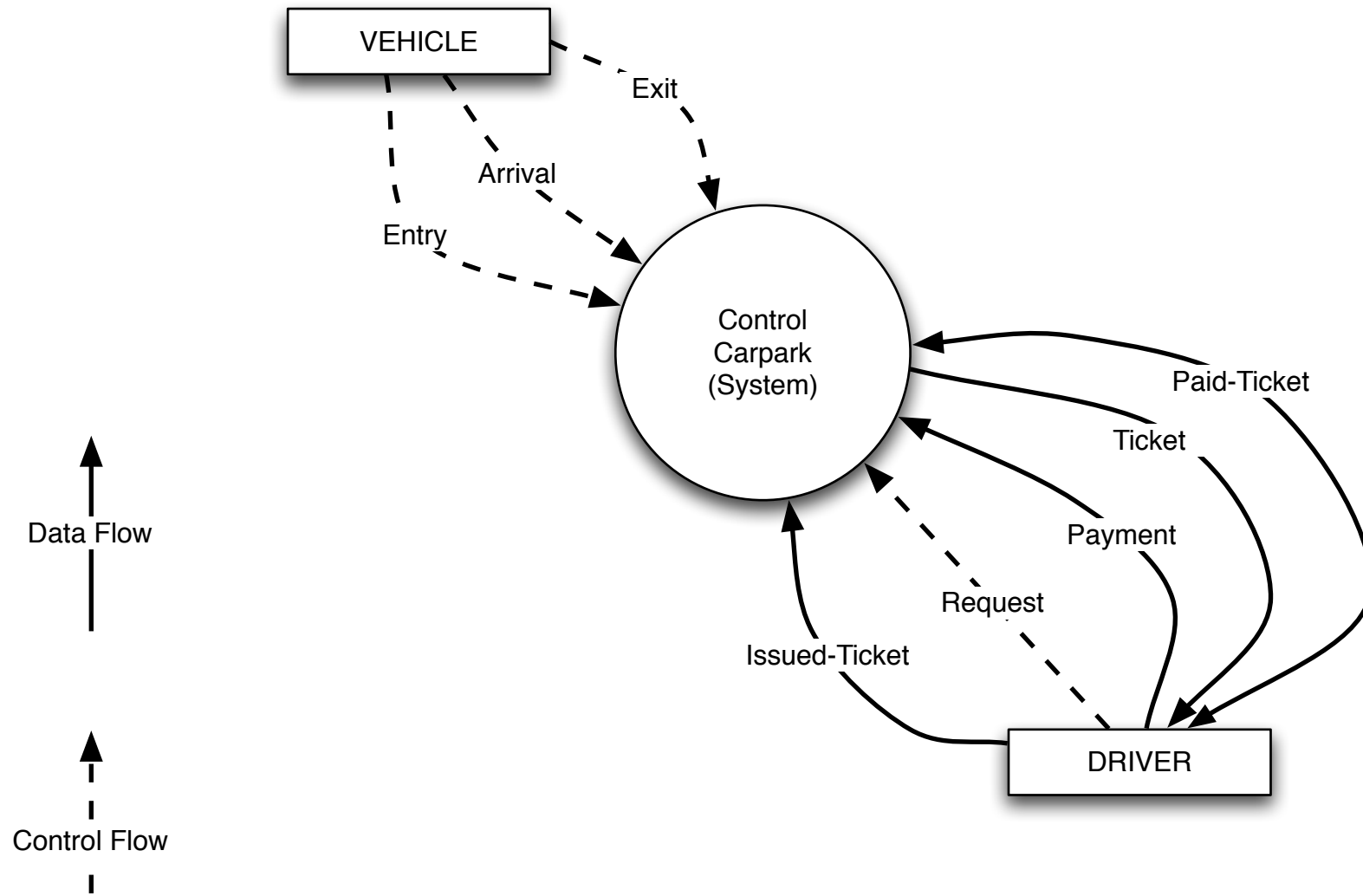
