

DENTIST OFFICE MODEL

Group No: 5

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Overview

- This project deals with the designing database for a dentist office and implementing its functionality in a web application
- The model also gives a brief explanation of what data needs to be stored along with its attributes and datatypes for the developers
- The high level model depicts the relations between the major subject areas along with the attributes. It covers the main subject areas like the Patients, Dentists, Appointments, Payments etc. along with the essentials associated with them are stored here
- Various stored procedures, functions, triggers implemented as a part of the project to for altering the database as per requirements of the user

AUDIENCE

- Database developers
- Stakeholders
- Business Developers
- Database Engineers

Model Unique Features:

- Following the Universal Tooth Numbering System for Tooth Table.
- Treatment Steps to determine what is the current treatment the patient is undergoing.
- Treatment Final step attribute for the dentist and patient to determine the final step for the particular treatment.
- Problem Catalog for identifying the problem on a tooth.
- Present mouth condition to store attributes like plaque, stains etc for the dentist to determine the mouth condition of the patient
- Present Number of teeth to determine which tooth are present or missing for a particular patient

Universal Tooth Numbering System

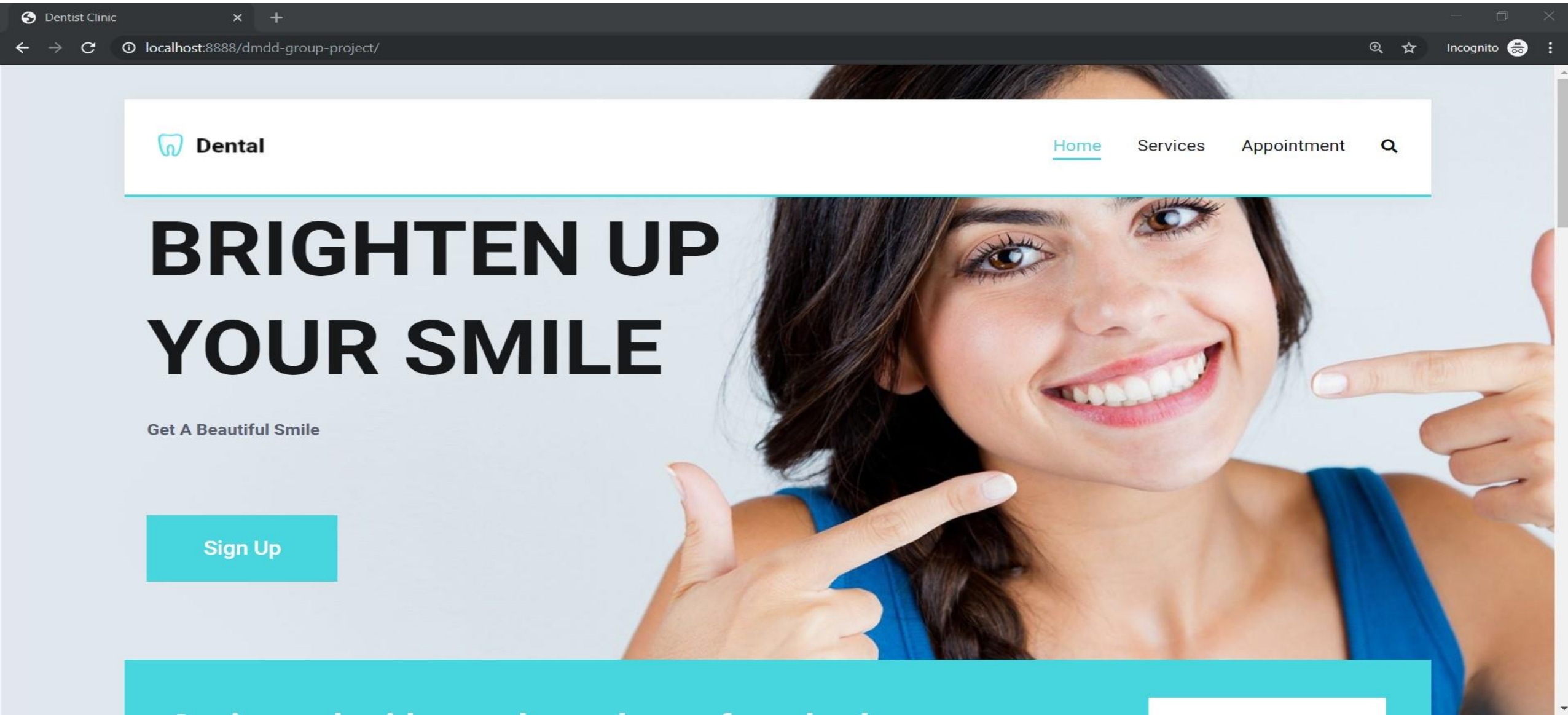
Universal numbering system table

Permanent Dentition															
upper right								upper left							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17
lower right								lower left							
Primary Dentition															
upper right								upper left							
			A	B	C	D	E	F	G	H	I	J			
			T	S	R	Q	P	O	N	M	L	K			
lower right								lower left							
Alternate system for Primary Dentition															
upper right								upper left							
			1d	2d	3d	4d	5d	6d	7d	8d	9d	10d			
			20d	19d	18d	17d	16d	15d	14d	13d	12d	11d			
lower right								lower left							

Functions, Triggers, Procedures

- Trigger for adding patient history according to the invoice. Whenever a new invoice is created for a specific patient the related data should be added under that patient in the patient history table
- Trigger for appointment history. Whenever a patient completes an appointment it will be added in the appointment history table under that particular patient
- Function to calculate the age of patient from birthdate
