Database

Software : The database was created with mongoose ODM. We chose mongoose for its straightforward, schema based solution to model our application data.

Our applications data is stored in the following schema's. The schema's are registered and ready for use on start up of our node session. The attributes are mapped as follows:

NameOfProperty : <Type>

Mongoose has the following defined types:

- String
- Number
- Date
- Buffer
- Boolean
- Mixed
- ObjectId
- Array

When an object is created based off of our designed schemas, an unique object id, _id, is created and is assigned to the object. We use this unique id to reference our objects.

Schemas

applicationSchema

```
name : String,
version : String,
description : String,
main : String,
rdt_list : [String]
```

userSchema

```
token:String,
email:String,
verified: Boolean,
current_partition: String,
current_network: String,
registeredOn: String,
admin: Boolean,
networks_created: [String],
current_simulation: String,
current_device_name: String,
activity : String,
apps : [{type : mongoose.Schema.Types.ObjectId, ref: 'App'}]
```

networkSchema

```
network_name : String,
network_type : String,
device_list : [{type : mongoose.Schema.Types.ObjectId, ref: 'User'}],
```

partitionSchema

```
network_list : [{type : mongoose.Schema.Types.ObjectId, ref: 'Network'}],
```

RDTSchema

```
name : String,
version : String,
description : String,
main : String
```

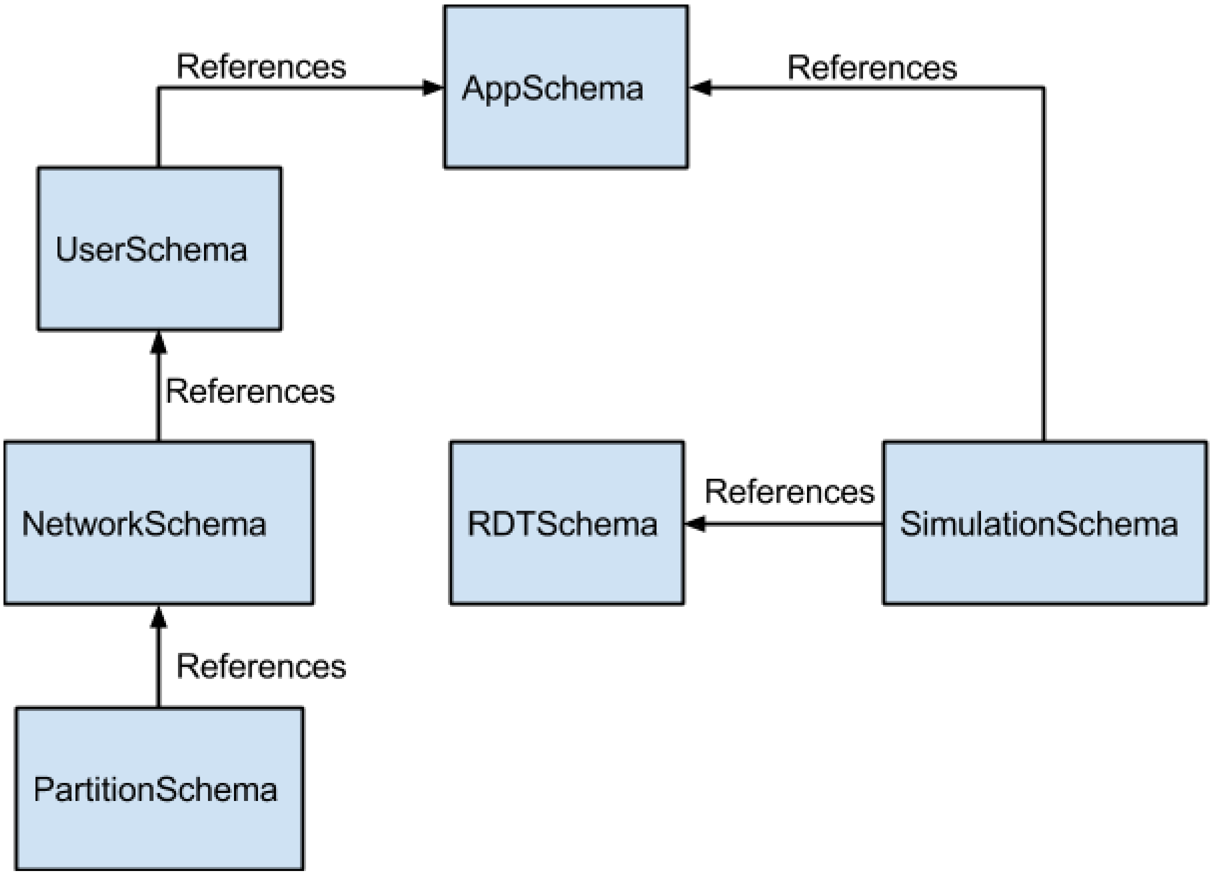
stateSchema

```
simulation_id : String,
state : [{ simulation:  Object, timestamp : String }],
```

simulationSchema

```
num_devices: Number,
num_networks: Number,
simulation_population: Number,
simulation_name: String,
tokenMethod : String,
	partition_list: [{type : mongoose.Schema.Types.ObjectId, ref: 'Partition'}],
	apps : [{type : mongoose.Schema.Types.ObjectId, ref: 'App'}],
	rdts : [{type : mongoose.Schema.Types.ObjectId, ref: 'RDT'}],
	activity_logs : String
```

Dependencies


AppSchema
References
References
UserSchema
References
NetworkSchema
RDTSchema
References
SimulationSchema
References
PartitionSchema