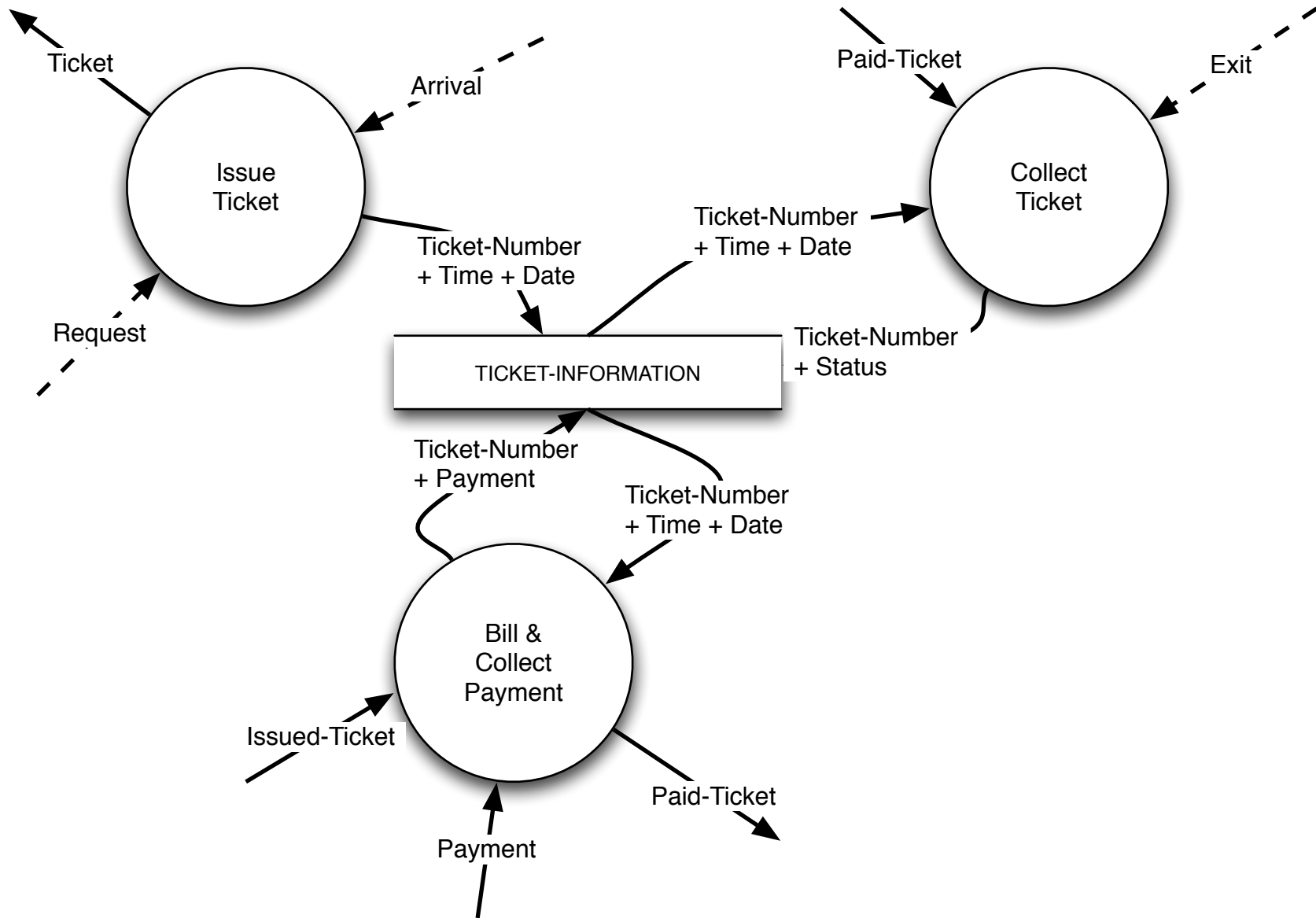
