A Quick and Fully Automated Check-in System for Motels

Shailesh Kadakia, CFO
Matrix Writers & Publishers
2323 Monroe Ave.,
Rochester, NY 14618

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Necessity is the Mother of All Inventions

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Abstract: In this new millennium many new inventions have taken place. To name a few iPODs, Personal Video recorders, advanced digital camera and iPhone systems. This invention is about next generation of Motel Room Check-in system. Motel owners recruit a dedicated staff member to issue rooms at night for check in guests. An automated check-in system deployed and revealed here can substantially benefit owners by saving cost. Also, it reduces risk for theft and life danger to staff member. Thus at a lot lower cost than before safety of personnel and property is ensured. Also, automated operation of the newly developed system eliminates need to hire staff member to perform the job at night times. Further, this system accepts payments by credit card as well as cash, and does not require data entry of registration information by guests unlike the other currently Kiosk systems sold in market.

Background: At present almost all motels provide guest check-in services during day and after office hours. The process is simple and rapid but requires a staff member to validate identity of the guest. For record keeping purposes and to prevent any injury to employee on duty responsible for registration requests guest to fill out registration information from a glass window at night times. He picks up the registration card, means to receive fee for rooms in the form of cash or a credit card and driver license, state identification card (ID) or a passport. He copies the ID and charges funds on the credit card. Then he selects a room for the guest from a pool of unoccupied rooms and programs a key card for the assigned room. Next the staff member returns to the customer any change for the balance and delivers a key to the guest. The entire process works reasonably well. However a lot of risk is involved to the life of the staff member because he has to deal with guests who may be drunk and or may have past history of crime.

Summary: This invention is about a novel automated Check-in System for Motels. The system consists of a Camera, a state of art scanning device, a credit or a debit card reader and a key dispenser. When guest arrives concealed Camera mounted snaps his photograph. Then customer is requested to swipe his identification card for scanning. The photo extracted from the ID is then compared with picture from the Camera to verify that ID belongs to the person carrying the card. Next the person is asked to insert a credit card for payment or payment in the form of cash $20, $10, 5$ and 1$ bills. In the case of payment from credit card, again the information from the credit card is verified with information from his ID. Then he is issued a key for the room that is assigned to him and receipt for the charge or payment is delivered.

Brief description of drawings: In Figure 1, a photograph of conventional room Check-in system through a night window at a Motel is illustrated. Types of acceptable forms of identification means

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are shown in Figure 2. For a specific illustration a pictorial representation of new Check-in system is displayed in Figure 3. As stipulated before, the system comprises of an advanced Camera system A mounted in the proximity of a night window and a Kiosk B stationed near the window for completion of registration process. The Kiosk has four ports, three input and one output. The out port K is allocated that dispenses a key to a room designated to the guest after his eligibility is verified. The port I is assigned to accept guests ID for scanning guests information. Port C is utilized to accept a credit card for payment. Port D is designed to receive cash dollar payment. The cash payment is required in the form of dollar bills amount rounded to the nearest whole dollar. In Figures 4,5, 6 and 7 flowcharts of actions occurring during registration process is indicated for novel system. In Figure 8 purpose of software packages utilized, their functional description, and their order of execution is included.

Detailed description of embodiment: A typical prior art Check-in process at Motel during night time hours is diagrammed in Figure 1. The key requirement is the Check-in System should be quick and transaction must be without errors. Usually the process is completed in less than two minutes. The customer inquires for rent rate for one night stay for a room. A staff member watching and talking from a night window with opening responds for rate verbally and ask for additional information if rate needs to be modified. Then he hands out registration card asking guest to fill name, address and information on vehicle. He also asks for his ID card to determine the age of guest and how many guests will be in the room. Further the staff member inquires if guest will accompany a pet and asks to give him payment in the form of cash or credit card.

Next the staff member copies ID on the back of registration card. He charges funds on credit card and prints receipts for guests to sign and retain receipt for guest records. After that a card key is programmed for a room that is assigned in accordance with requirements stipulated by guest subject to the pool of rooms available. The employee hand carries change if he collected excess funds or credit card payment slips for signature and the programmed card key to unlock the room. He than announces features included in the rent and indicates the location where the room is physically present. In Figure 2 various forms of legally acceptable IDs are displayed. The IDs are Driver's License, State issued ID and a passport from guests who are visitors from foreign countries.

