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Overall Build Overview

Project: Denture Care Management System

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Introduction

With the rapid development in technology in today's world, it is becoming essential that firms advances in their Information Technology areas. The aim of this project was to create a system that will enhance the growing denture care center by utilizing an up to date technology for the firm. This report presentsthe final functions that have been added to the system.

Overall Build Plan

Build 0 (Completed)

- Analyzing client requirement on the system
- Design the proposed system based on requirements
- Create mockup prototypes of the website via MyBalsamiq

Build 1 (Completed)

- Develop the actual website base structure
- Design the structure of the database for the system
- Create the required database for Build 1
- Develop login system and validation for the system
- Design the system navigation for different users with different access rights
- DevelopCRUD (create, read, update and delete) functions for Administrator users

Build 2 (Completed)

- Implement changes required for the system as discussed in the meeting:
- Changes on the user types' hierarchical structure
- Changes on the access level for each user types
- Changes on how clinical notes should be implemented
- Changes on how the Technician's availability time should be displayed
- Modify the design of the database structure to accommodate the changes
- Develop the required database for Build 2
- Alter homepages and navigations to suit the new changes
- DevelopCRUD (create, read, update and delete) functions for Technician users
- DevelopCRUD (create, read, update and delete) functions for Patient accounts
- Implement Clinical Notesfunctionality in the system
- Develop basic roster function
- Develop basic timetabling and availability for Technician
- Develop suspension/activation of user accounts

Build 3 (Completed)

- Implement changes on the system according to the feedback collected from Build 2
- Modify the design of the database structure to accommodate the changes from Build 2
- Develop the required database for Build 3
- Improve Clinical notes and finalize it.
- Implement roster functionality for staff and availability mechanism for technicians.
- Implement timetable for technicians.
- DevelopCRUD (create, read, update and delete) functions for booking appointments
- Develop Profile edit page for the users

Build 4 (Completed)

- Develop the required database for Build 4
- Implement Reminder function for the system
- Implement Report generating function for the system
- Implementation planning
- Finalize backup and restore planning
- Maintenance sub-system
- Develop SMS Reminder Function

Build 5 (Completed)

- Implement changes on the system according to the feedback collected from Build 4
- Develop and Implement Back-up and Restore Planning
- Additional minor improvements and/or functionality
- Browser and Mobile Compatibility
- Security improvements
- Further development of Reporting Function

Build 6 (Completed)

- Improved appointment system
- Improved reporting system
- Improved patient details
- Final touch-ups and debug any errors on the system if found
- Visual enhancement for the system
- Onsite test of the system
- Develop User Manual

Description of Functionalities

Function ID:	1
Screen ID:	N/A
Function Name:	Login
Function Description:	The system's login function is made to accommodate the users to able to login. The login system will have 3 different user level login. These are Administrator, Technician and Super Administrator. These 3 login type will have its specific different view on function and features which also gives different outlook of the homepage after logging in.
Acceptance Criteria:	The login works with correct validation and also different user types will give a different outlook of the homepage.

Function ID:	2
Screen ID:	N/A
Function Name:	Homepage
Function Description:	The system's homepage will be featuring 3 different type of homepage which each of the homepage will have different navigation and functions. The 3 different views will be depending on the user types. The user types are (Administrator, Technician and Super Administrator)
Acceptance Criteria:	The different homepage and functions will be displayed depending on the user types

Function ID:	3
Screen ID:	N/A
Function Name:	Administrator CRUD
Function Description:	This function will only have 2 user types who are able to view which are the Administrator and Super Administrator. Administrators are able to only read and update their own personal details. Super Administrator in the other hand, are able to manage all the administrator including creating and deleting them.
Acceptance Criteria:	Technician should not be able to view this as this he/she is not an administrator. Administrator also only able to read and update their own details while Super administrator in addition able to create and delete any administrators.

Function ID:	4
Screen ID:	N/A
Function Name:	Login
Function Description:	The system's login function is made to accommodate the users to able to login. The login system will have 3 different user level login. These are Administrator, Technician and Super Administrator. These 3 login type will have its specific different view on function and features which also gives different outlook of the homepage after logging in.
Acceptance Criteria:	The login works with correct validation and also different user types will give a different outlook of the homepage.