- Function to determine if the tooth is a baby tooth or no using regex validation
- Stored procedure to determine whether an equipment is within warranty or not
- Stored procedure to calculate the total revenue generated for a particular period of time in the dental office

FRONT-END IMPLEMENTATION: HOMEPAGE



FRONT-END IMPLEMENTATION: CRUD OPERATIONS

Patient – Dentist Clinic

localhost:8888/dmdd-group-project/patient/

Incognito

Enter Your Details

User ID	First Name	Last Name	Birthdate	Email ID	Contact No	Allergies	Actions
AUTO_C		Clint	11/11/2019	clint@gr	7276515	Latex	Add
1	Sanjog	Gurav	1995-05-12	san@ghn	+1-1234567891	Latex	UPDATE DELETE
2	Supriya	Pande	1995-12-02	asa@ghn	+1-1232267891	Acrylate	UPDATE DELETE
3	Gopi	Mondal	1992-11-05	uin@ghn	+1-1278567891	Formaldehyde	UPDATE DELETE
							UPDATE

Please fill out this field.

FRONT-END IMPLEMENTATION: VALIDATIONS

Patient – Dentist Clinic

localhost:8888/dmdd-group-project/patient/

Incognito

Enter Your Details

User ID	First Name	Last Name	Birthdate	Email ID	Contact No	Allergies	Actions
AUTO_C		Clint	11/11/2019	clint@gr	7276515	Latex	Add
1	Sanjog	Gurav	1995-05-12	san@ghn	+1-1234567891	Latex	UPDATE DELETE
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3	Gopi	Mondal	1992-11-05	uin@ghn	+1-1278567891	Formaldehyde	UPDATE DELETE
							UPDATE

Please fill out this field.

FRONT-END IMPLEMENTATION: PHPMYADMIN-MAMP

The screenshot displays the phpMyAdmin web interface in a browser. The address bar shows the URL: `localhost:8888/phpMyAdmin/sql.php?db=dentist&table=patient&pos=0`. The interface includes a sidebar with a database tree on the left and a main content area on the right. The main area shows the 'patient' table in the 'dentist' database. A green status bar at the top of the main area indicates: 'Showing rows 0 - 13 (14 total, Query took 0.0009 seconds.)'. Below this, the SQL query `SELECT * FROM `patient`` is displayed. A toolbar with various icons (Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations, Triggers) is visible. Below the toolbar, there are controls for 'Show all', 'Number of rows' (set to 25), 'Filter rows' (a search box), and 'Sort by key' (set to None). The table data is displayed in a grid with columns: Patient_ID, First_Name, Last_Name, Birthdate, Email_ID, Contact_No, and Allergies. Each row has a checkbox and icons for Edit, Copy, and Delete. At the bottom, there are checkboxes for 'Check all' and 'With selected:', followed by icons for Edit, Copy, Delete, and Export. A 'Console' tab is visible at the bottom left.