Essential components of newly developed fully automatic Check-in system for Motels is displayed in Figure 3. The brain of the system is an advanced Camera A which take pictures of guests. At the heart of the system is a Kiosk B that is configured with input and output ports to achieve desired Check-in operation. The Camera is located above the glass window with appropriate break-free glass enclosure for protection against any potential damage and is concealed so that guest is not distracted. The main purpose of Kiosk is it allows guest to interact with Check-in system without substantial oral communication with any human operator and without keying registration

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Data using a keypad or entering data on a touch screen. To begin registration for a room guests stands in front of Kiosk B and pushes Start button S. On display screen room types and rates are displayed for different styles of rooms. The guest then selects a room type by pressing the start button again. Next he is instructed to pose for a photograph and requested to look at location of Camera A. The Camera takes a picture of his face and sends it to a computer for further processing of registration. Next guest is instructed to insert his ID in port I. Subsequently the port I scans his ID for verifying his identity. The scanned and extracted information (picture, name, address) from ID is then compared with an authenticated database and the picture taken by the Camera. This comparison validates that ID belongs to the person who carries it.

When identity is validated, the guest is instructed to provide payment. He is requested to insert a credit/debit card in port C or asked to remit cash in port D. Only $5 bills or multiples of $5 bills are allowed to simplify the process. When availability of funds for the room is verified, a receipt is issued from port P that displays the amount of payment and the room number assigned. Next a programmed key card is issued from port K for the room assigned to the guest.

What is claimed?

1. A fully automatic room Check-in system for Motels that accept for payment cash as well as credit cards for renting rooms.
2. A typing free registration for Checking-in rooms by prospective clients. Prior art Kiosk designs required registration data entry by guest at a keyboard terminal.
3. Check-in Motel room with Drive-in capability is permissible for known customers.
4. The Check-in system is error free and do not issue rooms to offending guests with known crime history.

Advantages of novel invention:

1. The new system is fully automated check-in, is quick and the registration process is simple.
2. Allow Drive-in Checking-in of motel rooms for VIP Guests.
3. Results in increase of customer satisfaction.
4. For repeat guests & important guests rapid Check-in is possible by special code assignment.
5. Automated Check-in system that do not require keyboard input from guest. Therefore suitable for uneducated as well as intelligent customers.
6. No need to employ an attendant for night time Check-in

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Figure 1. Traditional room Check-in process through a night window at a Motel.

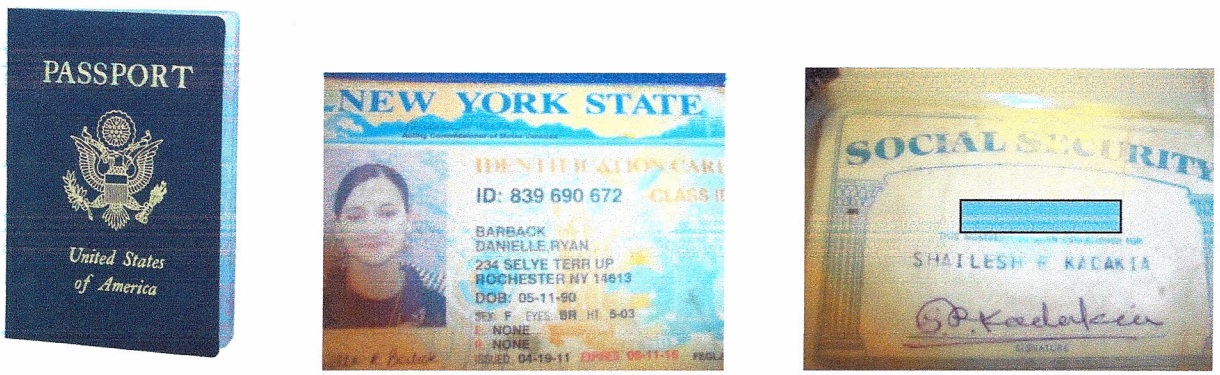

Figure 2. Acceptable forms of identification means, a passport, State issued Driver's license and Social Security card.

