

CSE 471: SYSTEM ANALYSIS  
& DESIGN  
FINAL

(1) (A) File based data storage format can be used.  
 Since only one data needs to be stored  
 and for short period of time, file will be  
~~a faster~~ provide a faster performance.  
 File will store the text sequentially and  
 in an electronic list of information.

(B) Sequential cohesion is maintained in this  
 scenario. The successful execution of one  
 function will help the next function  
 to execute successfully following a  
 sequence.

The output "guest information" from one  
 function is the input for "Conversation  
 Reservation" function to provide the  
 output of "complete booking".

$$(C) \text{ fan in}(i) = 2$$

$$\text{fan out}(i) = 3$$

$$\begin{aligned} S(i) &= \text{fan in}(i) * \text{fan out}(i) \\ &= 2 * 3 \\ &= 6 \end{aligned}$$

$$(2) \text{ Record size} = 10 + 11 + 30 + 25 + 50 = 126$$

$$\text{Overhead} = 25\% \times 126 = 31.5$$

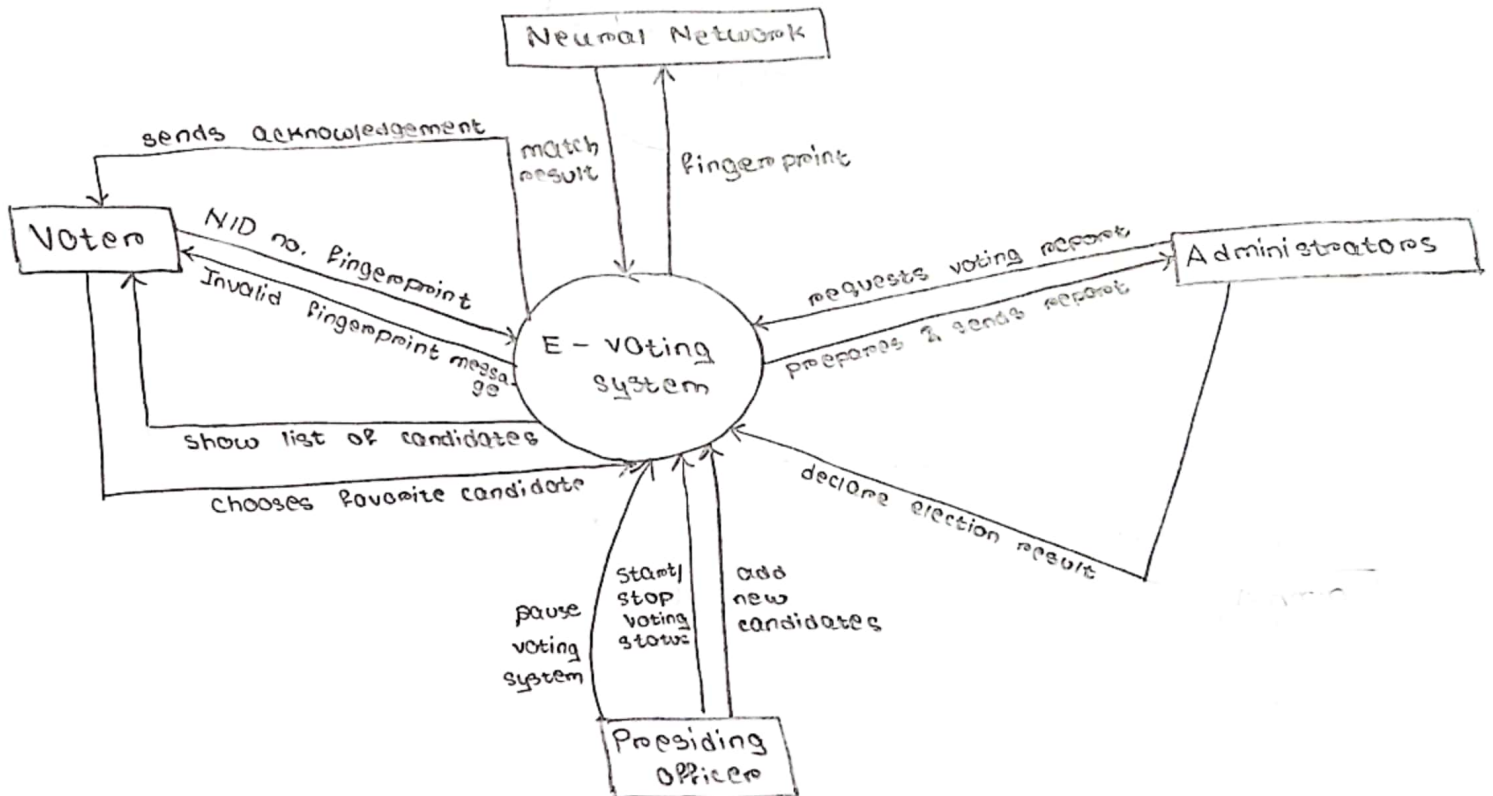
$$\begin{aligned} \text{Total record size} &= \text{Record size} + \text{Overhead} \\ &= 126 + 31.5 = 157.5 \end{aligned}$$

