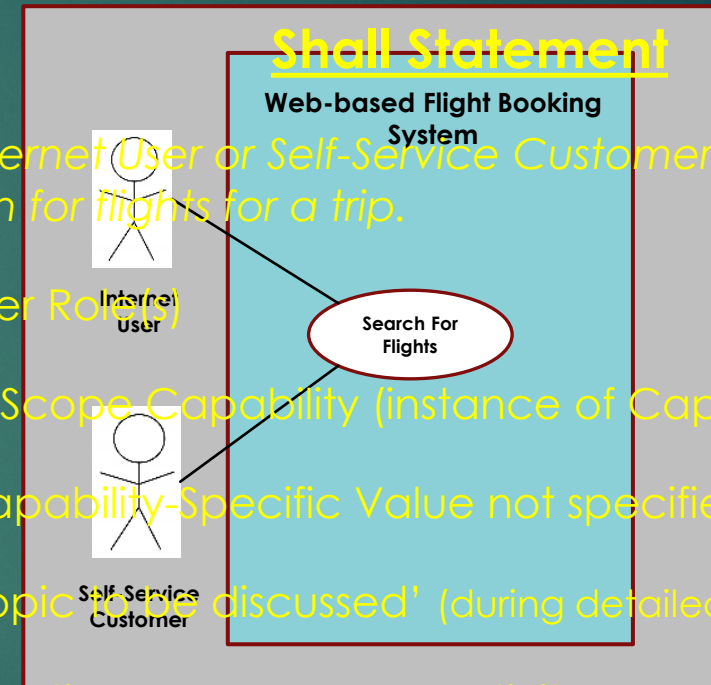
As an Internet User or Self-Service Customer **I want** to be able to search for flights **so that** I can book a trip.

- **As** - Value-Receiver(s)
- **I want** - User Need
- **so that** - Story-Specific Value
- ‘Start of a conversation’ (at story refinement time)
- Epic => Feature => User Story

