

Chapter 4

Design

4.1 Entity Relationship Diagram

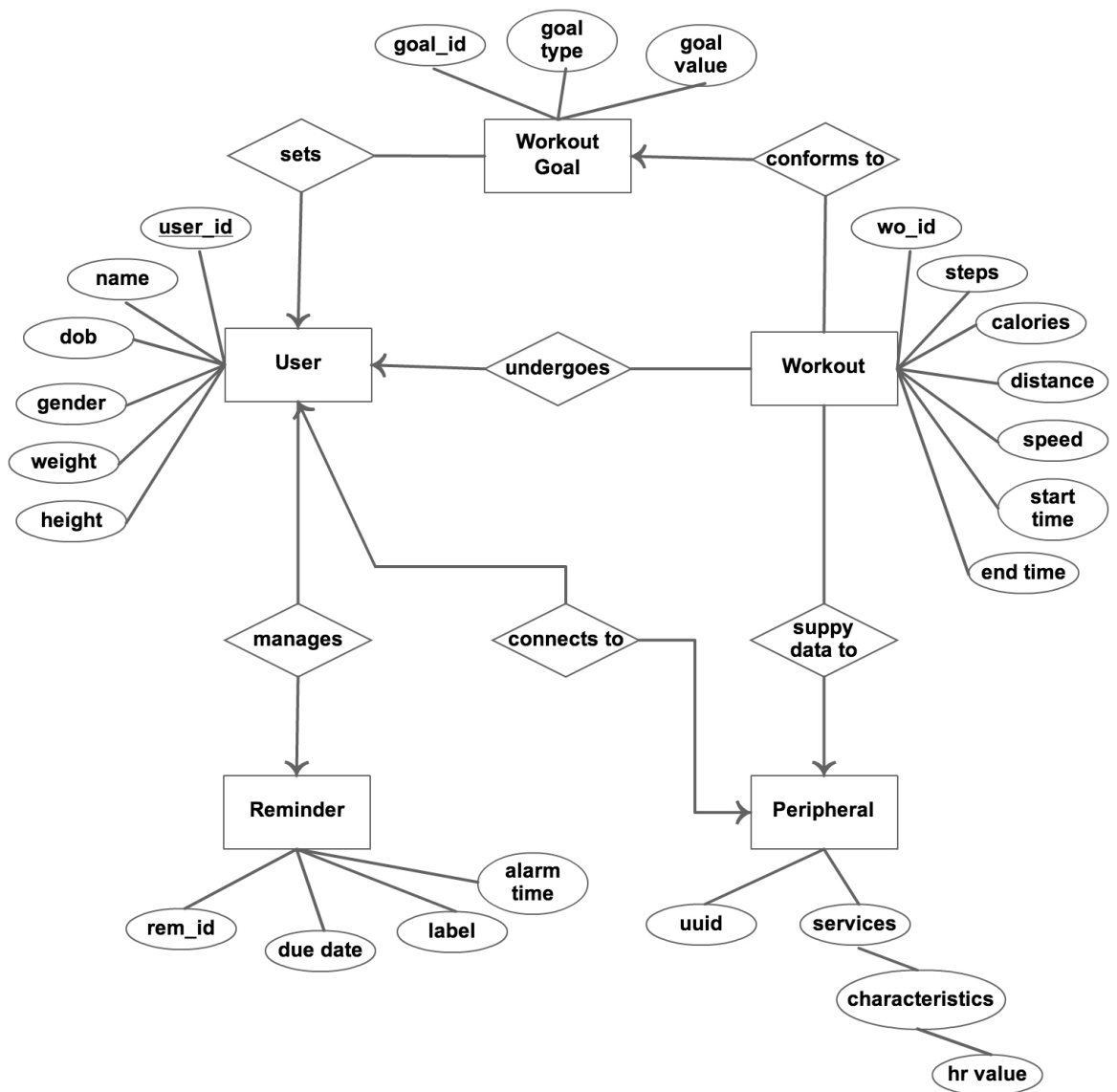


Figure 4.1: ER Diagram

4.2 Data Dictionary

- 1 **User_Details** - This table contains all the important information of user.

Table 4.1 : User_Details Schema

Column Name	Data Type	Nullable	Description
user_id	integer (auto_incr)	N	Unique user identification
name	text	N	User's name
dob	integer	N	Date of birth
gender	integer	N	Gender of user
height	real	N	User's height in cm
weight	real	N	User's weight in kg
hr_monitoring	integer	N	0 = disable , 1 = enable

- 2 **HR_Details** - This table Stores Heart Rate data.

Table 4.2 : HR_Details Schema

Column Name	Data Type	Nullable	Description
timestamp	integer	N	The time when the hr data was noticed
hr	integer	N	The heart rate value in bps

- 3 **Location_Details** - This table Stores Location related data.

Table 4.3 : Location_Details Schema

Column Name	Data Type	Nullable	Description
timestamp	integer	N	The time when the location data was aquired
latitude	real	N	The latitude value
longitude	real	N	The longitude value

- 4 **WO_Goal_Details** - This table Stores Workout Goal related data.

