Class Based Modeling

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General Classifications

After selecting the nouns by grammatical parsing from the solution space of the story, these are characterized in seven general classifications. The seven general characteristics are as follow:

1. External entities
2. Things
3. Occurrences
4. Roles
5. Organizational units
6. Places
7. Structures

Here the 'passed' nouns are the potential classes and the 'failed' nouns become the attributes of the classes.

Table: General Classification

Noun	General Classifications	Remarks
Student	4, 5, 7	Yes
Name		No
Email		No
Password		No
Roll		No
Admin	4, 5, 7	Yes
Teacher	4, 5, 7	Yes
Designation		No
Event	7	Yes
Event name		No
Description		No
Start date		No
Duration		No
Event owner		No
Sub event	7	Yes
Notification		No
Template	7	Yes
Sub Event of Template	7	Yes

Selection Criteria

The potential classes are then selected as class by six 'selection characteristics'. A potential class becomes 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 : Selection Criteria

Noun	Selection Criteria	Remarks
Student	1, 2, 3, 4, 5, 6	Yes
Admin	1, 2, 3, 6	Yes
Teacher	1, 2, 3, 4, 5, 6	Yes
Event	1, 2,3, 4,5,6	Yes
Sub event	1,2,3,4,5,6	Yes
Template	1,2,3,4,5,6	Yes
Sub Event of Template	1,2,3,4,5,6	Yes

Primary classes:
1. Student
2. Admin
3. Teacher
4. Event
5. Sub Event
6. Template
7. Sub Event of Template

I will also need Database class to manage all operations with database.

Attribute Selection

Table: Attribute Selection

Class Name	Attributes
Student	Name, roll, email, password, list <Event url>
Admin	Name, designation, email, password, list <Event url>
Teacher	Name, designation, email, password, list <Event url>

Event	Event name, description, start date, duration, list<sub Event>
Sub Event	Sub Event name, description, start, duration, notification
Template	Template name, duration, list<sub Event of Template>
Sub Event of Template	Sub Event of Template name, duration, start
Database	All attributes

Method Identification

Table: Method Identification

Class Name	Methods
Student	Get() Set() Sign Up() Sign_in() Sign_out() Change_password() Create event() Remove event() Update event()
Admin	Get() Set() Sign_in() Sign_out() Change_password() Create_user() Remove_user() Add user() Remove user() Verify_user_requesst() Delete_user_request() Create event() Remove event() Update event() Create template() Remove template() Update template()
Teacher	Get()

	Set()
	Sign_in()
	Sign_out()
	Change_password()
	Create event()
	Remove event()
	Update event()
Event	Insert()
	Delete()
	Update()
	View()
Sub Event	Insert()
	Delete()
	Update()
	View()
Template	Insert()
	Delete()
	Update()
	View()
Sub Event of Template	Insert()
	Delete()
	Update()
	View()
Database	Insert()
	Delete()
	Update()
	View()

Class Card

Student	
Attributes	Methods
Name	Get()
Roll	Set()
Email	Sign Up()
Password	Sign_in()
list <Event url>	Sign_out()
	Change_password()

	Create event()
	Remove event()
	Update event()
Responsibilities	Collaborative Class
Create / Remove / Update Event	Database, Event, Sub event, Template, Sub event of template

Admin	
Attributes	Methods
Name	Get()
Designation	Set()
Email	Sign_in()
Password	Sign_out()
list <Event url>	Change_password()
	Create_user()
	Remove_user()
	Remove user()
	Verify_user_requesst()
	Delete_user_request()
	Create event()
	Remove event()
	Update event()
	Create template()
	Remove template()
	Update template()
Responsibilities	Collaborative Class
Create / Remove / Update Event	Database, Event, Sub event, Template, Sub event of template
Create / Remove / Update Event	Database, Template, Sub event of template
Create User	Database, Admin, Student, Teacher
Remove User	Database, , Admin, Student, Teacher

Teacher	
Attributes	Methods
Name	Get()
Designation	Set()
Email	Sign_in()

Password	Sign_out()
list <Event url>	Change_password()
	Create event()
	Remove event()
	Update event()
Responsibilities	Collaborative Class
Create / Remove / Update Event	Database, Event, Sub event, Template, Sub event of template

Database	
Attributes	Methods
All attributes	Insert()
	Delete()
	Update()
	View()
Responsibilities	Collaborative Class
Insertion	
Deletion	
Updating	
Viewing	Student, Teacher, Admin, Event, Template

Event	
Attributes	Methods
Event name	Insert()
Description	Delete()
Start date	Update()
Duration	View()
list<sub Event>	
Responsibilities	Collaborative Class
Viewing	Student, Teacher, Admin, Event, Template

Sub Event	
Attributes	Methods
Sub Event name	Insert()
Description	Delete()
Start	Update()
Duration	View()
Notification	
Responsibilities	Collaborative Class

Viewing	Student, Teacher, Admin, Event, Template

Template	
Attributes	Methods
Template name Duration list<sub Event of Template>	Insert() Delete() Update() View()
Responsibilities	Collaborative Class
Viewing	Student, Teacher, Admin, Event, Template

