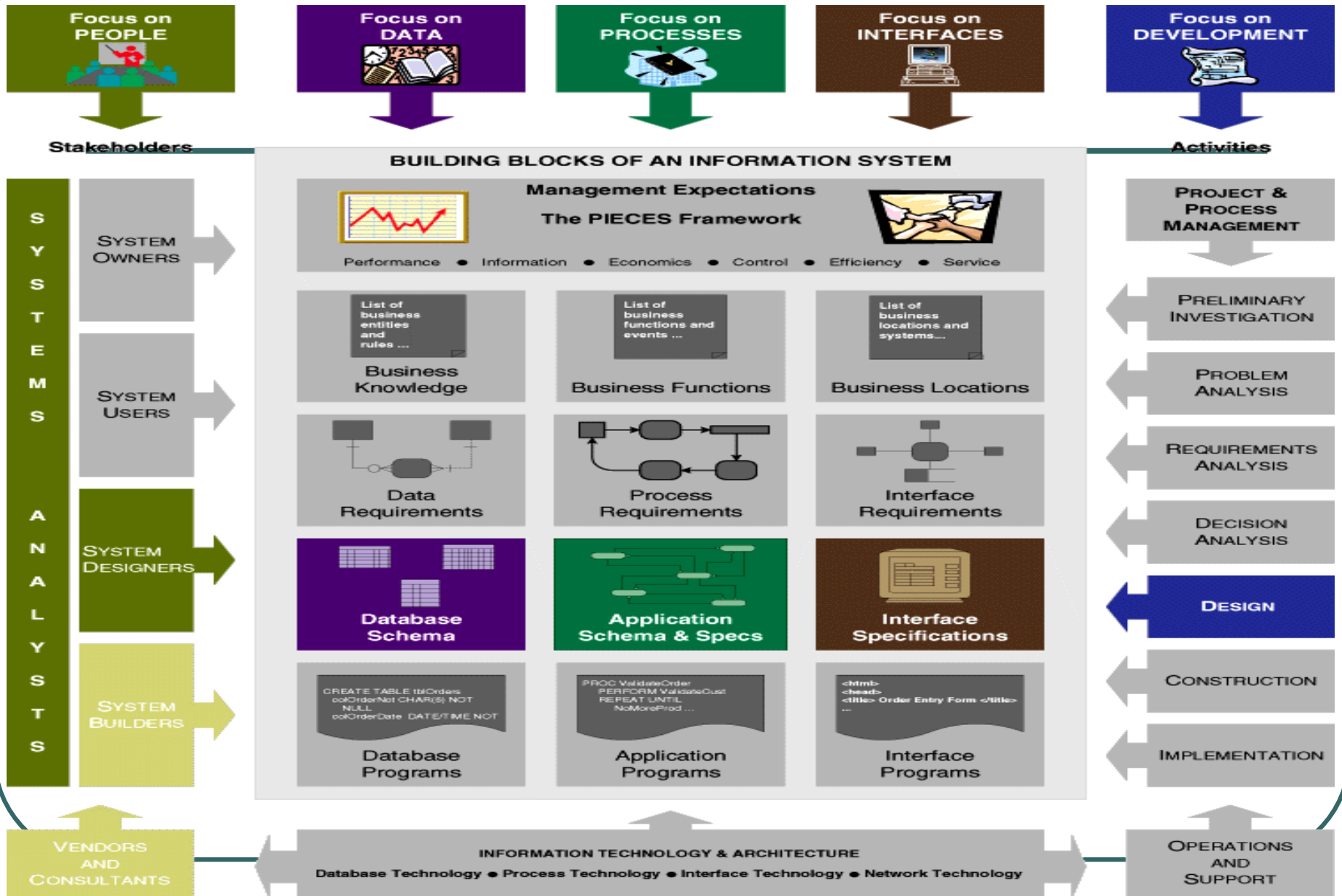


CHAPTER

10

**SYSTEMS
DESIGN**

Chapter Map



System Design

Information **systems design** is defined as those tasks that focus on the specification of a detailed **computer-based solution**. It is also called **physical design**.

Thus, whereas **systems analysis** placed emphasis on the business problem, **systems design** places emphasis on the technical or implementation concerns of the system.

Prototyping

The prototyping approach is an **iterative process** involving a **close working** relationship between the designer and the users.