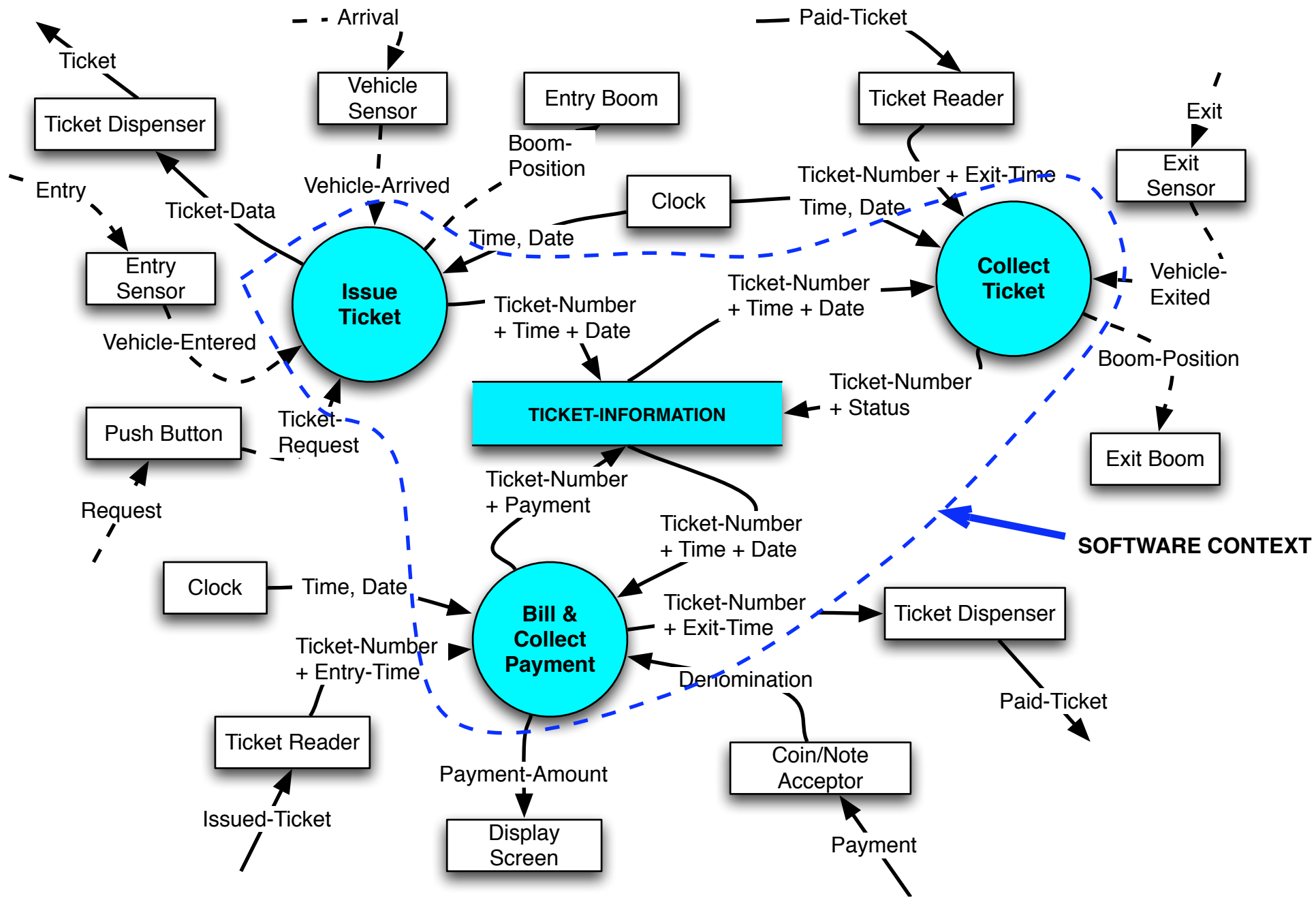


