

WE CLAIM:

1. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone comprising steps of:

- installing a software application in the user's mobile phone;
- 5 registering with the said software application by providing personalized
profile parameters, personalized health goals, other health goals of a user;
- providing a secured database to store photographs of food items/ meals to be
consumed by a user;
- analyzing the profile parameters of each user and generating specific ranked
10 weight-loss rules/ meal modification rules applicable to that particular user;
- generating specific modifications to the food items on the photograph of a meal
by applying the user-specific weight-loss/meal modification rules;
- displaying the analysis information and the specific modifications on the food
items to the user on the mobile phone screen; and
- 15 tracking the status/ modification stage of the image by providing a speed indicator.
- 2. The method according to claim 1, wherein the ranked weight-loss rules are generated
by providing the user's personalized profile parameters and recent meal history as inputs
to the algorithms.
- 3. The method according to claim 2, wherein the user's personalized profile parameters
20 include age, gender, body shape, current weight & height, target weight, blood pressure,
cholesterol, blood sugar, etc.
- 4. The method according to claim 1, wherein the meal modification rules are generated
by providing various algorithms for different health goals.
- 5. The method according to claim 4, wherein the appropriate algorithm is assigned based
25 on the specific user's profile data and/or health goals.
- 6. The method according to claim 1, wherein the tracking is attained by setting timers for
tracking and displaying the time of elapse of each image.
- 7. The method according to claim 6, wherein the tracking is attained by providing a chain
of custody markers to track the status & ownership of each image, analysis performed on
30 a particular image, etc.
- 8. The method according to claim 6, wherein the software application automatically sends
pre-configured push notifications as useful weight-loss tips or other information to the
respective users when the time of elapse exceeds a set threshold.

9. The method according to claim 1, wherein the software application assists in orienting the camera over the food item with regard to the level, and provides linear scales to properly size the food items.

10. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user submits specific information for analyzing comprising steps of:

capturing the photographs of food items/ meal to be consumed by the user;
adding specific graphical modifications or text comments or audio comments or requests and/or other related information to the captured photographs; and
10 uploading the photographs to the secured database of the software application of the mobile phone,
wherein the captured photographs are provided with time-stamps associated with other user data to organize and set up an input queue of the uploaded photographs sorted based on the time of uploading to the security database.

11. The method according to claim 10, wherein the users use 2D or a 3D camera affixed to their eyeglasses to capture photographs of the food items/ meals to be consumed.

12. The method according to claim 10, wherein the users capture photographs of the food items at a grocery store to obtain personalized instructions based on their suitability, personalized health profile and other health goals.

13. The method according to claim 10, wherein the registered user is a person or a parent or a caregiver or a pet-owner seeking real-time assistance on behalf of others.

14. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user submits specific information for analyzing the uploaded photographs of the food items by a nutritionist/
25 Artificial Intelligence (AI) comprising steps of:

assigning a particular image from the input queue to a nutritionist/ AI;
organizing a generic or dedicated connectivity between specific users and specific nutritionists by the registered users;
initiating a help request and directing it to a nutritionist or AI to obtain weight-loss or other health-related suggestions; and
30 responding to the help request through calling, texting or other means along with targeted advertisements about appropriate products or services by the nutritionist,

wherein provides coaching/ training on the requested questions by the registered user.