Function ID:	5
Screen ID:	N/A
Function Name:	Patient CRUD
Function Description:	This function will be visible to all the user of the system, in exception that only Super Technician and Technician are able to CRUD the patient's clinical notes.
Acceptance Criteria:	Super technician and technician should be the only ones able to see clinical notes of a patient.

Function ID:	6
Screen ID:	N/A
Function Name:	Updated Menu Bar of System
Function Description:	The menu bar will be altered due to the changes in structure of the system; hence new menu bars will be implemented to accommodate the changes for the viewing of each user.
Acceptance Criteria:	**Super Technician:** can access to Patient subsystem, Staff subsystem, Timetable subsystem, Roster subsystem, Report subsystem and System Administration subsystem. **Super Administrator:** can access to limited Patient subsystem (cannot see clinical notes), Staff subsystem, Roster subsystem, Report subsystem and System Administration subsystem.

	Administrator: can access to limited Patient subsystem (cannot see clinical notes), limited Staff subsystem (can only see technicians' information), Roster subsystem, Report subsystem and System Administration subsystem. **Technician:** can access to Patient subsystem, limited Staff subsystem (can only see technicians' information), Timetable subsystem, Roster subsystem, Report subsystem and System Administration subsystem.

Function ID:	7
Screen ID:	N/A
Function Name:	Technician CRUD with suspending ability
Function Description:	This function will only be visible for the Super Technician and Super Administrator as they are the only ones with ability to CRUD the technician. In addition to the CRUD, there will also be specific function needed for the firm, which is suspension of particular staff when they are on leave or vacation as they are not allowed to access the system during that period of time.
Acceptance Criteria:	Super technicians and super administrators are the users who are able to CRUD the technicians.

Function ID:	8
Screen ID:	N/A
Function Name:	Clinical Notes CRUD
Function Description:	This function will only be visible for the Super Technician and Technician. The clinical notes will consist of different headings which are formatted and can be printed along with Teeth image attached for annotations for the technician.
Acceptance Criteria:	To be able to have a printed page with a teeth image attached for annotation and the specific notes for the patient.

Function ID:	9
Screen ID:	N/A
Function Name:	Appointment
Function Description:	Allows the user to CRUD appointments in the calendar GUI environment. This function will be visible to both Technician and Administrator as both of them

	able to roster any appointment to any available technician.
Acceptance Criteria:	Both staff (Technician and Administrator) will able to roster any available technician for the denture job.

Function ID:	10
Screen ID:	N/A
Function Name:	Timetable
Function Description:	This function will be visible only to Technician as they are the ones that will be assigned for the denture jobs and made their own availability in a case of unavailable at certain date. The timetable will consist of denture jobs that the technician is assigned to and the job details.
Acceptance Criteria:	Only technician able to view the timetable function to view their assigned jobs throughout the day or weeks.

Function ID:	11
Screen ID:	N/A
Function Name:	Availability
Function Description:	This function will be visible only to Technician as they are the ones that will be changing and adding their own availabilities. This function will be used in conjunction to the appointment to allow the staff to roster and assigned any available technician for that particular day.
Acceptance Criteria:	Staff able to view availability of the technician to prevent collision of availability when the staff wanted to assign any technician.

Function ID:	12
Screen ID:	N/A
Function Name:	Profile edit page for the users
Function Description:	This function will be available for the system users to edit their profile and personal details, including uploading of the user image for their profile picture.
Acceptance Criteria:	User able to edit and complete their personal details at will.

Function ID:	13
Screen ID:	N/A
Function Name:	Reminder System
Function Description:	This provides the user with notifications of upcoming task and appointments. The system will also accommodate messaging (SMS) functionalities to remind patient of upcoming appointments automatically.
Acceptance Criteria:	Upcoming appointments displayed properly and the messaging reminder works.

Function ID:	14
Screen ID:	N/A
Function Name:	SMS Reminder System
Function Description:	This allows the patient who has booked an appointment with a technician to be reminded off through the systems automated SMS function which notifies the patient of the details of the appointment they have made before their appointment meeting.
Acceptance Criteria:	The SMS should be reliable and properly sent to clients' mobile phone.