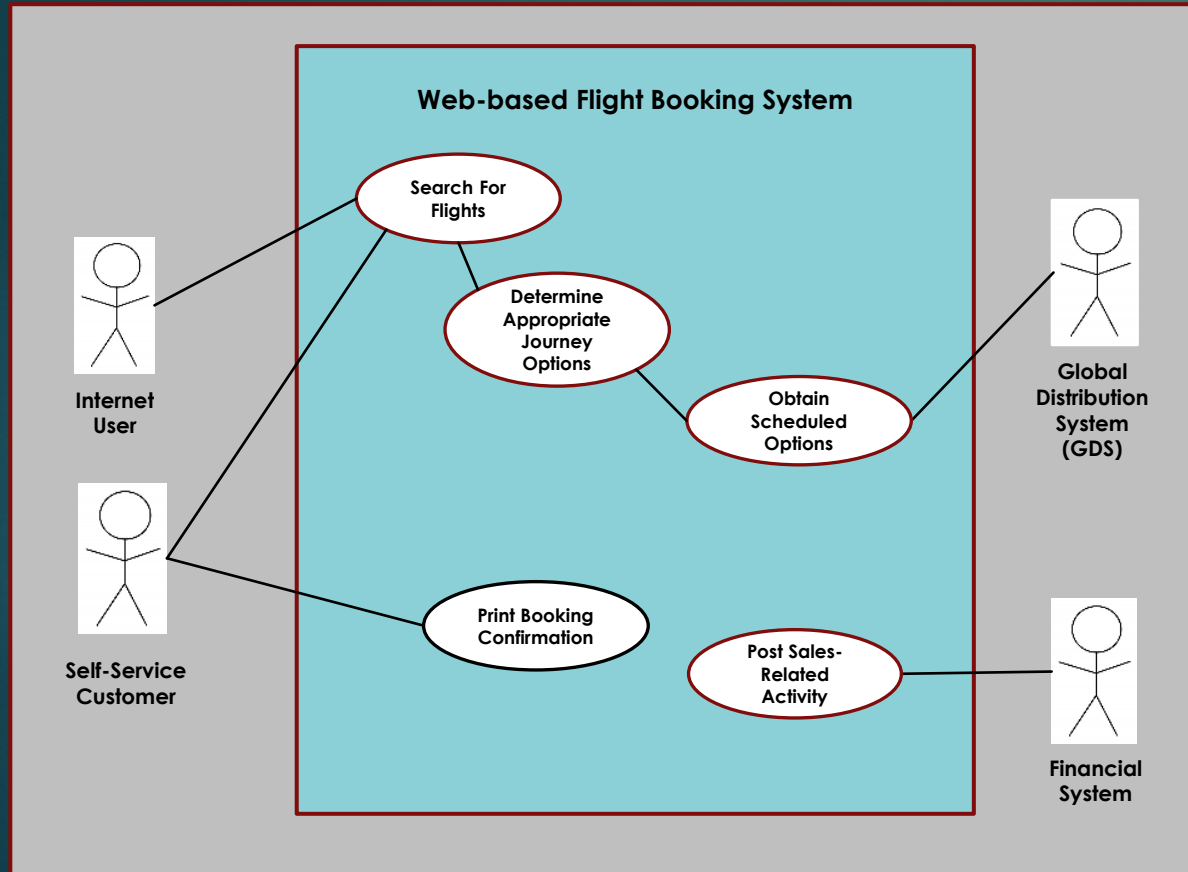
Shall Statement

An Internet User or Self-Service Customer **Shall** be able to search for flights for a trip.

- User Role(s)
- In-Scope Capability (instance of Capability Type)
- Capability-Specific Value not specified
- ‘Topic to be discussed’ (during detailed requirements)
- Function => Process => Activity (Capability-Supported) *



5 Capability Types - HLR Examples



UI - An internet user or self-service customer shall be able to search for flights for a trip.

Report - A self-service customer shall be able to print their booking confirmation details.

Data Import - The GDS shall be the source of scheduled options for a trip.

Data Export - The Financial System shall be provided details related to customer self-service flight bookings and cancellations.

Automated Function - The system shall be able to identify viable journey options based on the search parameters for a trip.

HLR Properties

- Req ID
- Capability Type
- Label
- Formal Statement / User Story
- Priority (e.g. MoSCoW)
- Complexity (e.g. low, medium, high)
- User Role(s)
- SME (Source Person)
- Owner (Organization Role)

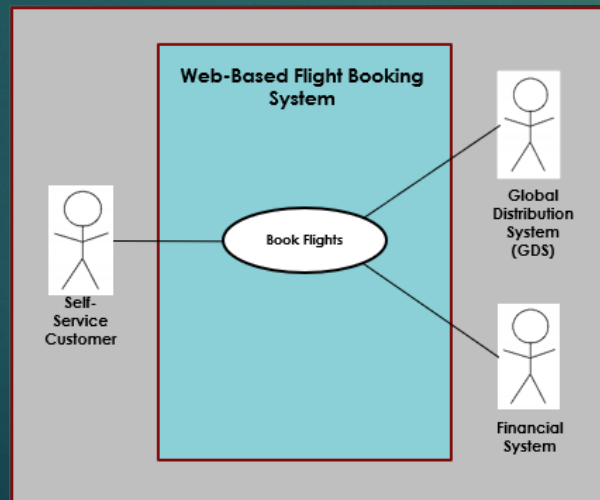
Req ID	Capability Type	Label	Formal Statement	Priority	Complexity	User Role(s)	SME	Owner
008	Report	Print Booking Confirmation	A Self-Service Customer shall be able to print their booking confirmation details.	Must Have (MVP)	Medium	Self-Service Customer	SW	Web Sales Mgr

	A	B	C	D	E	F	G	H	I	J
1	Requirements									
2										
3	Req ID	Type	Type	Label	Formal Statement	Priority	Complexity	User Role(s)	SME	Owner
4	002	HLR	User I/F	Search for Flights	An internet user or self-service customer shall be able to search for flights for a trip.	Must Have (MVP)	Medium	Internet User, Self-Service Customer	SW	Web Sales Mgr
5	003	HLR	Data Import	Obtain Scheduled Options	The GDS shall be the source of scheduled options for a trip.	Must Have (MVP)	Medium	GDS	SW	Web Sales Mgr
6	004	HLR	Automated Function	Determine Appropriated Journey Options	The system shall be able to identify viable journey options based on the search parameters for a trip.	Must Have (MVP)	High	System	SW	Web Sales Mgr
7	005	HLR	User I/F	Maintain Customer	An internet user or self-service customer shall be able to maintain customer details.	Must Have (MVP)	Low	Internet User, Self-Service Customer	SW	Web Sales Mgr
8	006	HLR	User I/F	Book Flights	A self-service customer shall be able to book flights based on selected journey options.	Must Have (MVP)	Medium	Self-Service Customer	SW	Web Sales Mgr
9	007	HLR	User I/F	Cancel Booking	A self-service customer shall be able to cancel a booking within the allowed cancellation period for a full refund.	Must Have (MVP)	Low	Self-Service Customer	SW	Web Sales Mgr
10	008	HLR	Report	Print Booking Confirmation	A self-service customer shall be able to print their booking confirmation details.	Must Have (MVP)	Medium	Self-Service Customer	SW	Web Sales Mgr
11	009	HLR	Data Import	Maintain Reference Data	The GDS shall be the source of current values for flight-related reference data.	Must Have (MVP)	Medium	GDS	FJ	Supplier Manager
12	010	HLR	Data Import	Booked Flights	The GDS shall be the source of Booking details from airlines based on selected journey options for a trip.	Must Have (MVP)	Medium	GDS	FJ	Supplier Manager
13										

Good “Requirements Planning” Result?