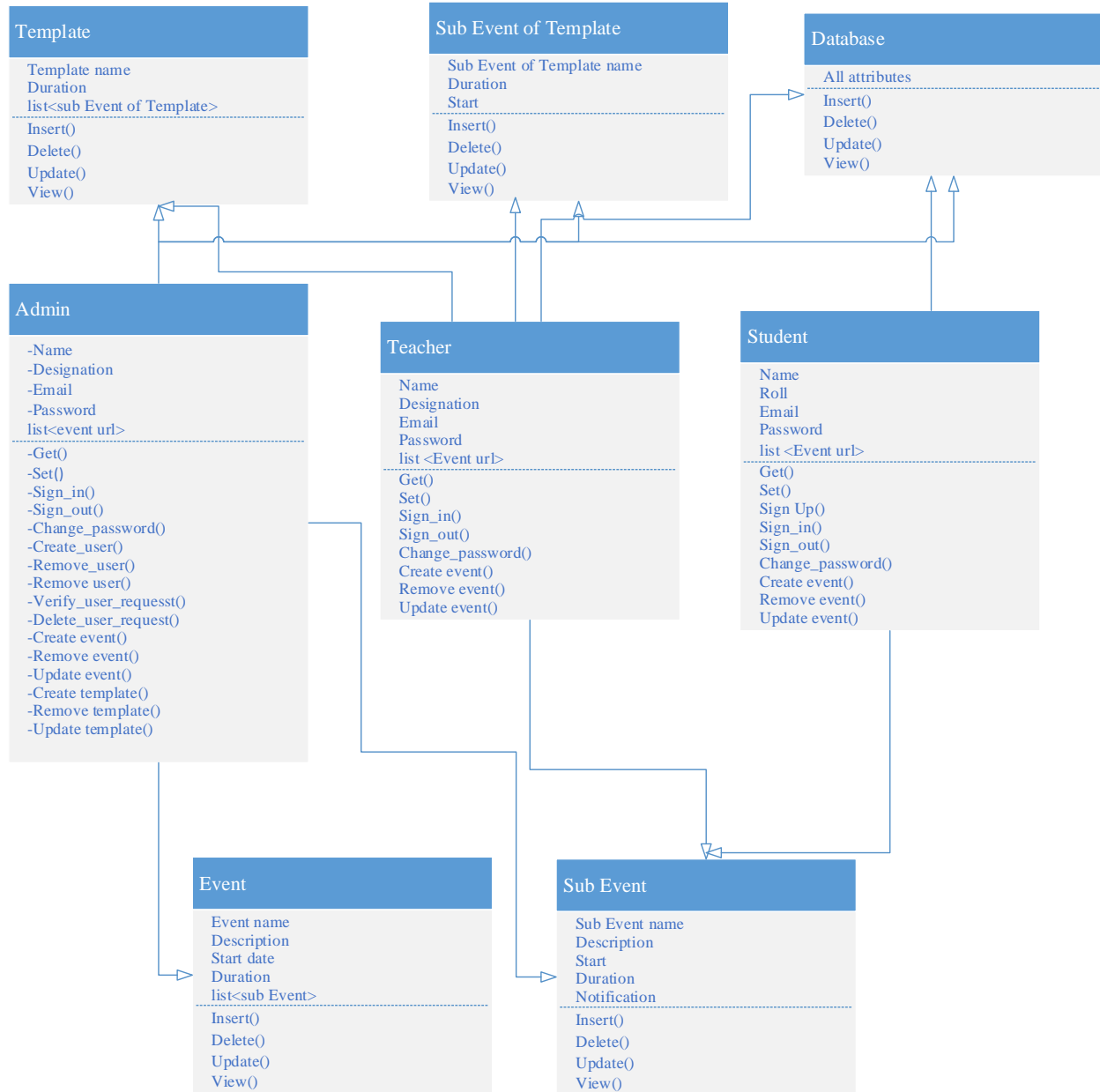| Sub event of Template	
Attributes	Methods
Sub Event of Template name Duration Start	Insert() Delete() Update() View()
Responsibilities	Collaborative Class
Viewing	Student, Teacher, Admin, Event, Template

Class Responsibility Collaborator (CRC)

Template

Template name
Duration
list<sub Event of Template>

Insert()
Delete()
Update()
View()

Sub Event of Template

Sub Event of Template name
Duration
Start

Insert()
Delete()
Update()
View()

Database

All attributes

Insert()
Delete()
Update()
View()

Admin

-Name
-Designation
-Email
-Password
list<event url>

-Get()
-Set()
-Sign_in()
-Sign_out()
-Change_password()
-Create_user()
-Remove_user()
-Remove user()
-Verify_user_requesst()
-Delete_user_request()
-Create event()
-Remove event()
-Update event()
-Create template()
-Remove template()
-Update template()

Teacher

Name
Designation
Email
Password
list <Event url>

Get()
Set()
Sign_in()
Sign_out()
Change_password()
Create event()
Remove event()
Update event()

Student

Name
Roll
Email
Password
list <Event url>

Get()
Set()
Sign Up()
Sign_in()
Sign_out()
Change_password()
Create event()
Remove event()
Update event()

Event

Event name
Description
Start date
Duration
list<sub Event>

Insert()
Delete()
Update()
View()

Sub Event

Sub Event name
Description
Start
Duration
Notification

Insert()
Delete()
Update()
View()

Fig: CRC diagram