CHAPTER 6: CLASS BASED MODELING OF PMS

This chapter intends to describe class based modeling of Pharmacy Management System.

6.1 CLASS BASED MODELING CONCEPT

Class-based modeling represents the objects that the system will manipulate, the operations that will applied to the objects, relationships between the objects and the collaborations that occur between the classes that are defined.  
6.2 General Classifications

To identify the potential classes we have first selected the nouns from the solution space of the story. These were then characterized in seven general classifications. The seven general characteristics are as follows:

1. External entities

2. Things

3. Events

4. Roles

5. Organizational units

6. Places

7. Structures

Following are the specifications of the nouns according to the general classifications:

Table : General Classifications of Nouns

Serial number noun problem/solution space General Classification

1 user s 4, 5

2 Software p

3 signup/registration s 3

4 sign in s 3

5 account recovery s 3

6 system s 2, 6

7 authentication s 3 | P a g e

8 owner p

9 administrator s 4, 5

10 information p

11 full name s

12 username s

13 email s

14 present address s s

15 password s

16 backup-question and answer  s

17 authority p

18 salesperson s 4, 5

19 shareholder s 4, 5

20 data p

21 full name s

22 username s

23 contact number s s

24 email s

25 present address s

26 permanent address s

27 password s

28 date of recruitment s

29 salesperson salary s

30 national id s

31 date of birth s

32 full name s

33 username s

34 password s

35 contact number s s

36 email s

37 present address s

38 permanent address s

39 national id s

40 investment s

41 validity check s 3

42 characters s

43 number s

44 format p

45 confirmation code s

46 digits s

47 correct entry p

48 account creation s 3

49 individual p

50 Database s 6

51 log in s 3

52 first login time s

53 daily basis p

54 five times s

55 three hours s

56 sign out s 3

57 unsaved data s

58 log out time s

59 stock s

60 pharmacy p

61 drugs s 2

62 first aid products s 2

63 hygiene products  s 2

64 medical tools s 2

65 attributes p

66 products s 2

67 product name s

68 product id/PID s

69 product type/P-type s

70 component s

71 company name s

72 cost price s

73 manufactured date s

74 expiry date s

75 discount s

76 sale frequency s

77 carton p

78 stock reserve s 3

79 supplier s 1, 4

80 sale s

81 update s 3

82 pop-up p

83 accidents p

84 political conflicts p

85 extortion p

86 theft p

87 natural disaster p

88 drop p

89 demands p

90 expired products s 2

91 business p

92 investment s

93 daily transaction s 3

94 transaction information s

95 transaction id/TID s

96 product name s

97 product id/PID s

98 quantity s

99 date s

100 username s

101 maintenance expenditures s 3

102 shop rent s

103 electric bill s

104 expenditure transaction id / s

ETID

105 expenditure transaction type/ s

ET-type

106 expenditure transaction s

amount

107 username(salesperson ) s

108 date s

109 remarks s

110 profits s

111 cash withdrawal s 3

112 loss s

113 notification s 3

114 record s 2

115 date of incident s

116 customer s 1

117 deal/contract p

118 Information Management s

System

119 Purchase s 3

120 Certain number s

121 System/interface s 2

122 Low stock alert s 3

123 Request s 3

124 Full Payment p

125 Customer name s

126 Contact no s

127 national id/NID s

128 customer address s

129 pending due s

130 permission p

131 messages s 3

132 daily transaction history s 2

133 monthly profit/loss graph s 2

134 monthly transaction graph s 2

135 supplier name s

136 supplier address s

137 supplier contact no s

138 joining date s

139 company name s

140 company email s

141 company contact number s

142 company address s

143 company s 1

144 cash details s 2

145 debtor's amount s

146 creditor's amount s

147 assets s

148 profit s

149 due amount s

150 date of due occurrence s

151 due product name s

6.3 Selection Criteria  
The potential classes were then selected as classes by six Selection Criteria. A potential classbecomes a class when it fulfills all six characteristics.  
1. Retained Information  
2. Needed Services  
3. Multiple Attributes  
4. Common attributes  
5. Common operations  
6. Essential requirements

Table 14: Selection Criteria of Potential Classes

Serial number noun SC

1 User 1, 2, 3

2 Sign Up 1, 2, 3, 4,5

3 Sign In 1, 2, 3, 4, 5

4 Sign Out 1, 2, 3, 4, 5

5 Account Recovery 1, 2, 3, 4, 5

6 System 1, 2, 3

7 Authentication 2, 3

8 Salesperson 1, 2, 3, 4, 5

9 Shareholder 1, 2, 3, 4, 5

10 Validity Check 2, 5

11 Database 2

12 Product 1, 2, 3

13 Company 1, 2, 3, 6

14 Supplier 1, 2, 3, 6

15 Daily Transaction 1, 2, 3,  4

16 Maintenance expenditures 1, 2, 3, 4

17 Notification 2, 3, 5

18 Customer 1, 2, 3, 6

19 Alert 2, 3

20 Record 1, 2, 3

21 Graph 1, 2, 3

22 Cash Details 1, 2, 3

SAMPLE CLASS DIAGRAM