Recent Favorites

New dentist

Type to filter these, Enter to search X

1 >>>

New

- address
- appointment
- appointment_status_history
- appointment_steps
- dentist
- drugs_catalog
- equipment
- insurance
- invoice
- location
- patient
- patientnew
- patient_address
- patient_history
- payment
- prescription
- present_mouth_condition
- problem_catalog
- problem_detected
- room
- steps
- student
- supplies

Server: localhost:8889 » Database: dentist » Table: patient

Browse Structure SQL Search Insert Export Import Privileges Operations Triggers

Showing rows 0 - 13 (14 total, Query took 0.0009 seconds.)

SELECT * FROM `patient`

Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

+ Options

		Patient_ID	First_Name	Last_Name	Birthdate	Email_ID	Contact_No	Allergies
<input type="checkbox"/>	Edit Copy Delete	1	Sanjog	Gurav	1995-05-12	san@ghn	+1-1234567891	Latex
<input type="checkbox"/>	Edit Copy Delete	2	Supriya	Pande	1995-12-02	asa@ghn	+1-1232267891	Acrylate
<input type="checkbox"/>	Edit Copy Delete	3	Gopi	Mondal	1992-11-05	uin@ghn	+1-1278567891	Formaldehyde
<input type="checkbox"/>	Edit Copy Delete	4	Tahira	Khan	1990-04-02	sk@ghn	+1-1201207891	Sodium metabisulphite
<input type="checkbox"/>	Edit Copy Delete	5	Shruti	Kasar	2000-02-06	pop@ghn	+1-5237567891	Nickel
<input type="checkbox"/>	Edit Copy Delete	6	Apurva	Lokhande	2005-09-12	apu@ghn	+1-9534567891	NA
<input type="checkbox"/>	Edit Copy Delete	7	Rich	Roy	1995-07-05	oiu@ghn	+1-1278567891	NA
<input type="checkbox"/>	Edit Copy Delete	8	Pankaj	Sahani	1995-09-12	paks@ghn	+1-1234567891	Latex
<input type="checkbox"/>	Edit Copy Delete	9	Radhika	Karnik	1995-12-02	radhk@ghn	+1-1232267891	Acrylate
<input type="checkbox"/>	Edit Copy Delete	10	Dharmil	Shah	1997-11-01	dhas@ghn	+1-1278567891	Formaldehyde
<input type="checkbox"/>	Edit Copy Delete	11	Prathwish	Shetty	1990-04-02	ps@ghn	+1-1201207891	Sodium metabisulphite
<input type="checkbox"/>	Edit Copy Delete	12	Komal	Jadhav	2006-02-10	kj@ghn	+1-5237567891	Nickel
<input type="checkbox"/>	Edit Copy Delete	13	Namita	Badgujar	2005-09-12	nb@ghn	+1-9534567891	NA
<input type="checkbox"/>	Edit Copy Delete	14	Ankita	Roy	1995-07-05	anr@ghn	+1-1278567891	NA

Check all | With selected: Edit Copy Delete Export

Console

FUTURE SCOPE

- Separate Login for Patient and Dentist.
- A secured payment gateway and secured tables to store sensitive information.
- Login for staff and supply manager at dentist office to keep a track of the supplies and equipment.
- Functionality for the Patient to view their prescriptions.
- Functionalities to auto-update the availability of room, equipment & dentist after an appointment is cancelled.
- Functionalities to communicate invoices through multiple insurance companies.

Thank you!