Key Benefits:

- Prototyping encourages and requires active **end-user participation**.
- **Iteration and change** are a natural consequence of systems development – thus, it accommodates end-users whom tend to change their minds.
- Prototyping **endorses the philosophy** that end-users won't know what they want until they see it.
- Prototypes are **an active**, not passive, **model** that end-users can see, touch, feel, and experience.
- An approved prototype is a **working equivalent** to a paper design specification, with one exception -- errors can be detected much earlier.
- Prototyping can **increase creativity** because it allows for quicker user feedback, which can lead to better solutions.
- Prototyping **accelerates several phases** of the life cycle, possibly bypassing the programmer.

Rapid Application Development (RAD)

Rapid application development (RAD) is the merger of **various structured techniques** (especially the data-driven information engineering) with *prototyping* techniques and *joint application development* techniques to accelerate systems development.

RAD calls for the interactive use of structured techniques and prototyping to **define the users' requirements** and design the final system.

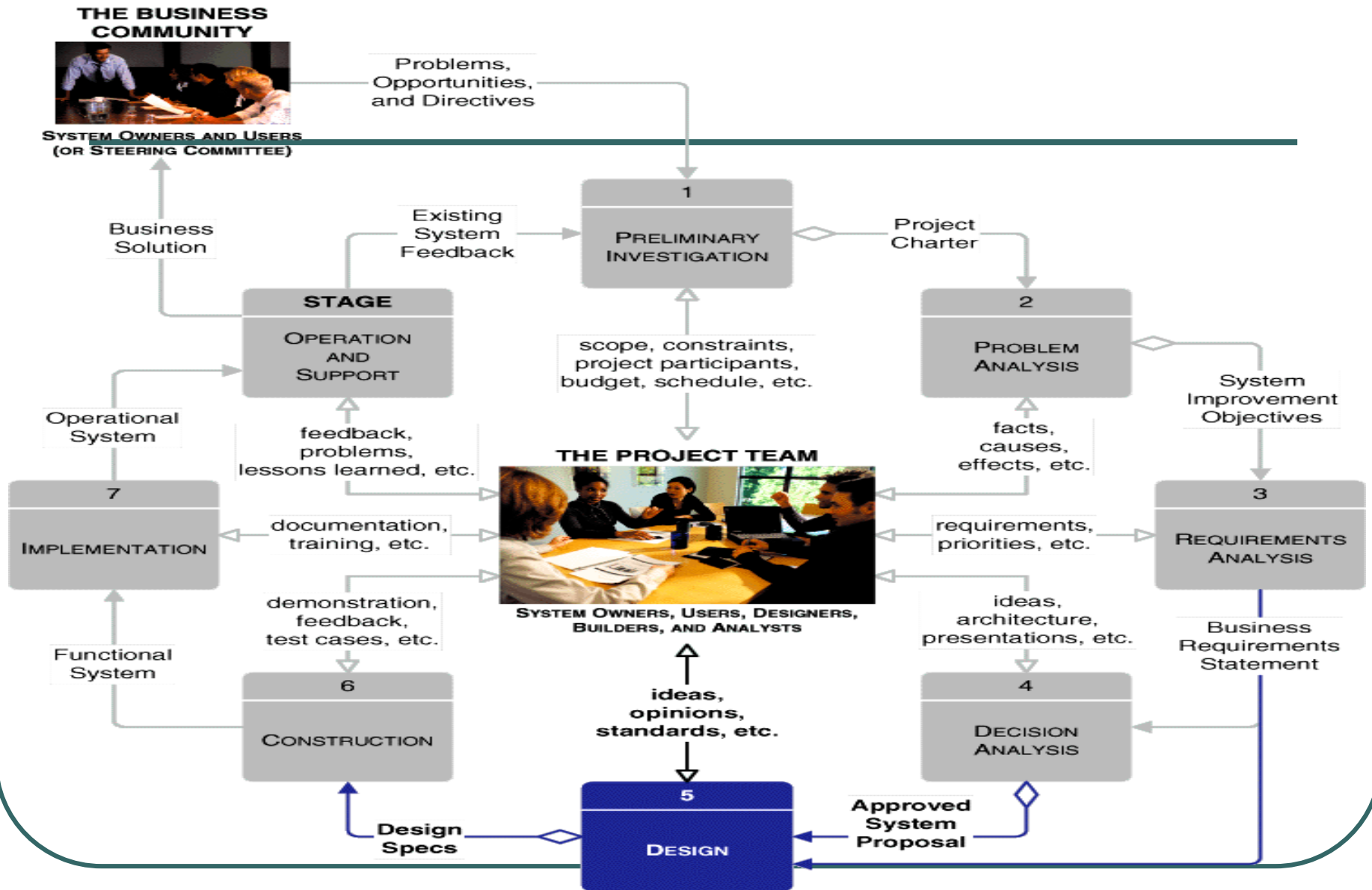
The expedition of the design effort is enhanced through the emphasis on **user participation** in Joint application development (JAD) sessions.