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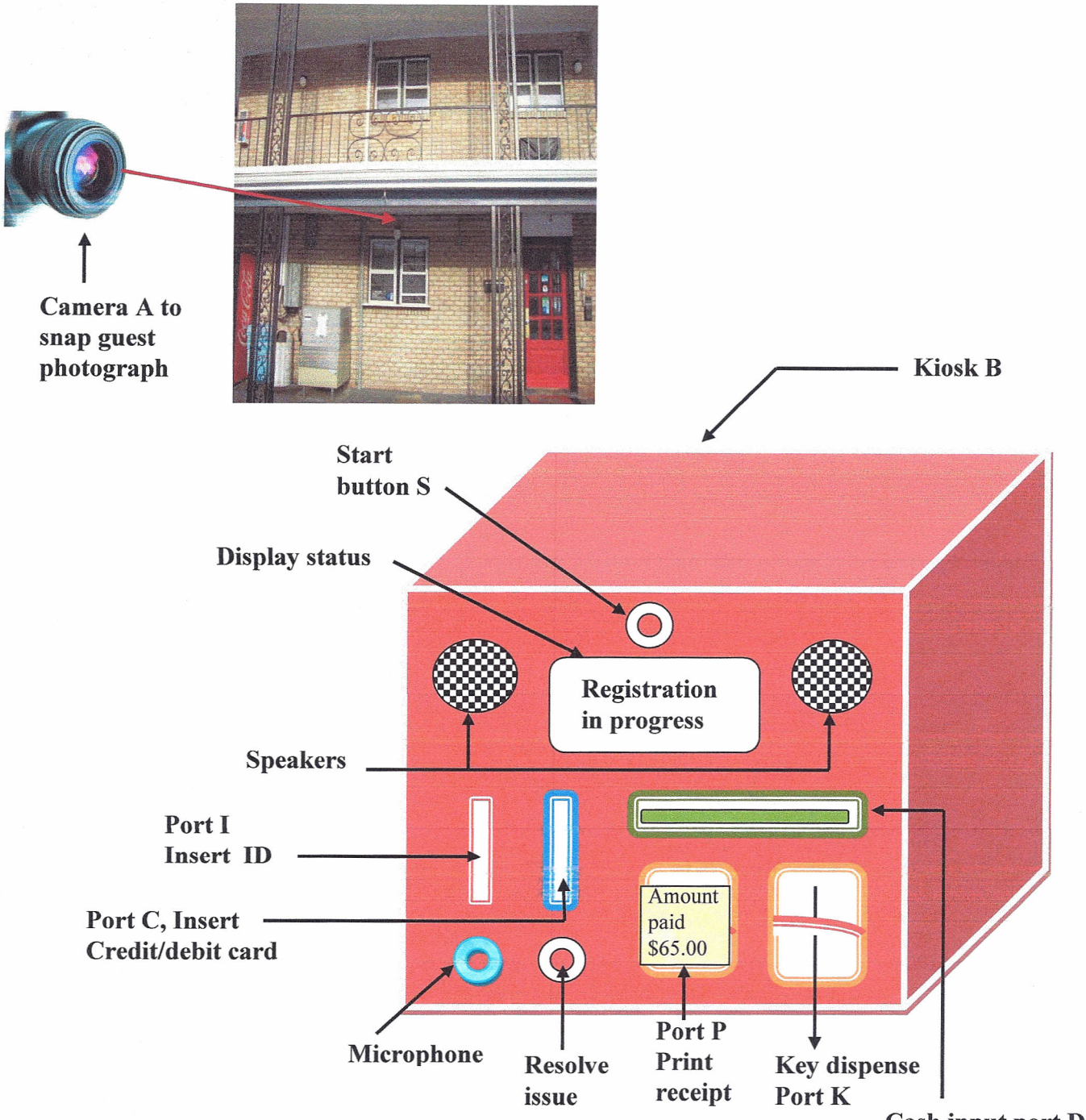