Table 4.4 : WO_Goal_Details Schema

Column Name	Data Type	Nullable	Description
wo_goal_id	integer (auto_incr)	N	Unique goal identification
goal_type	integer	N	1=miles, 2=calories, 3=duration
goal_value	real	N	Value of goal

5 WO_Details - This table Stores Workout related data.

Table 4.5 : WO_Details Schema

Column Name	Data Type	Nullable	Description
wo_id	integer (auto_incr)	N	Unique workout identification
start_timestamp	integer	N	The start time of workout
end_timestamp	integer	N	The end time of workout
steps	integer	N	Steps covered in workout
calories_burned	real	N	Calories burned during workout
min_speed	real	N	Min speed of running during workout
max_speed	real	N	Max speed of running during workout
distance	real	N	Distance covered in workout
goal_id	integer	N	The id of goal set for workout

4.3 Front-End Interface, Validations & Navigation Design

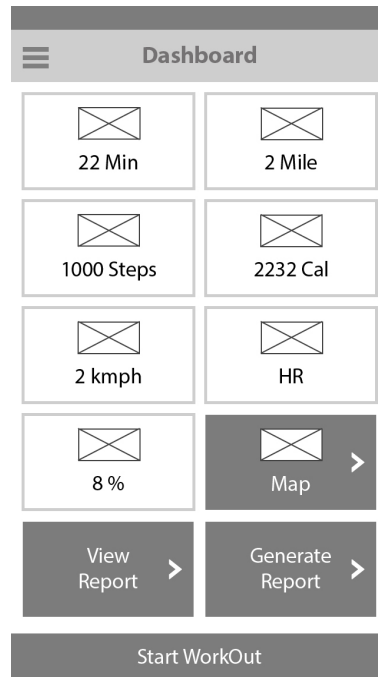
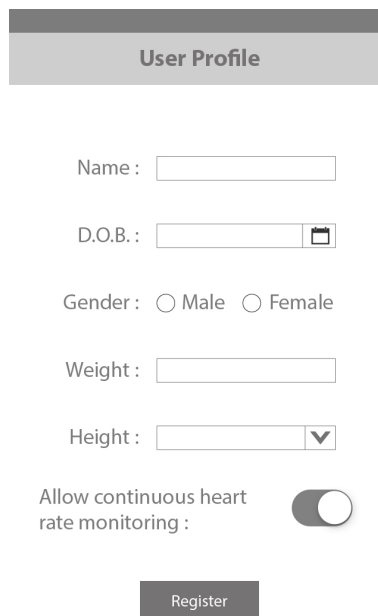
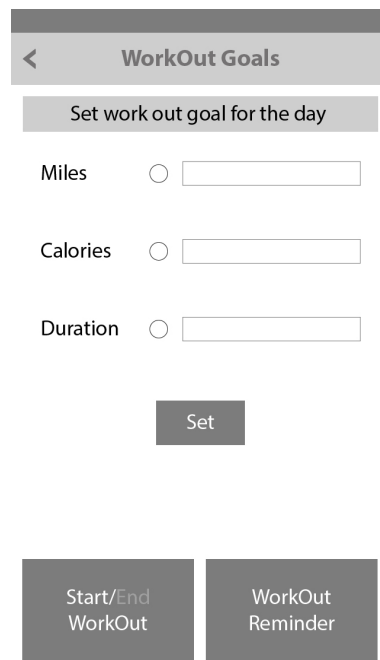


Figure 4.2: Dashboard Wireframe



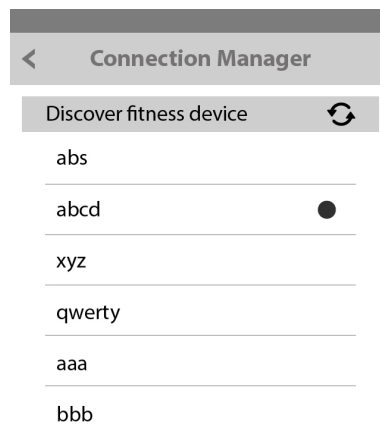
The user profile wireframe has a header bar with the title "User Profile". Below the header, the form consists of several fields: a text input for "Name", a text input for "D.O.B." with a calendar icon, a gender selection with radio buttons for "Male" and "Female", a text input for "Weight", and a text input for "Height" with a dropdown arrow. Below these fields is a toggle switch for "Allow continuous heart rate monitoring". At the bottom of the form is a "Register" button.

Figure 4.3: User Profile Wireframe



The wireframe for the 'WorkOut Goals' screen features a dark grey header bar with a back arrow and the title 'WorkOut Goals'. Below this is a light grey bar with the text 'Set work out goal for the day'. The main content area contains three rows, each with a label ('Miles', 'Calories', 'Duration'), a radio button, and a text input field. At the bottom is a dark grey button labeled 'Set'. Below the main form are two separate dark grey buttons: 'Start/End WorkOut' and 'WorkOut Reminder'.

Figure 4.4: Workout Goals Wireframe



The wireframe for the 'Connection Manager' screen has a dark grey header bar with a back arrow and the title 'Connection Manager'. Below the header is a light grey bar with the text 'Discover fitness device' and a circular refresh icon. The main area is a list of device names: 'abs', 'abcd', 'xyz', 'qwerty', 'aaa', and 'bbb'. Each name is on a line with a horizontal separator below it. A solid black circle is positioned to the right of the 'abcd' entry.

Figure 4.5: Connection Manager Wireframe

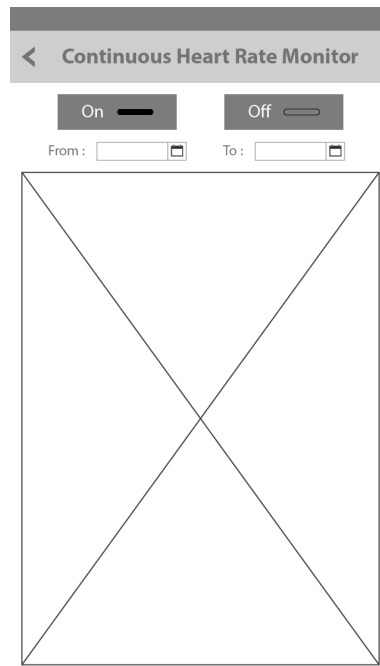


Figure 4.6: HR Monitor Wireframe