Joint Application Development (JAD)

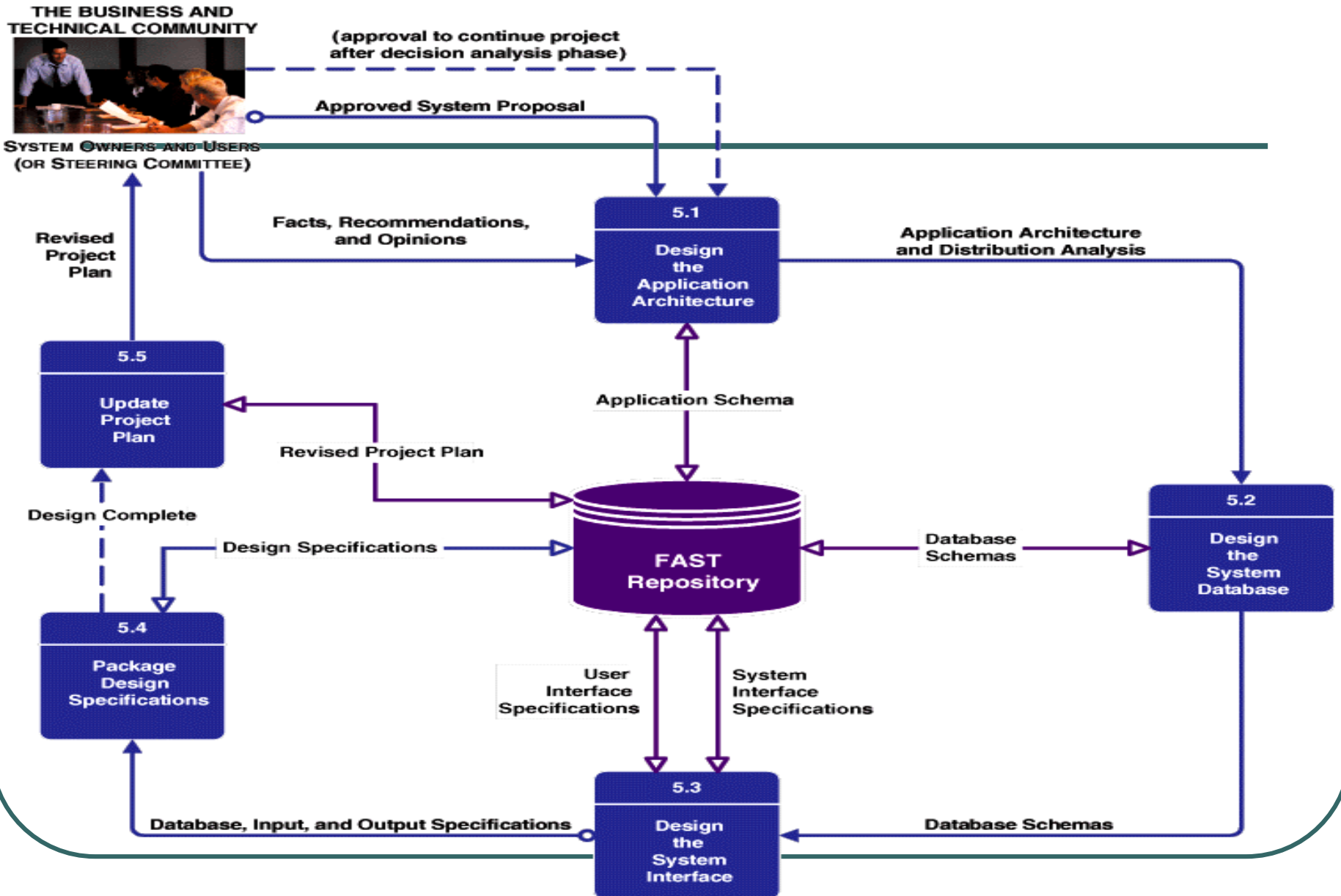
Joint Application Development (JAD) is a technique that complements other systems analysis and design techniques by emphasizing *participative development* among system owners, users, designers, and builders.