SYSTEM CONTEXT DIAGRAM FOR AUTOMATIC CAR PARK SYSTEM

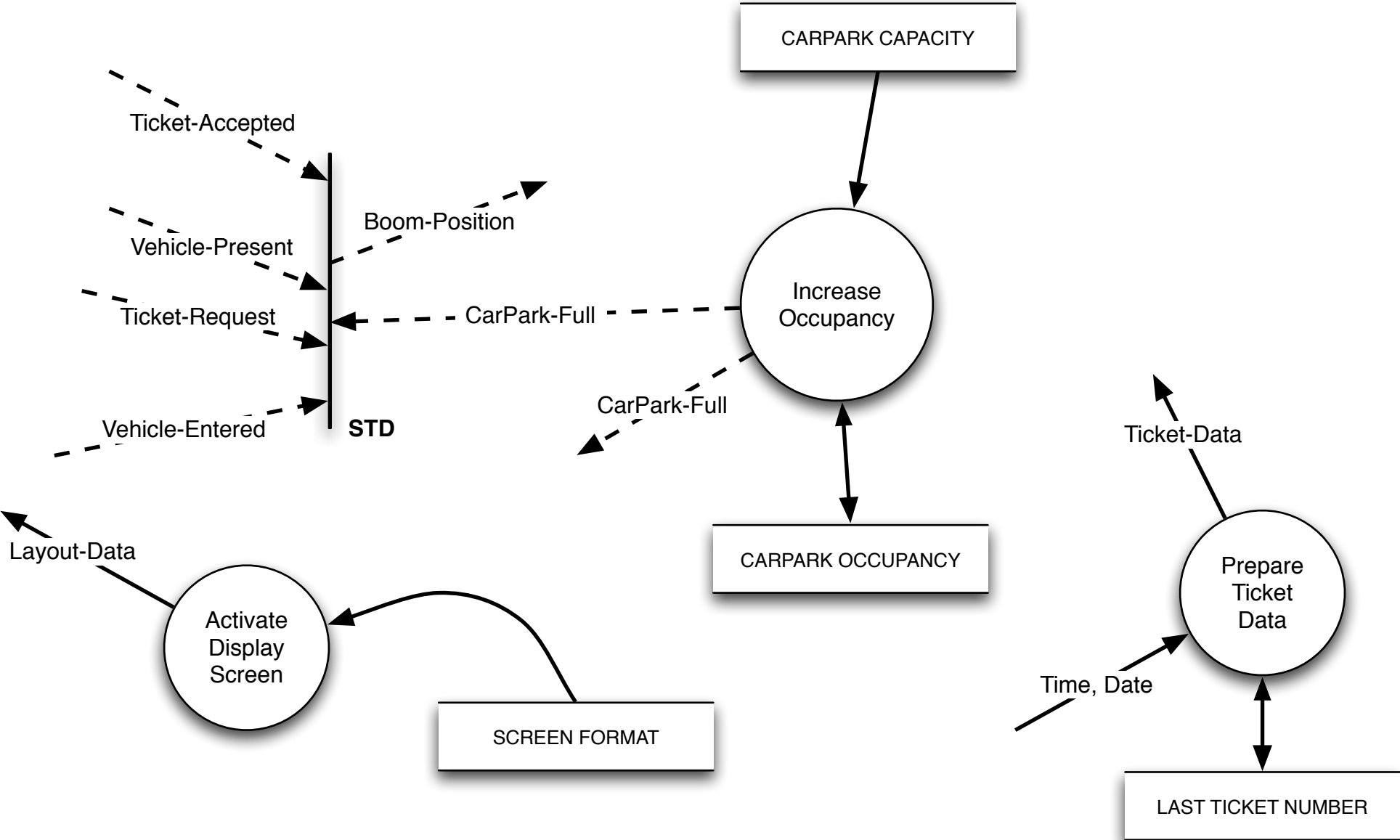


SYSTEM DATA FLOW DIAGRAM (DFD0) FOR AUTOMATIC CAR PARK SYSTEM

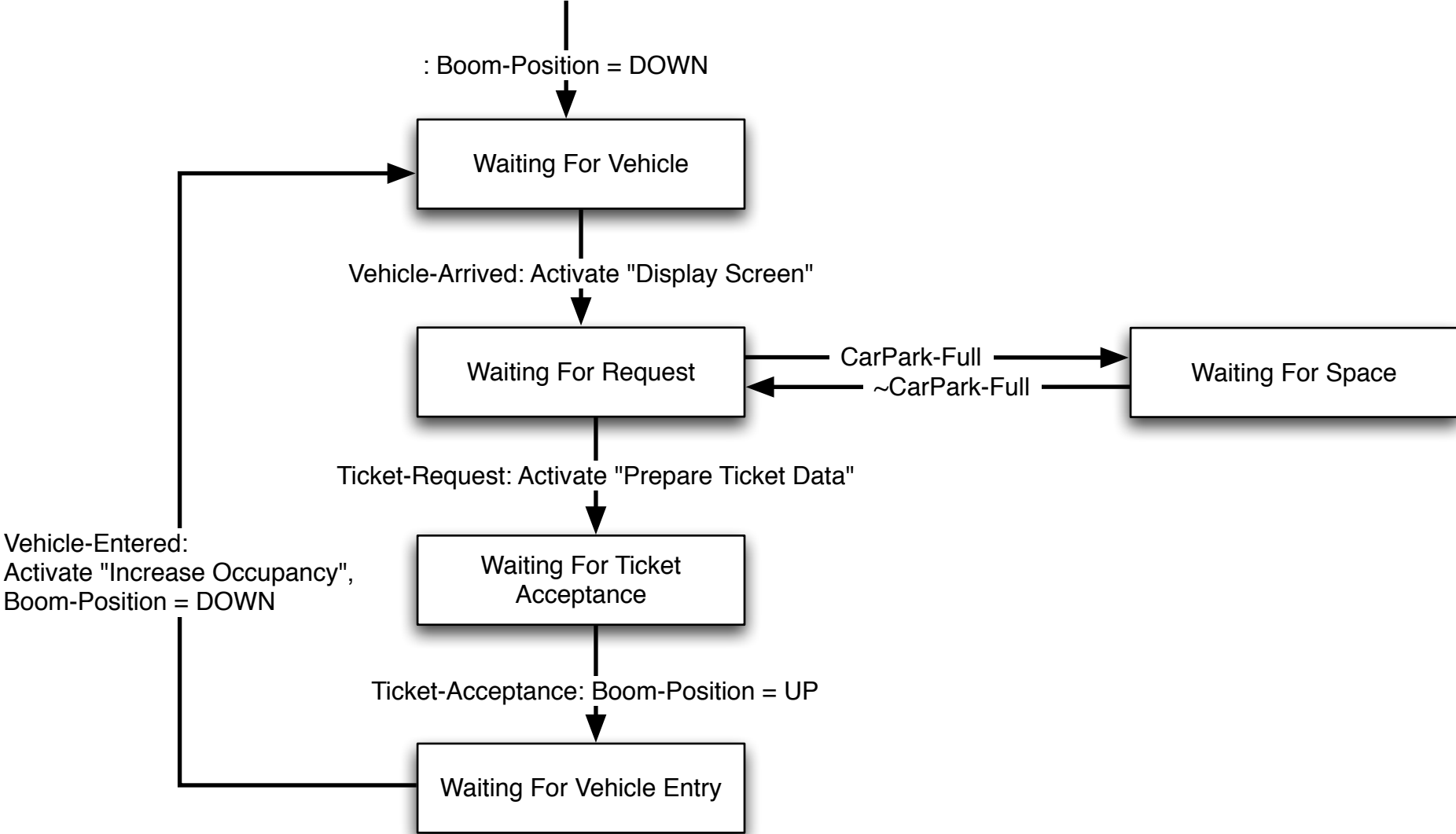




DATA FLOW DIAGRAM FOR ISSUE TICKET



STATE TRANSITION DIAGRAM FOR ISSUE TICKET



INCREASE OCCUPANCY

Input: CARPARK CAPACITY, CARPARK OCCUPANCY

Output: CARPARK OCCUPANCY, CarPark-Full

Process:

Read CARPARK CAPACITY & CARPARK OCCUPANCY;
If CARPARK OCCUPANCY < CARPARK CAPACITY then
increment CARPARK OCCUPANCY by 1 (one);
Set CarPark-Full = False

PREPARE TICKET DATA

Input: LAST TICKET NUMBER, Time, Date

Output: LAST TICKET NUMBER, Ticket-Data

Process:

Read LAST TICKET NUMBER;
Ticket-Number = LAST TICKET NUMBER + 1;
LAST TICKET NUMBER = Ticket-Number;
Ticket-Data = Ticket-Number + Date + Time;

An error condition arises when Ticket-Number \geq 20,000,000.

DATA DICTIONARY

Control Flows:

Vehicle-Entered = [True | False];
Vehicle-Arrived = [True | False];
Vehicle-Exited = [True | False];
Ticket-Request = [True | False];
Ticket-Accepted = [True | False];
Boom-Position = [UP | DOWN];

Data Flows:

Time = Hours + Minutes;
Date = DD+MM+YYYY;
Entry-Time = Time of Ticket Issue;
Exit-Time = Time of Ticket Payment + 10 minutes
Ticket-Number = Integer between 1 & 20M;
Status = ["Extra-Payment" | "Payment-Waived"]
Denomination = [10 | 20 | 50 | 100 | 500 | 1000];
Payment-Amount = A dollar and cent amount;
Payment = Payment-Amount;

Hazop Item	Interconnection	Attribute	Guide Word	Cause	Consequence	Safeguard	Action