Function ID:	15
Screen ID:	N/A
Function Name:	Reporting System
Function Description:	This function will enable analysis of the gathered data for marketing purposes as well as business and standard record keeping. Moreover, printing abilities will be added to allow the report to be printed as a hard copy.
Acceptance Criteria:	Reporting function work properly and generate requested information between 2 set dates. This function will only be viewable by Super Staff only.

Function ID:	16
Screen ID:	N/A
Function Name:	Maintenance System
Function	This function will let the head staff, maintain and adapt the system to changing

Description:	business structure to a small extent. This primarily allows for the company to expand without having to bring in another team to change some database tables. E.g. the system now accommodates for limited change, for example adding new clinic location, new job title and new dental status. Moreover, backup and restore will also be available through this function (Not in this build).
Acceptance Criteria:	All the maintenance function CRUD functions work properly correctly. This feature should also only be visible to Super Staff.

Function ID:	17
Screen ID:	N/A
Function Name:	Improved Reminder System
Function Description:	New function will be added to our existing reminder system which is the customizable reminder that the staff able to create for themselves to remind them regarding anything at any time.
Acceptance Criteria:	Customizable reminder working.

Function ID:	18
Screen ID:	N/A
Function Name:	Improved Reporting System
Function Description:	Additional information for the report will be integrated and improved as per our client additional requirement. In addition to this, there will also be a visual improvement of reporting graph and chart.
Acceptance Criteria:	The required additional information data added.

Function ID:	19
Screen ID:	N/A
Function Name:	Backup and Restore
Function Description:	This function will allow our client to backup and restore all the records that the system had.
Acceptance	Backup and Restore works correctly.

Criteria:	

Function ID:	20
Screen ID:	N/A
Function Name:	Improved Appointment System
Function Description:	New function will be added to allow the user of the system to make a technician available for the specific time and date.
Acceptance Criteria:	Any technician can be made available to make a new appointment

Function ID:	21
Screen ID:	N/A
Function Name:	Improved Reporting System
Function Description:	Additional information for the report will be integrated and improved as per our client additional requirement. In addition to this, there will also be a visual improvement of reporting graph and chart.
Acceptance Criteria:	The required additional information data added.

Function ID:	22
Screen ID:	N/A
Function Name:	Improved Patient Details
Function Description:	New field and textbox are added to allow multiple deposit and general notes regarding the patient.
Acceptance Criteria:	Multiple deposit and notes worked.

Appendices

System Documentation

Use Case Narratives

Title:	Patient CRUD
Description:	To create, read, update and delete a particular patient from the system.
Actors:	Super Administrator Super Technician Administrator Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. Click patient button to navigate to the patient list page 2. According to which action are desirable, follow one of the steps below : a. Create a new patient i. Click "New Patient" button ii. Enter patient information to the fields (There are 2 sections) iii. Finally click "Save" button to create the patient b. View or Edit or Delete patient details i. Find the particular patient through search or list ii. To view the patient, click the magnifier-like icon. iii. To edit the patient, click the pencil notes icon. iv. To delete the patient, click the bin icon.
Post Condition:	Each of the function should give a proper alert message for the user regarding whether their action is either valid or invalid. Afterward, the system should show message of success for the action that the actors took.

Title:	Clinical Notes CRUD
Description:	To create, read, update and delete a particular patient's clinical notes from the system.
Actors:	Super Technician

	Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. Click patient button to navigate to the patient list page 2. Find the particular patient through search or the list 3. To view the particular patient notes, simply click the yellow icon from the particular patient row 4. According to which action are desirable, follow one of the steps below : a. Create a new patient's clinical note i. Click "New Notes" button ii. Enter the information in its proper fields iii. Finally click "Save" button to create the note b. View or Edit or Delete patient's clinical notes i. To view patient clinical notes, click the magnifier-like icon ii. To edit patient clinical notes, view the patient clinical notes and click "Edit" button to modify the notes and click "Save button to finish. To delete patient clinical notes, click the bin icon on the specific clinical notes.
Post Condition:	Each of the function should give a proper alert message for the user regarding whether their action is either valid or invalid. Afterward, the system should show message of success for the action that the actors took.