During the JAD sessions for systems design, the **systems designer** will take on the role of facilitator for possibly several full-day workshops intended to address different design issues and deliverables.

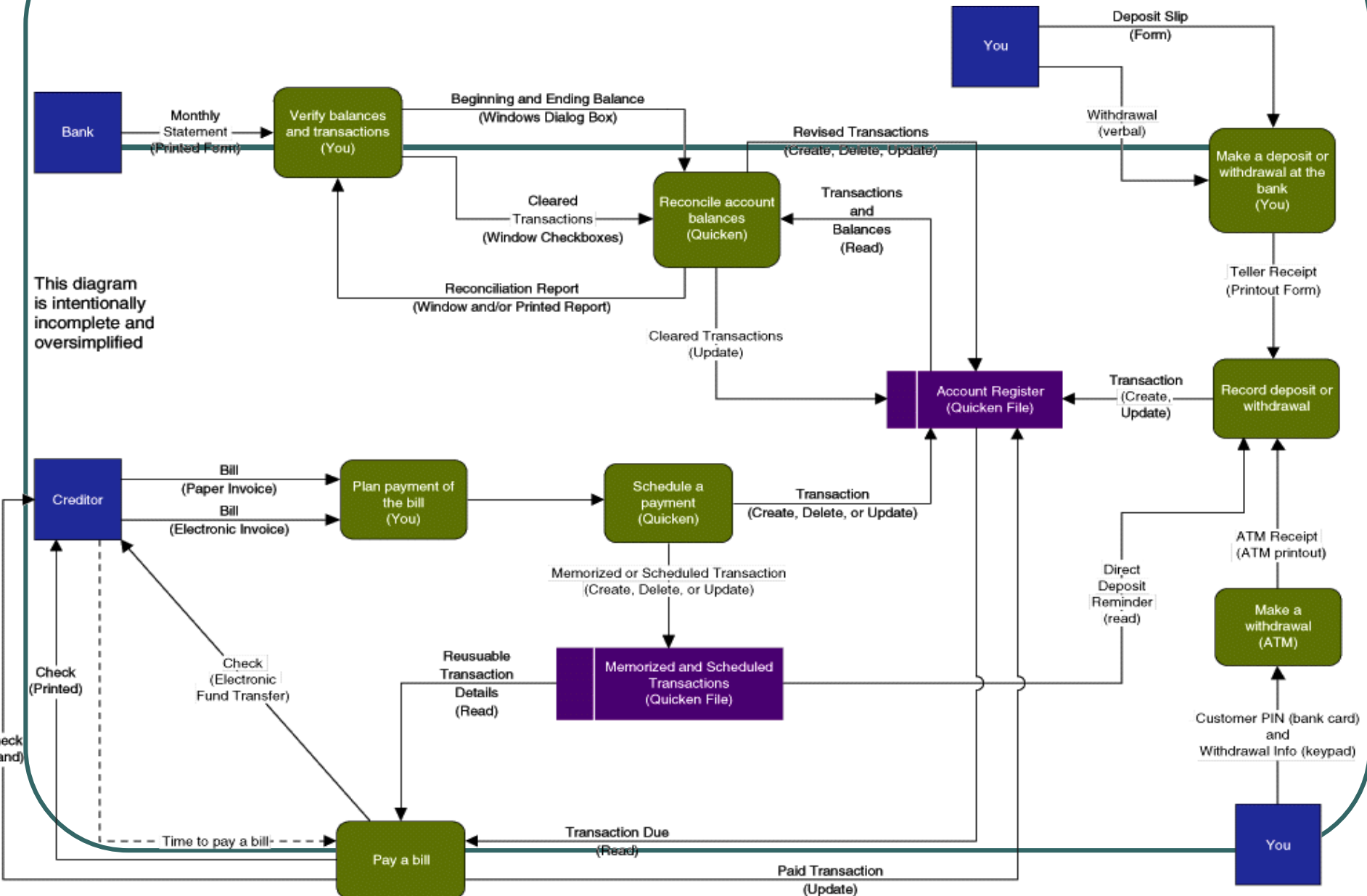
Context of In-House Development Projects