$$\text{Initial table size} = 1500$$

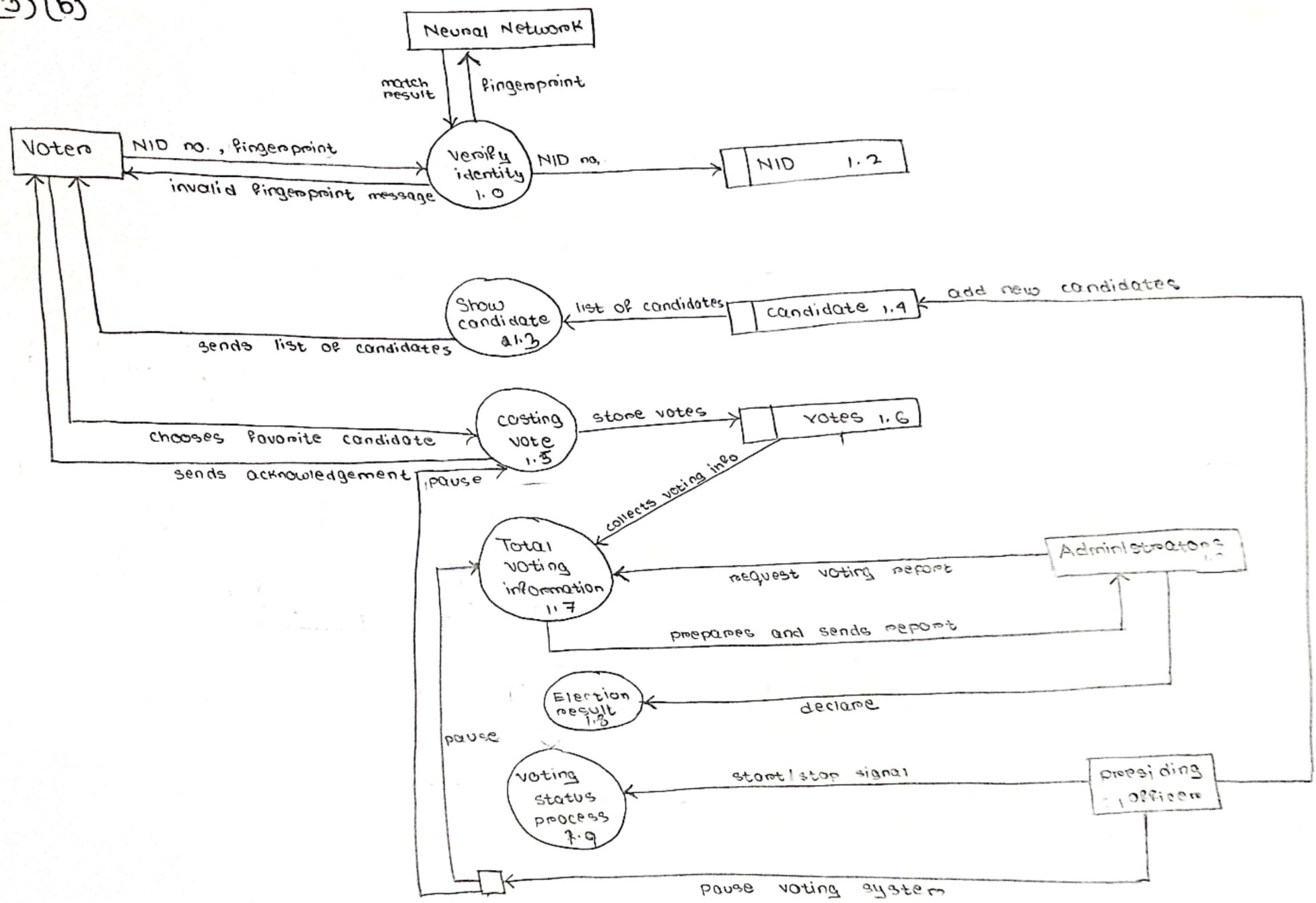
$$\begin{aligned} \text{Total initial table size} &= \text{Initial table size} \times \text{Total record size} \\ &= 1500 \times 157.5 = 236250 \end{aligned}$$

$$\begin{aligned} \text{Expected volume} &= \text{Total initial table size} + \\ &\quad (\text{growth rate/year} \times n \times \text{Total record size}) \\ &= 236250 + \\ &\quad \left( \frac{1000}{6} \times 12 \times 3 \times 157.5 \right) \\ &= 1181250 \end{aligned}$$