Title:	Technician CRUD and suspension
Description:	To create, read, update and delete a particular technician from the system.
Actors:	Super Technician Super Administrator

Pre-condition:	Already logged into the system
Basic Flow:	1. Click staff button to navigate to staff list page 2. Find the particular technician through search or the list 3. According to which action are desirable, follow one of the steps below : a. Create a new technician i. Click "New Staff" button ii. Enter technician information for all the fields iii. Finally click "Save" button to create the patient b. View or Edit or Delete patient details i. Find the particular technician through search or list ii. To view the technician, click the magnifier-like icon. iii. To edit the technician, click the pencil notes icon. iv. To delete the technician, click the bin icon. To suspend / unsuspended the technician, click the face icon
Post Condition:	Each of the function should give a proper alert message for the user regarding whether their action is either valid or invalid. Afterward, the system should show message of success for the action that the actors took.

Title:	Appointment functionality
Description:	To roster a technician for an appointment by any staff and super staff.
Actors:	Super Administrator Super Technician Administrator Technician
Pre-condition:	Already logged into the system
Basic Flow:	3. Click appointment icon button to navigate to the calendar like page which shows an overview of denture job that has been rostered to

	technicians. 4. At the page, click either a blank space of the specific time and day for the denture job or an existing roster to modify it. 5. A pop up box will come up. Enter all the required details in the text boxes and drop down option to create or modify a denture job. • For a faster way to move roster, drag and drop is possible. • To delete an appointment, simply click any existing appointment and click the delete button.
Post Condition:	The created appointment will appear in the calendar like view which is interactive and it accommodates drag and drop function for an ease of use and efficiency.

Title:	Timetable for Technician
Description:	To be able to view the technician timetable for the day or weeks.
Actors:	Super Technician Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. Click 'Work Schedule' button to navigate to the calendar like page which shows the assigned denture job that has been rostered by the staff or super staff. 2. Click an existing job to view the details of the job including time, patient's details and extra notes for the job.
Post Condition:	Timetable should be shown correctly with its correct details of the job.

Title:	Availability for Technician

Description:	To be able to view and add technician availability for the day or weeks.
Actors:	Super Technician Super Administrator Technician Administrator
Pre-condition:	Already logged into the system
Basic Flow:	1. Click Staff button to navigate to the list of staff. 2. Find the particular technician from the list and click view profile 3. Access the technician availability by clicking top right ‘Availability’ button. 4. To add an availability, click the particular time and date to add a new availability.
Post Condition:	Availability can be viewed and added through the calendar.

Title:	Profile edit page
Description:	To be able to modify personal details of the user including profile image.
Actors:	Super Technician Super Administrator Technician Administrator
Pre-condition:	Already logged into the system
Basic Flow:	1. Click Edit Profile link on top right hand side to navigate to the profile edit page. 2. Modify or fill in text boxes of particular information that needs to be changed or modify. 3. To change profile image, simply click Browse button and choose an appropriate image to replace current profile image. 4. Click save button in order to save all the changes made.
Post Condition:	The function should give a proper alert message for the user regarding whether

	their profile has been successfully saved.

Title:	Reminder System
Description:	Used to notify user who logged into the system of any upcoming events.
Actors:	Super Administrator Super Technician Administrator Technician
Pre-condition:	Already logged into the system
Basic Flow:	6. At the homepage, there will be a list of upcoming events which list different events for different user type. E.g Appointments for with a client for a technician user. 7. Click on any event from the list to view the event in detail. • Different Technicians will have different view of upcoming event as they will have different patient's appointment. • Super Administrator, Super Technician and Administrator should see all events in the list. • SMS Reminder will be sent automatically 24hr before the appointment day(Or as specified by client)
Post Condition:	Upcoming events listed on the homepage without a refresh making it easy access and a good reminder.