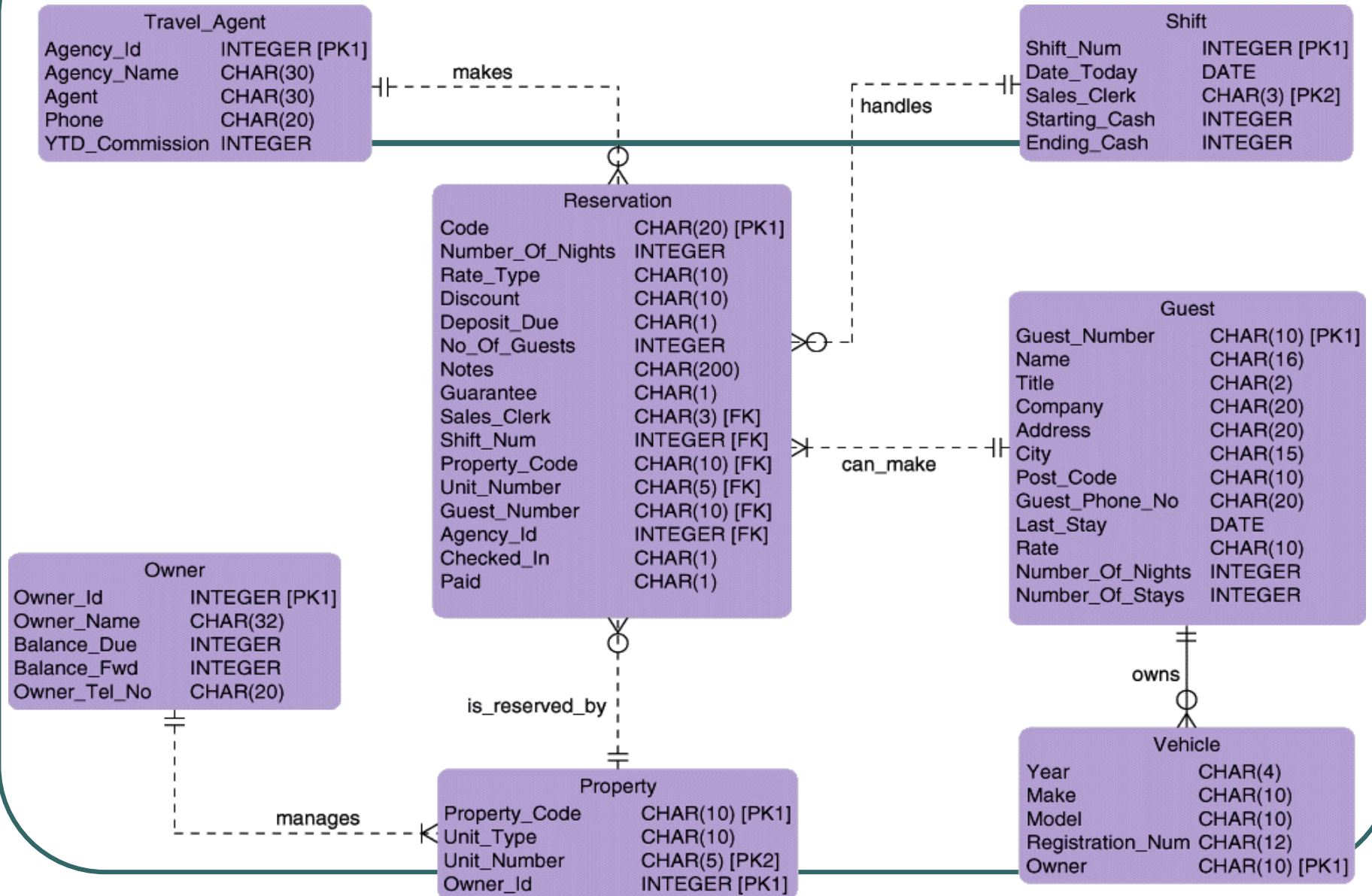
Design Phase Tasks For In-House Development



