

## **Chapter 4**

### **Design**

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## 4.1 Entity Relationship Diagram

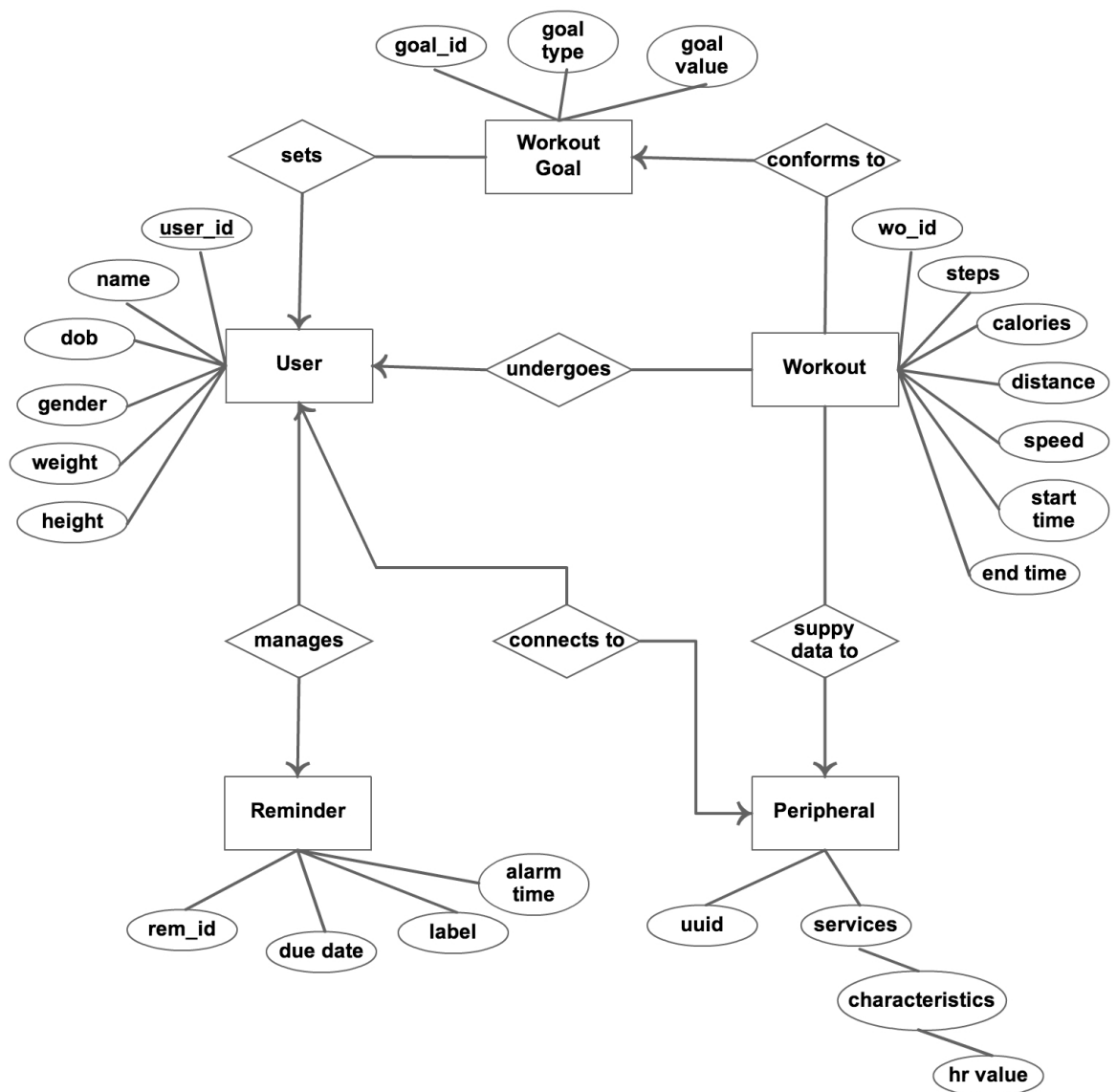


Figure 4.1: ER Diagram

## 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

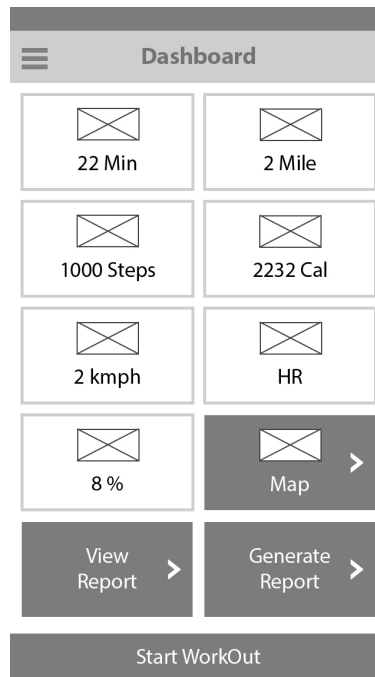
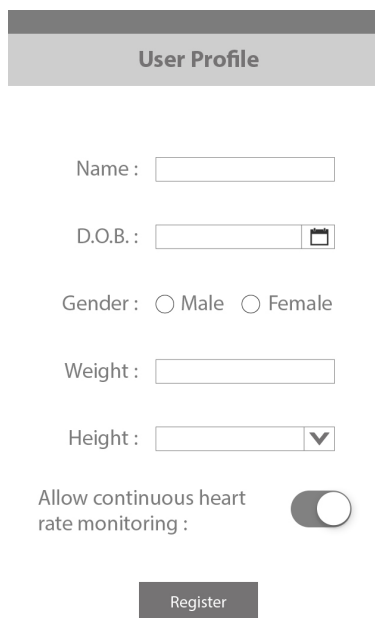
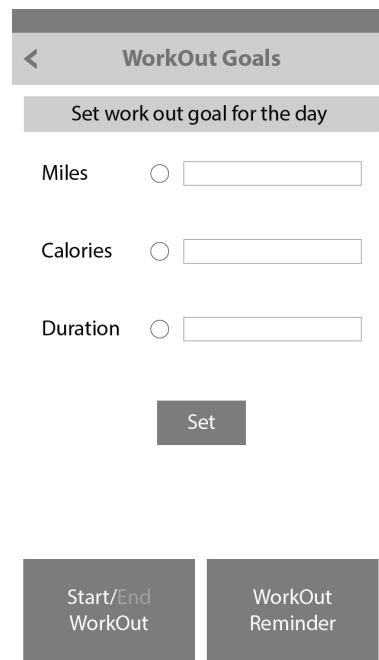


Figure 4.2: Dashboard Wireframe



The user profile wireframe has a header bar with the title "User Profile". Below the header are several form 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 is a toggle switch for "Allow continuous heart rate monitoring :". At the bottom is a dark grey button labeled "Register".