Title:	Reporting System
Description:	To show report which can be generated form any specific date interval and available report type
Actors:	Super Administrator Super Technician
Pre-condition:	Already logged into the system

Basic Flow:	1. Click Report icon button to navigate to an options page. 2. Choose type of report from the dropdown list located on middle top 3. Choose occurrence of the reports located on top as well. 4. Click View button to generate the report based on the chosen options 5. To print the generated report, simply click Print button, and follow the standard print preview interface.
Post Condition:	The generated report can be viewed and also printed should the user wish to. The information is accurate and within specified dates

Title:	Maintenance System
Description:	To allow Super Staff to maintain and alter the system to adapt to possible changes in near future.
Actors:	Super Administrator Super Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. Click System Administrator button to navigate a page with a tab style navigation structure 2. Click desired button from the page to navigate to a specific page allow for CRUD on that table (e.g. Clinics). 3. Click 'New' button and fill in the required details to create the new data information. 4. To view any of the existing clinic location information click the edit button from the list, and edit if desired 5. To delete simply choose the desired information and click delete button should the user wish to.
Post Condition:	Message informing if the user have added, updated or deleted a particular record.

Title:	Improved Reminder System

Description:	User able to customize their own reminder alert.
Actors:	Super Administrator Super Technician Administrator Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. At the homepage, there will be a list of upcoming events which list different events for different user type. In addition to this, the new custom reminder will be listed on the box beside the upcoming events. 2. To create new custom reminder, user have to choose any date from the calendar and click on the desired date to set the reminder for that day. 3. A list of previously made reminder will be available here, if any. To create new reminder simply click "New Reminder" button. 4. Type any reminder at the provided space and save it.
Post Condition:	Upcoming custom reminder should alert user correctly in regards to the reminder that they have made.

Title:	Improved Reporting System
Description:	User can generate report to extract useful information data for particular date interval.
Actors:	Super Administrator Super Technician
Pre-condition:	Already logged into the system
Basic Flow:	1. Click Report icon button to navigate to report generation page. 2. Choose the type of report from the top navigation bar. 3. If user chooses patient report*, select date interval of the report from the textbox provided. 4. If user chooses patient charts or daily appointment, graph and chart will

	be automatically generated with printing or download** function. * Improved on information details to meet requirement. ** New function of the report
Post Condition:	Report generated meet client requirement, printing and download function works correctly.

Title:	Backup and Restore
Description:	Ability to Backup all the system records (patient details, staff details, appointments, etc.) for safe keeping and Restore the record in a case of hardware failure or emergency.
Actors:	Client Super Technician (Only Client business partner)
Pre-condition:	Already logged into the domain host (Netfirm) control panel
Basic Flow:	1. Navigate to the database management page by clicking “MySQL Database” icon. 2. Click the Manage Backups tab to view the database on the server. 3. Click on any database that is required for backup. 4. Click on the latest backed up database and expand it by clicking ”+” 5. Scroll down to the bottom until you are able to click “Select Table” 6. Proceed by clicking Select Table button without ticking any table* 7. Periodically refresh the page by clicking the refresh icon on top left while checking the status of the database on the bottom. 8. When the status of the database has changed from “Converting database format for download” to “Download”, this indicate that the database is ready to be downloaded and stored securely. * By not ticking any box, it will auto select all the tables.
Post Condition:	Database able to be downloaded and saved.

Title:	Improved Reminder System
Description:	User able to customize their own reminder alert.

Actors:	Super Administrator Super Technician Administrator Technician
Pre-condition:	Already logged into the system
Basic Flow:	5. At the homepage, there will be a list of upcoming events which list different events for different user type. In addition to this, the new custom reminder will be listed on the box beside the upcoming events. 6. To create new custom reminder, user have to choose any date from the calendar and click on the desired date to set the reminder for that day. 7. A list of previously made reminder will be available here, if any. To create new reminder simply click "New Reminder" button. 8. Type any reminder at the provided space and save it.
Post Condition:	Upcoming custom reminder should alert user correctly in regards to the reminder that they have made.

Title:	Improved Reporting System
Description:	User can generate report to extract useful information data for particular date interval.
Actors:	Super Administrator Super Technician
Pre-condition:	Already logged into the system
Basic Flow:	5. Click Report icon button to navigate to report generation page. 6. Choose the type of report from the top navigation bar. 7. If user chooses patient report*, select date interval of the report from the textbox provided. 8. If user chooses patient charts or daily appointment, graph and chart will be automatically generated with printing or download** function.

	* Improved on information details to meet requirement. ** New function of the report
Post Condition:	Report generated meet client requirement, printing and download function works correctly.

Use Case Diagram (Final)

Data Model (Final)