Sample Physical Data Flow Diagram



Sample Data Base Schema




Sample Output Design

Members

Status:

- Dropped
- Frozen
- Good Standing
- Inactive
- Probation

Member Number:



Address Information:

Name:

Street Address: P.O. Box:

City: State: Zip Code:

Area Code: Phone: Extension:

Credit Card Type:

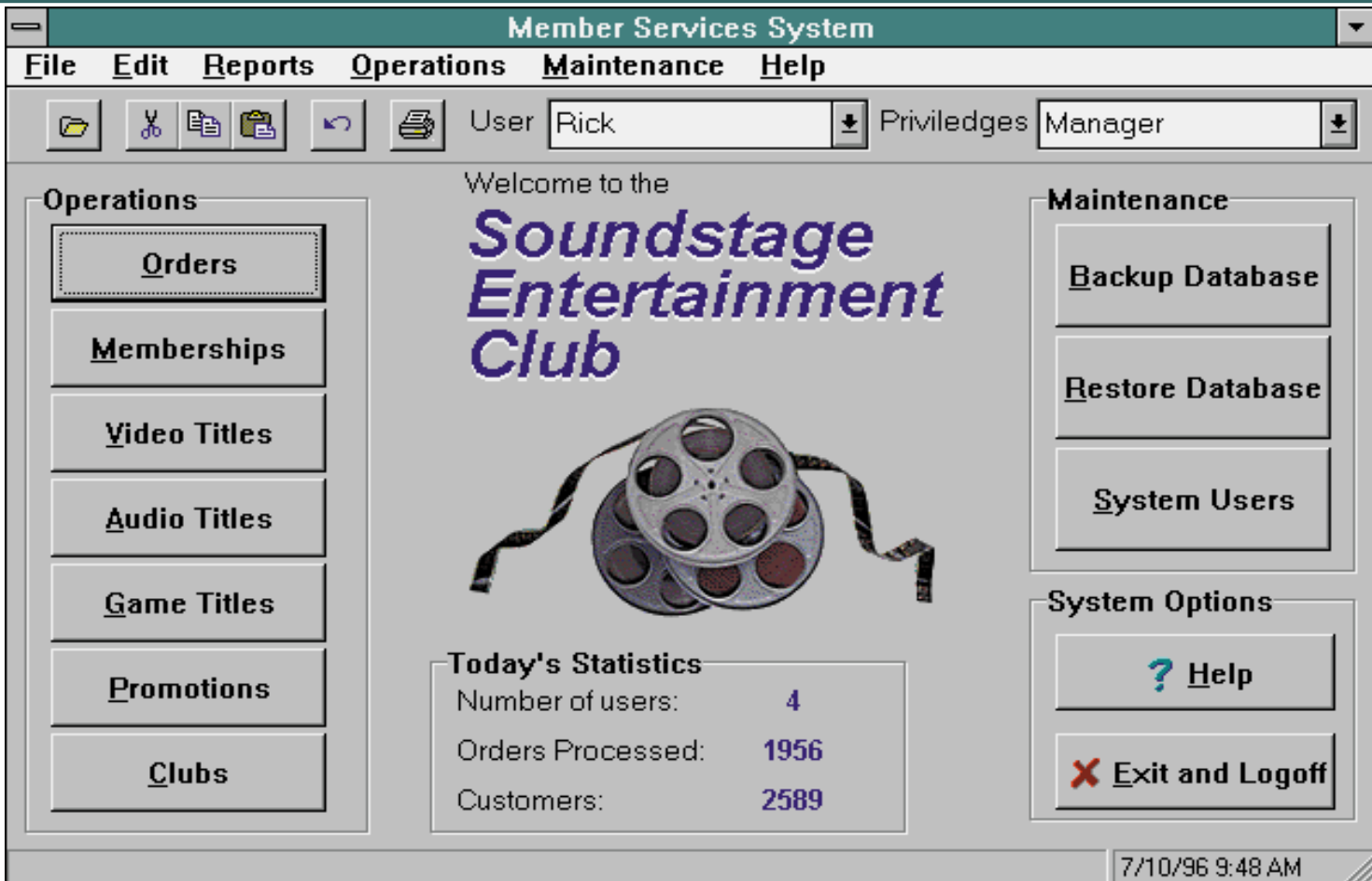
- American Express
- Discover
- Mastercard
- Visa