Figure 3 A pictorial representation of an automatic Check-in System at a Motel

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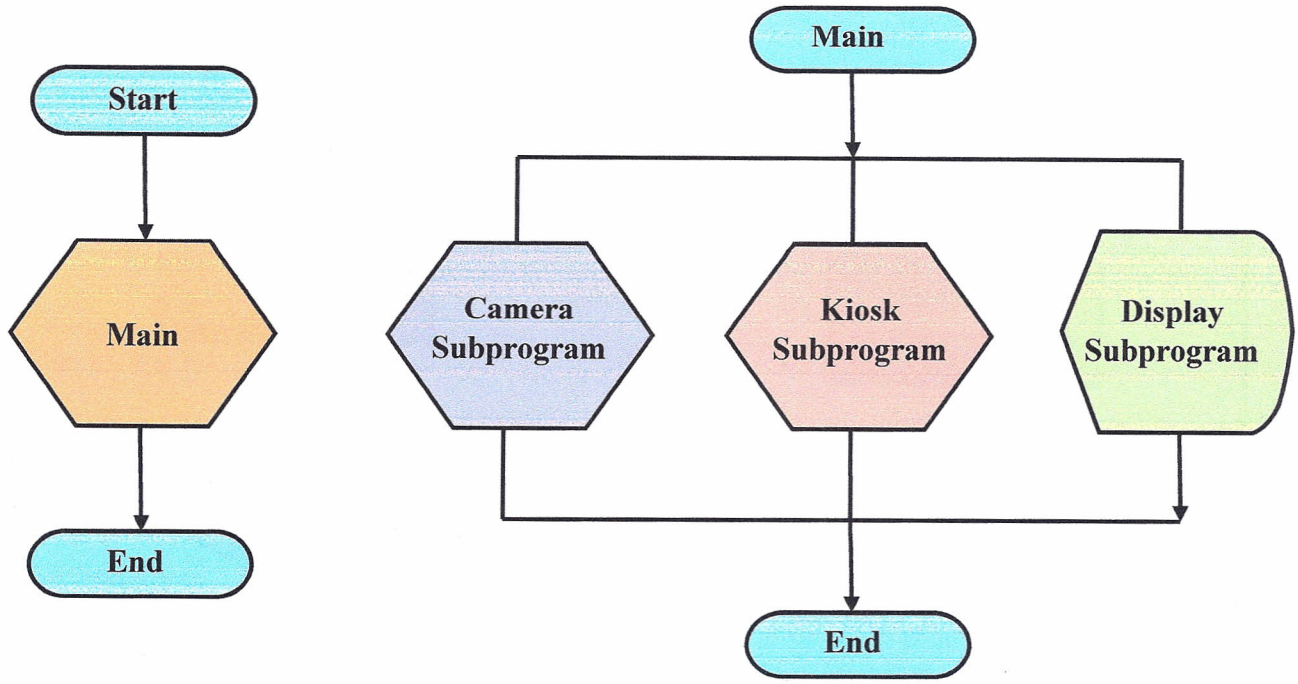

Figure 4 Flowchart and concurrent software/firmware execution.

