

# NORP : Structured Project

Real Time Systems (CS 6235)

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# Features Introduced

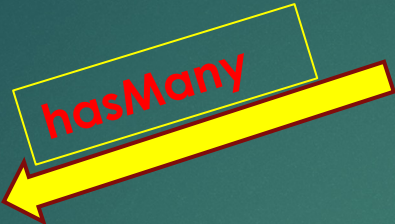
- ▶ Role Based Access Control on APIs
- ▶ Password Encryption
- ▶ API endpoints on roles and permissions
- ▶ Database Schemas and Tables



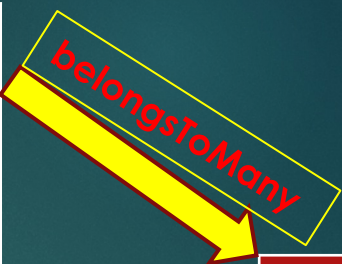
# NORP Architecture and Tech Stack

- ▶ Front End : NextJS, React
- ▶ Backend: Express and MySQL

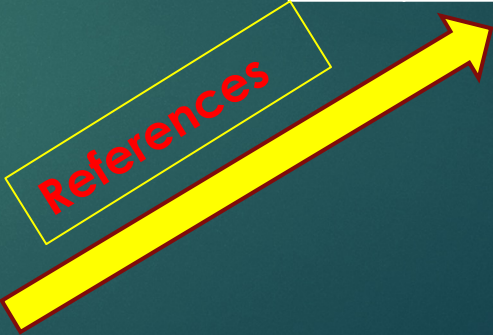
PK	Id (USER)
FK	Role_id
	username
	hash
	salt
	created_by
	first_name
	last_login
	email
	is_active
	is_staff
	last_name
	is_superuser
	date_joined



PK	Id (ROLE)
	role_name
	created_by
	role_description



PK	Id(PERMISSION)
	permission_name
	permission_description
	created_by
	Permission_on_resource



PK	Id (RolePermission)
	role_id
	Permission_id



# API resources, Endpoints and Permissions

RESOURCE NAME: ROLE		
GET	/role → Get all roles /role/:id → Get role by role_id	view_role
PUT	/role → updates and existing role	update_role
POST	/role → creates a new role /role:id → Add a permission to role	create_role, update_role
DELETE	/role → Deleted the given role id (body)	delete_role

## RESOURCE NAME: PERMISSION

GET	/permission → Get all permissions	view_permission
PUT	/permission → updates and existing permission	update_permission
POST	/permission → creates a new permission	create_permission
DELETE	/permission → Deleted the given permission id (body)	delete_permission

## RESOURCE NAME: USER

GET	/user → get user by username in the body	view_user
PUT	/user → updates and existing user	update_user
POST	/user → creates a new user	create_user
DELETE	/user → Deleted the given user name (body)	delete_user



## RESOURCE NAME: GRAPH

GET	/graph → get all graphs	view_graph
PUT	/graph → updates and existing graph	update_graph
POST	/graph → creates a new graph	create_graph
DELETE	/graph → Deleted the given id(body)	delete_graph



## RESOURCE NAME: VIDEO

GET	/video → get all videos	view_video
PUT	/video → updates and existing video	update_video
POST	/video → creates a new video	create_video
DELETE	/video → Deleted the given id(body)	delete_video