Card Number:

Expiration Date:

Balance: Bonus Balance:

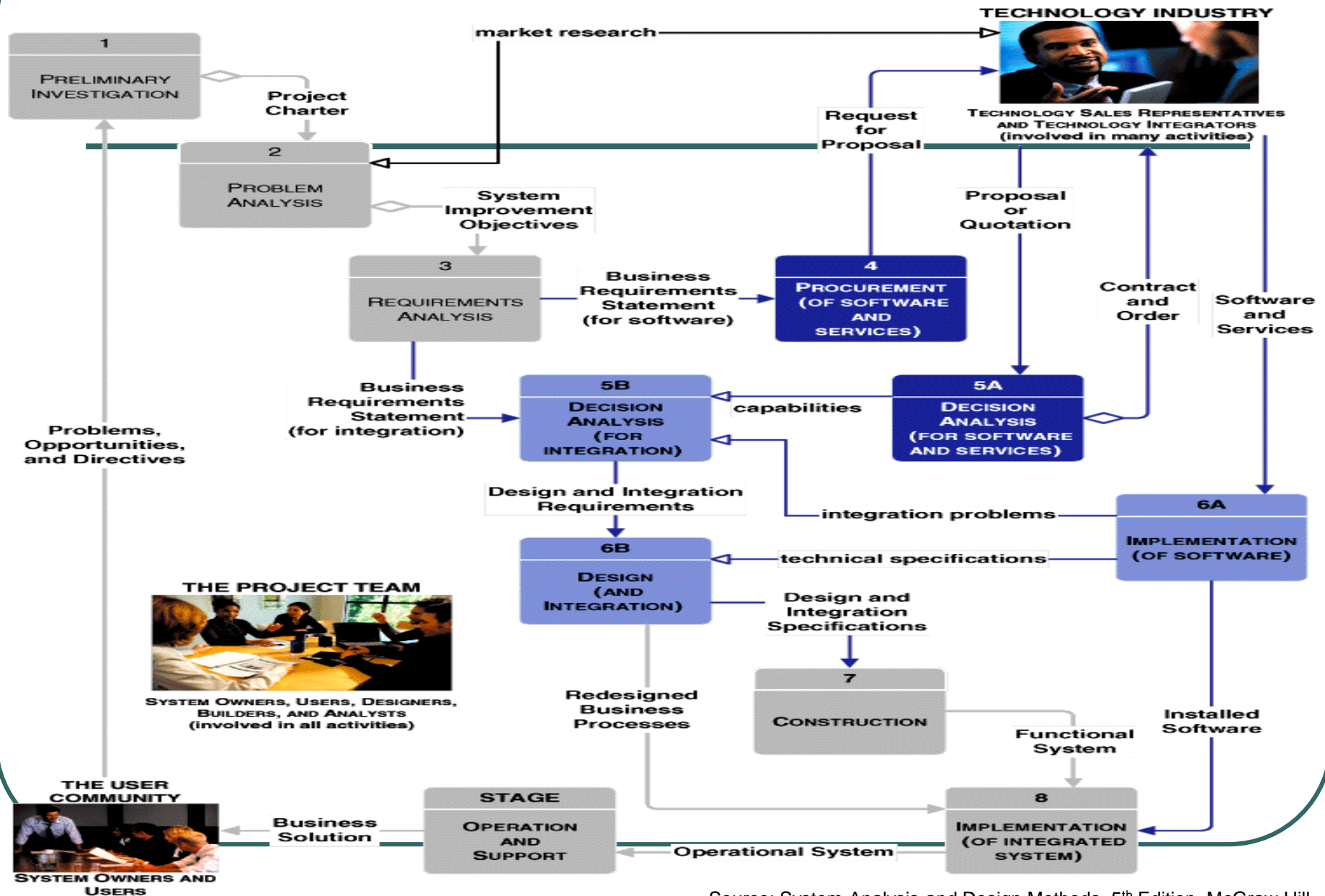
Sample Interface Design



Sample Interface Design

[Click here to view example](#)