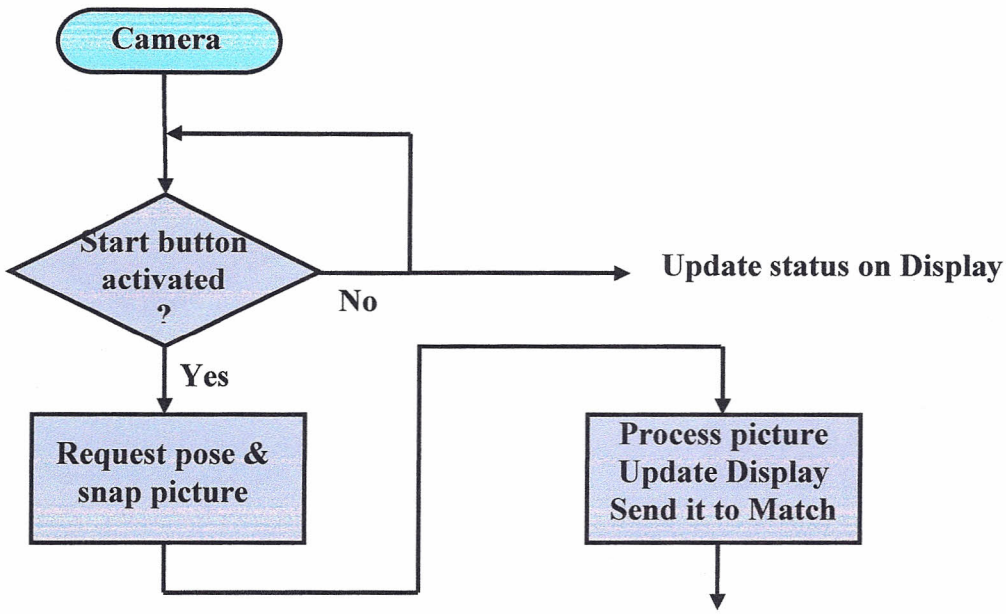

Figure 5 Flowchart of Camera process and interaction with Kiosk.

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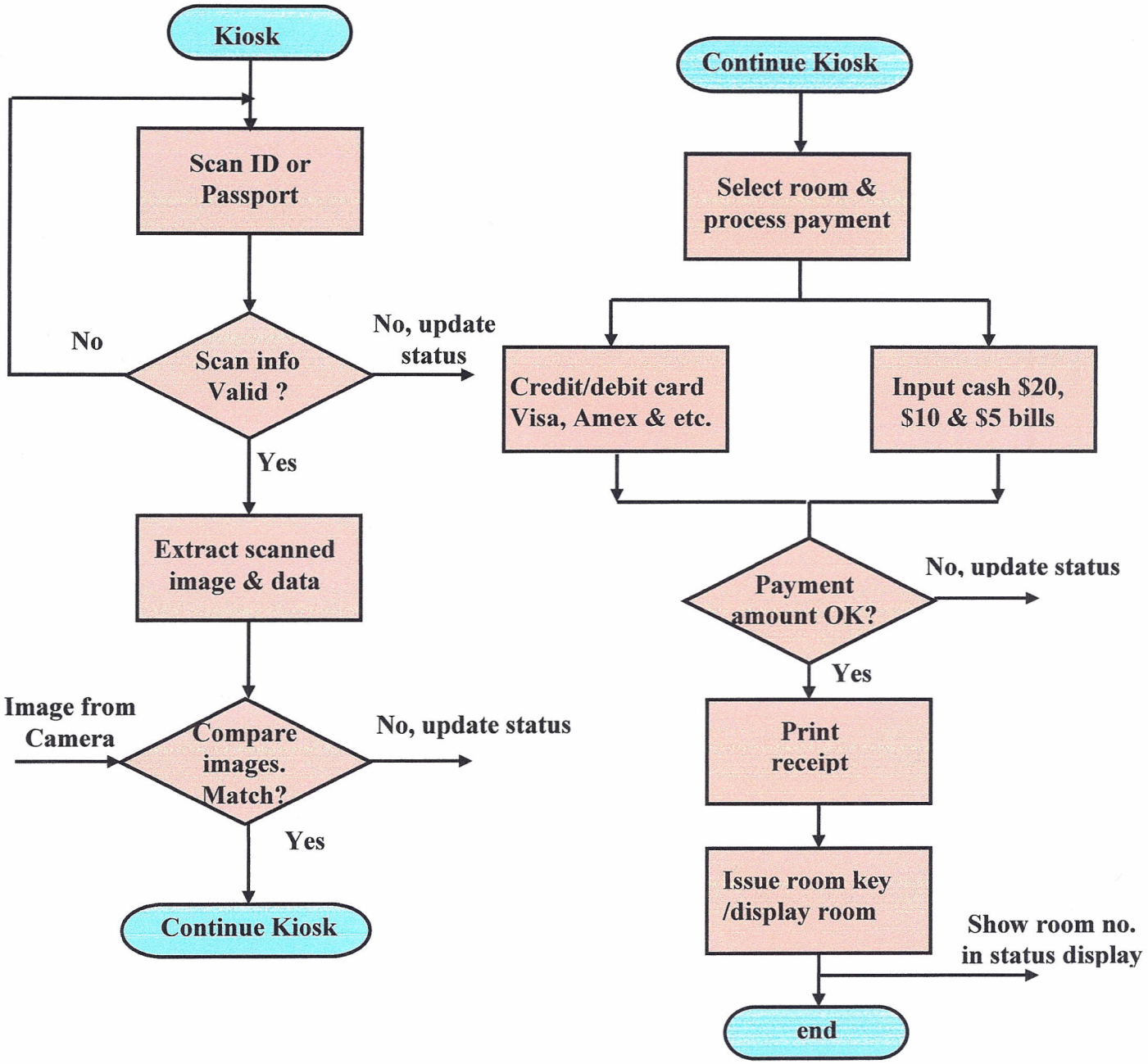

