App

+root: tk

+login_frame: tk.Frame

+username_label: tk.Label

+username_entry: tk.Entry

+password_label: tk.Label

+password_entry: tk.Entry

+login_button: tk.Button

+patients_frame: tk.Frame

+__init__(root)

+login()

+validate_credentials(username, password)

+get_user_role(username)

+show_main_menu()

+retrieve_patient()

+format_patient_info(patient_info)

+add_patient()

+remove_patient()

+count_visits()

+generate_statistics()

+log_usage(username, user_role, action, timestamp)

+load_patients(filename)

+save_patient_info(filename)

HospitalRecord

+patients: dict

+__init__()

+add_patient_record(patient_data)

+generate_visit_id()

+delete_patient_record(patient_id)

+retrieve_patient(patient_id)

+count_visits(date)

+generate_statistics()

Patient

-patient_id: string

-gender: string

-race: string

-age: integer

-ethnicity: string

-insurance: string

-zip_code: string

-visits: list

+__init__(patient_id, gender, race, age, ethnicity, insurance, zip_code)

+add_visit(visit)

+remove_visit(visit_id)

+get_patient_info()