Context Of System Design For “Buy” Solutions To Projects



Design Phase Tasks For Commercial Software Solutions

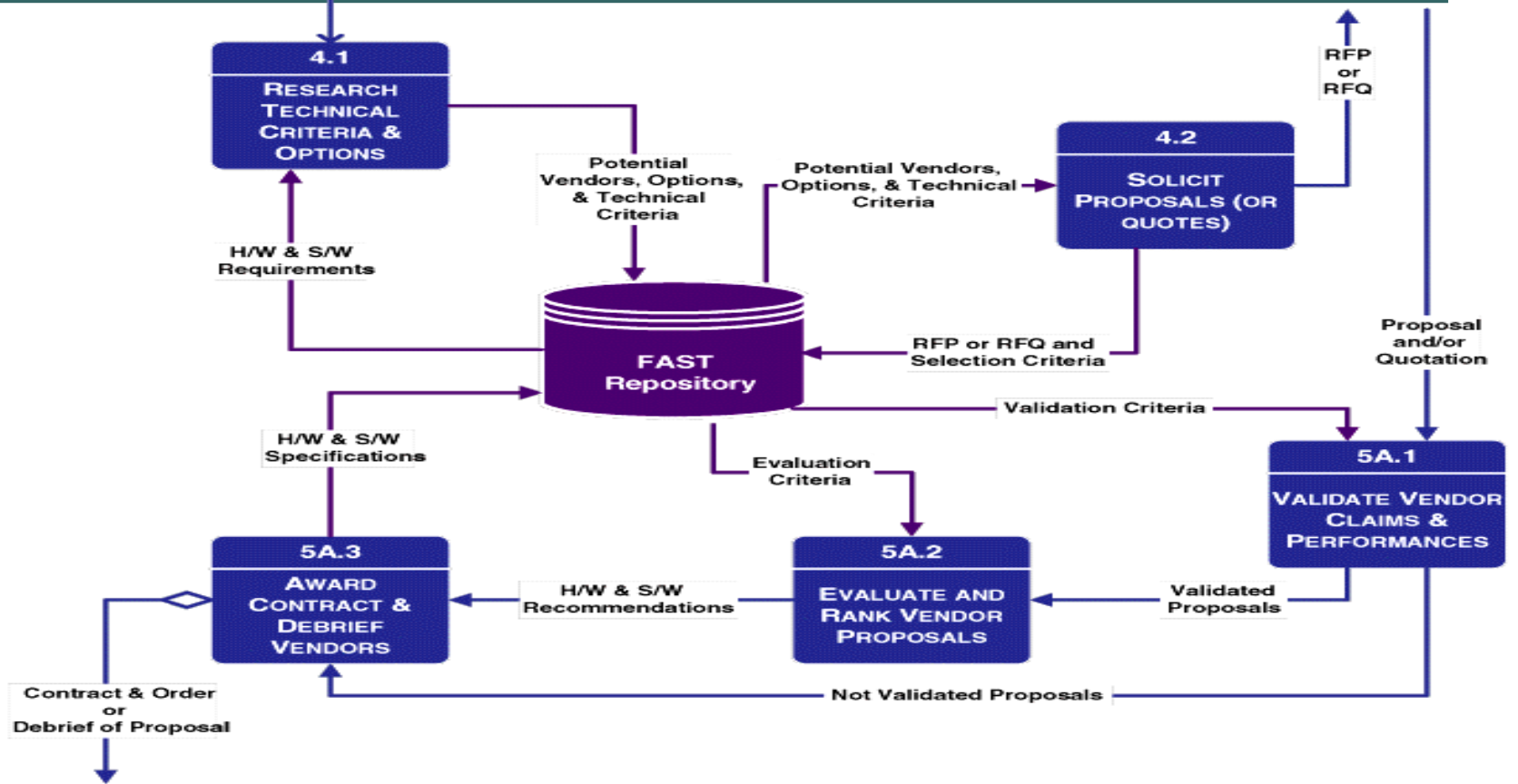
From the Requirements Analysis Phase

Business Requirements Statement (for software)

TECHNOLOGY INDUSTRY



TECHNOLOGY SALES REPRESENTATIVES



TECHNOLOGY INDUSTRY



TECHNOLOGY SALES REPRESENTATIVES

Summary

- Design Phase
- Design Strategies.
- In-house development project.
- Procurement of a commercial systems software solution.