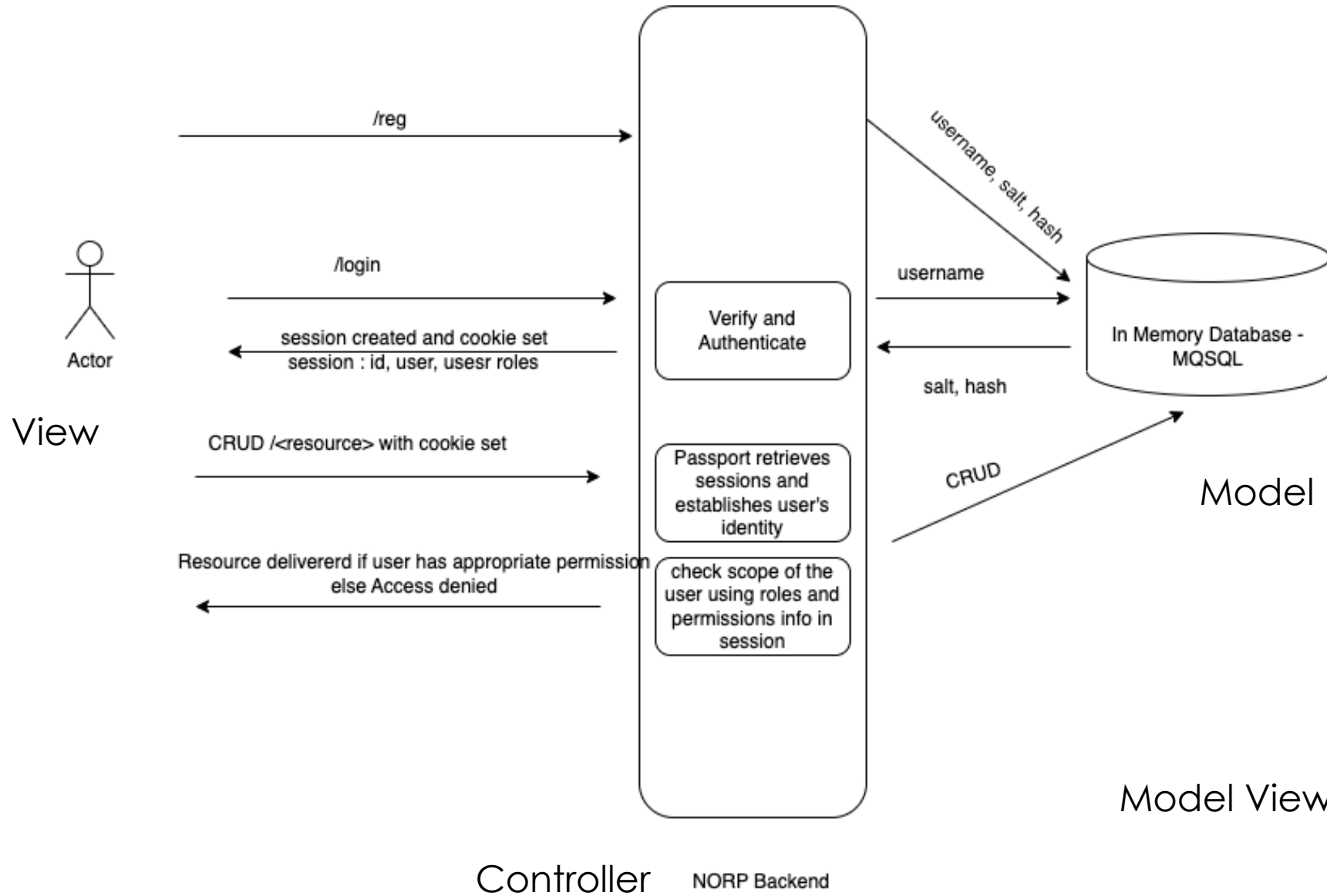
## RESOURCE NAME: PUBLICATION

GET	/publication → get all publications	view_publication
PUT	/publication → updates and existing publication	update_publication
POST	/publication → creates a new publication	create_publication
DELETE	/publication → Deleted the given id(body)	delete_publication



## RESOURCE NAME: PEOPLE

GET	/perople → get all people	view_people
PUT	/perople → updates and existing person record given username	update_people
POST	/perople → creates a new person record	create_people
DELETE	/perople → Deleted the given id(body)	delete_people





# Future Work

- ▶ UI for RBAC
- ▶ Automatic provisioning of permissions for a newly added resource.
- ▶ Complex interactions among the RBAC endpoints
- ▶ Unit Tests and Workflow tests to ensure sanity.
- ▶ Graph Databases



THANK YOU