Figure 6 Flowchart of Kiosk process and interaction with Camera and Display.

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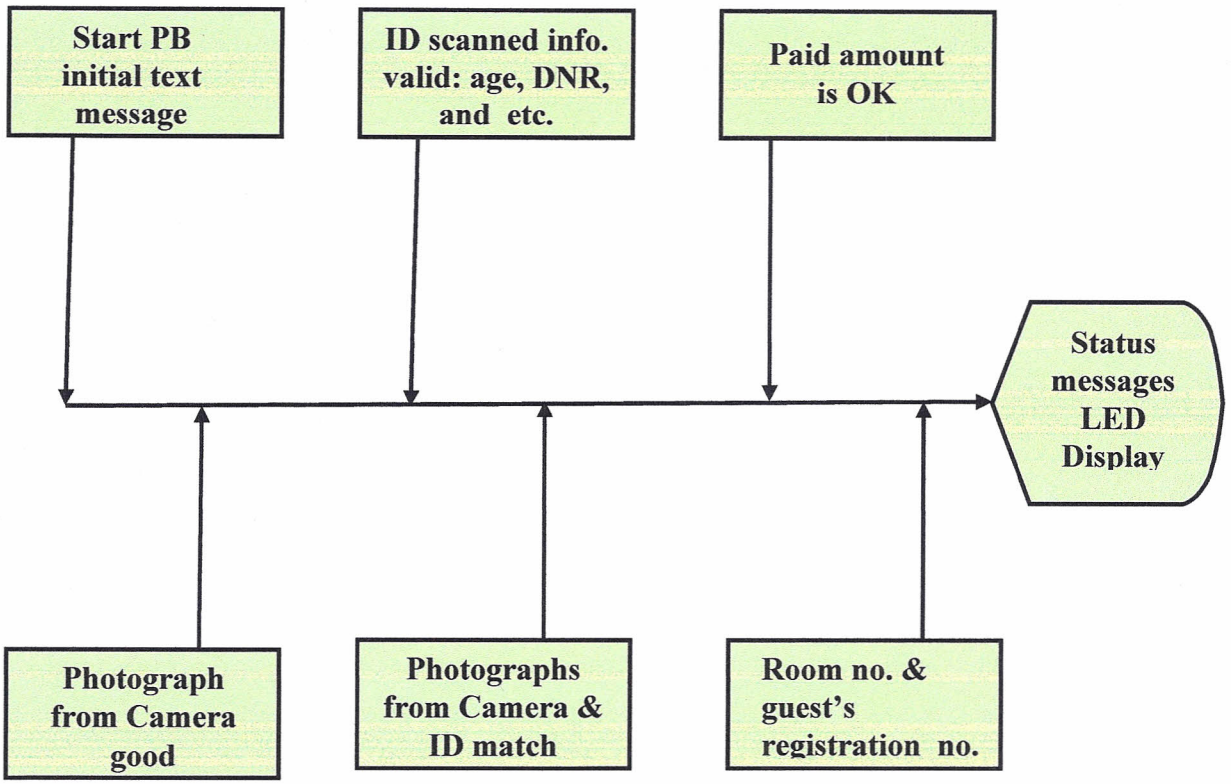

Figure 7 Flowchart of Display process and interaction with Camera and Kiosk.

Software Guru

Smart scan for ID	Payment by Credit card	Cash payment processor
Neat desk	First Data FD50	Standard Change Makers

Figure 8 Software/hardware platforms and their vendors vital to automated check-in system.

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Matrix Writers & Publishers

Witnessed by: Shailesh Patel

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