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'.

WorkOut Goals

Set work out goal for the day

Miles ☐

Calories ☐

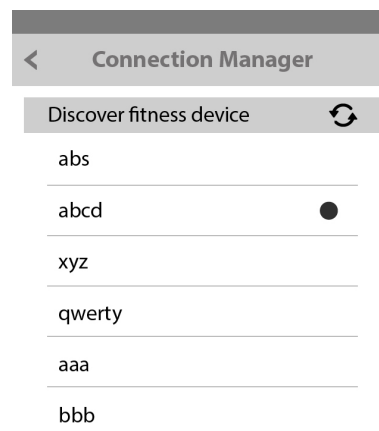
Duration ☐

Set

Start/End WorkOut


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 is a light grey bar with the text 'Discover fitness device' and a refresh icon. The main content area is a list of device names: 'abs', 'abcd', 'xyz', 'qwerty', 'aaa', and 'bbb'. The 'abcd' entry is highlighted with a dark grey background and a black dot to its right.

Connection Manager

Discover fitness device 

abs

abcd ●

xyz

qwerty

aaa

bbb

Figure 4.5: Connection Manager Wireframe

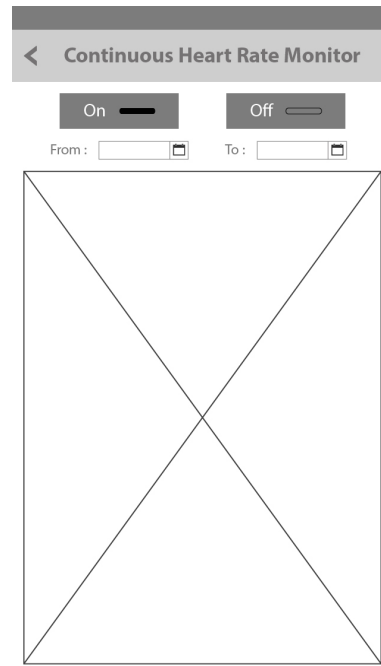


Figure 4.6: HR Monitor Wireframe