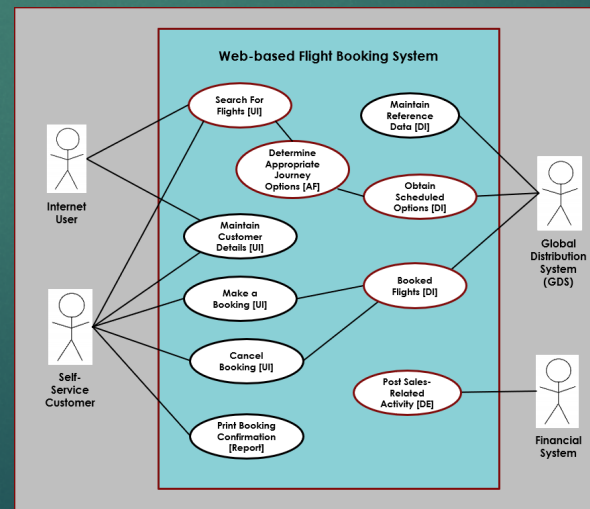
Original Project Scope

- Customer Self-Service Flight Booking
- Flight Details from Global Distribution System (GDS)
- Ticket Sales Reporting to Financial System



HLR-Based Project Scope

- 4 Uls
- 1 Report
- 3 Data Imports
- 1 Data Export
- 1 Automated Function



Req ID	Capability Type	Label	Formal Statement	Priority
002	User I/F	Search for Flights	An Internet user or self-service customer shall be able to search for flights for a trip.	Must Have (MVP)
003	Data Import	Obtain Scheduled	The GDS shall be the source of scheduled options for a trip.	Must Have (MVP)
004	Automated Function	Determine Appropriated Journey	The system shall be able to identify viable journey options based on the search parameters for a trip.	Must Have (MVP)
005	User I/F	Maintain Customer	An Internet user or self-service customer shall be able to maintain customer details.	Must Have (MVP)
006	User I/F	Book Flights	A customer shall be able to book flights based on selected journey options.	Must Have (MVP)
007	User I/F	Cancel Booking	A self-service customer shall be able to cancel a booking within the allowed cancellation period for a full refund.	Must Have (MVP)
008	Report	Print Booking Confirmation	A Self-Service Customer shall be able to print their booking confirmation details.	Must Have (MVP)
009	Data Import	Maintain Reference Data	The GDS shall supply current values for reference data.	Must Have (MVP)
010	Data Import	Booked Flights	The GDS shall provide flight bookings details from airlines based on selected journey options for a trip.	Must Have (MVP)
011	Data Export	Report Sales	The Financial System shall be provided details related to customer self-service flight bookings and cancellations.	Must Have (MVP)