13/10/21

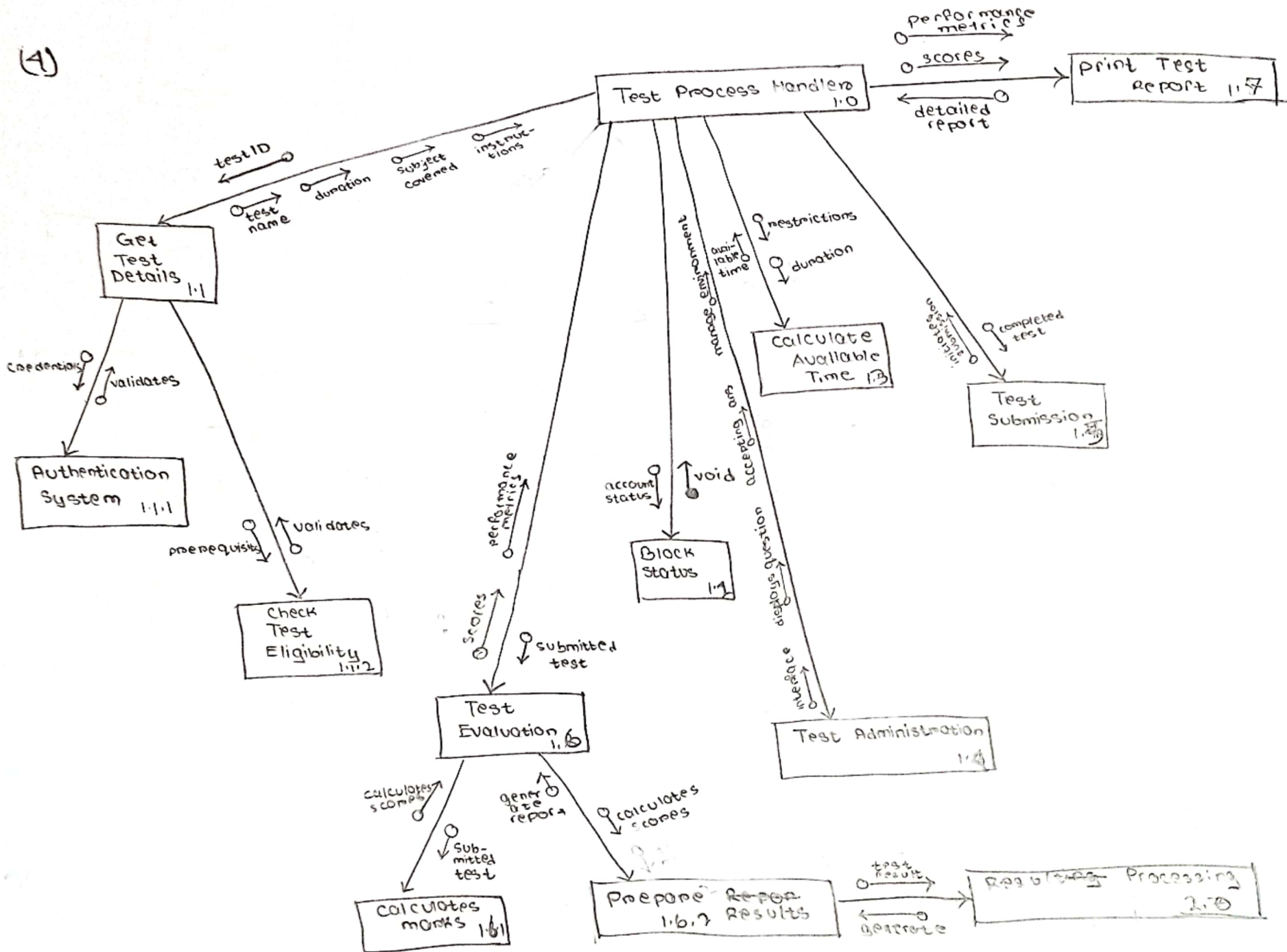


(3)(b)



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(4)



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(5)