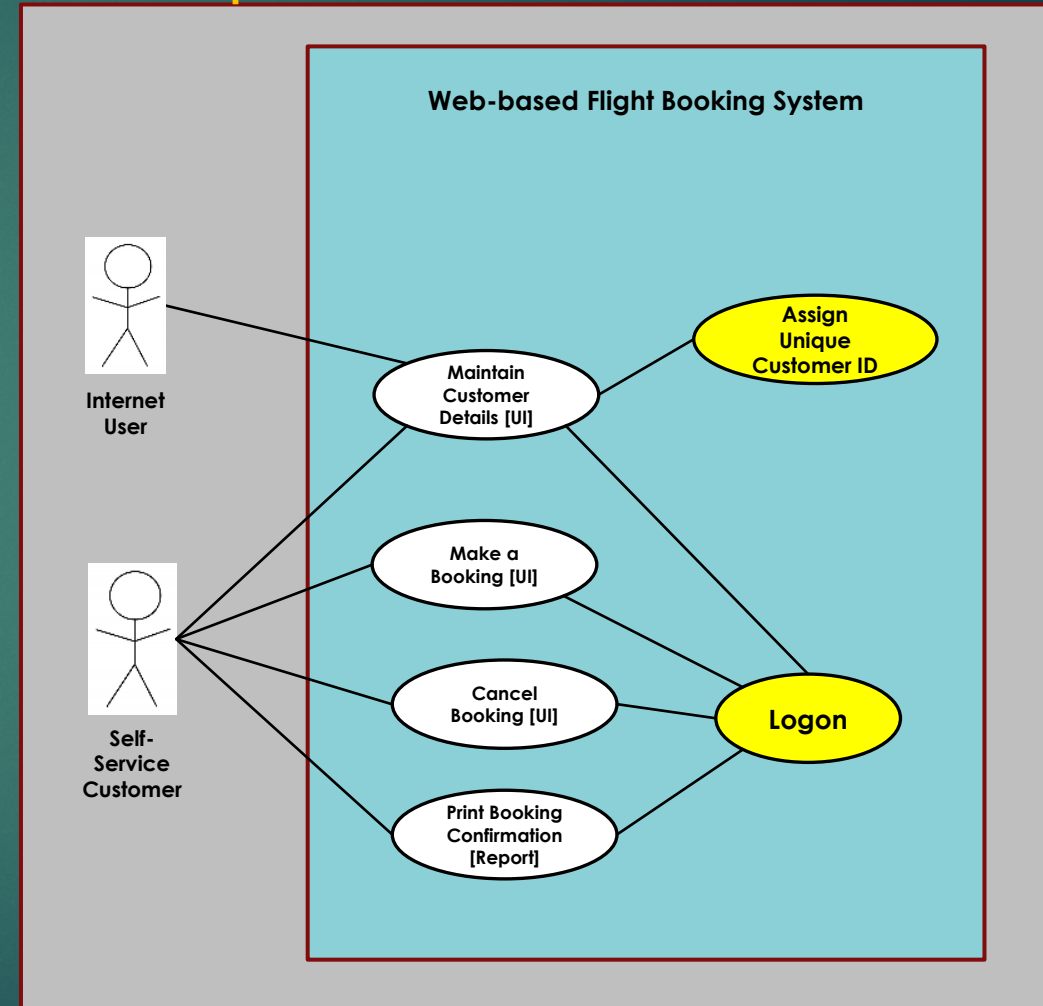
Non Capability-Based HLR Examples

Each Customer record must be assigned a unique identifier.

Issue: 'Field-Level' Detail

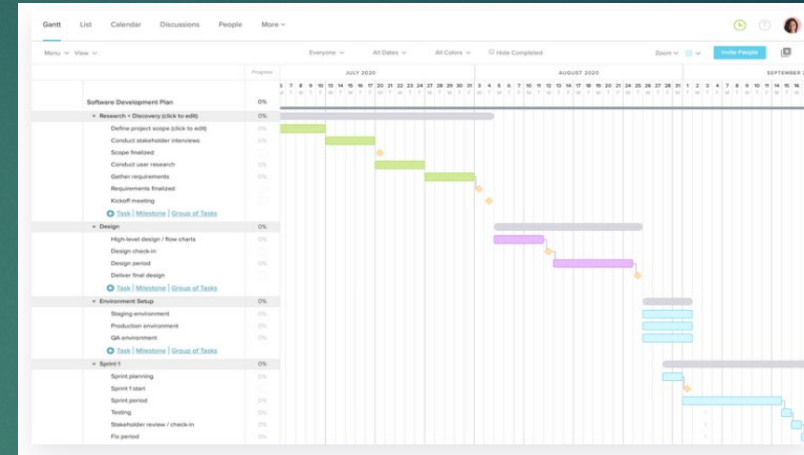
A user shall be able to logon to the system.

Issue: Not a 'Business' activity



Capability-Level HLR Uses

► Project Planning / Estimating



► Package Evaluation



Problems with HLRs - Revisited

- ▶ Lack of guidelines as to what is and isn't high-level
 - 5 Fundamental Capability Types
- ▶ Lack of good examples
 - Trips-R-You Case Study

Take-Away Points (HLR Tricks)

- ▶ 5 Fundamental IS Capability Types:
 - User Interface
 - Report
 - Data Import
 - Data Export
 - Automated Function
- ▶ Sources of HLRs should be SMEs
- ▶ Treat HLR elicitation as 'Requirements Planning'

Next Webinar

Minimum Detail Requirements – Maximum Requirement Detail

Objectives:

*Demonstrate the level of detail needed for **quality** detailed requirements*

*Demonstrate **structured** requirement details*

Questions

Further details available on ModernAnalyst.com

[Webinar #2 – Detailed Requirements](#) (Video and Slides Download)

[Webinar #3 –Guaranteed Requirement Reusability](#) (Video and Slides Download)

[Trips-R-You Case Study](#) (PDF Download)

[Requirements In Context](#) (Article Series)

[Case Study Data Dictionary Example](#) (Excel File Download)

[Business-Friendly Data Dictionary Template](#) (Excel File Download)

[Record Hierarchy Visual Aid](#) (Article)

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