15. The method according to claim 14, wherein the software application educates the users to obtain health meal-modification assistance by sending automated reminders/
5 notifications to the registered users to capture and upload the image of the next meal.
16. The method according to claim 14, wherein the software application assigns a particular registered user to a particular nutritionist to develop one-on-one relationship.
17. The method according to claim 14, wherein the uploaded photographs provided with specific text comments or requests are placed in appropriately classified input queues for
10 assigning to a particular nutritionist or AI.
18. The method according to claim 17, wherein the classification is attained by providing specific filters that include by user, by associated nutritionist, by artificial intelligence program or the like for assigning the uploaded photographs.
19. The method according to claim 18, wherein the additional filters are also provided
15 based on meal modification rules or other criteria to further classify the input queues, thereby presenting an input queue of uploaded photographs to which same rules are to be applied.
20. The method according to claim 14, wherein the registered users add annotations by clicking or touching on the mobile phone screen on certain food items in the modified
20 image to indicate respective food item names and to provide specific requests to the nutritionist.
21. The method according to claim 14, wherein the registered user to upload sequential photographs representing additional servings at a particular meal.
22. The method according to claim 14, the registered user to seek advice from the
25 nutritionist or AI on what to eat for dessert at the end of the meal, given the meal that has just been consumed and receive a response.
23. The method according to claim 14, wherein the registered user to seek advice from nutritionist or AI on what to eat for dinner at the end of the day, given all the meals that have been consumed thus far and receive a response.
- 30 24. The method according to claim 14, wherein the registered user seeks advice on food item or recipe swaps to improve the quality of their nutritional intake.

25. The method according to claim 14, wherein the registered users view the timeline of their past uploaded photographs, other related information, suggested modifications and suggestions for next time.

26. The method according to claim 25, wherein the registered users to view the timeline of their past uploaded photographs and enter health information such as weight, waist circumference, blood pressure, blood sugar, etc. manually/ automatically by importing from various devices.

27. The method according to claim 26, wherein the registered user obtains review or feedback on the entered health information.

28. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user submits specific information for analyzing the uploaded photographs of the food items by a nutritionist for providing suggested modifications comprising steps of:

authenticating and authorizing a nutritionist to access the input queue to select the image(s) and the related information to perform analysis;

analyzing the graphical modifications, text comments and/or other related information attached with the captured image assigned or associated with them;

identifying the specific food items and their image boundaries in the captured image for providing the comments on the image;

inserting text based/ graphic based comments or modifications on the photographs analyzed by the nutritionist; and

assigning an exception mark to a particular image if unrecognizable or not clear for analyzing,

wherein the suggested modifications include estimated nutritional attributes and their corresponding values of the food items or meals to be consumed or rejected by a user, or other related information,

29. The method according to claim 28, wherein the nutritionist suggests modifications to reduce one item/ to increase another item to compensate for nutritional values based on specific user goals.

30. The method according to claim 28, wherein the nutritionist analyzes the user's eating habits and generates a personalized notification that can be sent as a reminder at a later time to that particular user.

31. The method according to claim 28, wherein the nutritionist manually composes specific modifications to photographs based on the past meal history and/ or user's specific dietary restrictions, profile parameters, personalized weight-loss goals or personalized diet plans.

5 32. The method according to claim 28, wherein the nutritionist provides a means to automatically project a suggested eating sequence to the registered user by clicking on the means, the said means include an icon or the like.

33. The method according to claim 32, wherein the suggested eating sequence can be an unconventional sequence projected as a numbered list.

10 34. The method according to claim 28, wherein the text based comments include generic eating instructions, personalized eating instructions, pre-configured textual comments and textual indicators on the modifications to indicate the increase or decrease in the quantity of the food to be consumed.

35. The method according to claim 28, wherein the graphic based comments include
15 visual effects for increasing/ decreasing the appearance of the food items, pre-configured clarifying graphics, pre-configured graphical indicators to indicate the increase or decrease in the quantity of the food to be consumed, a vocal comment, a video comment, magnification/de-magnification of specific food items indicating consumption levels.

36. The method according to claims 32 or 35, wherein the text based and the graphic
20 based comments are stored in the secured database as a data set associated with a specific image or a specific registered user.

37. The method according to claim 28, wherein the nutritionist revert the exception marked image back to the respective registered user, thereby enabling the user to modify/ add clarifying comments to that particular food item and re-upload the image.

25 38. The method according to claim 28, wherein the nutritionist uses web-based applications or mobile phone applications or tablet-based applications to generate modification on the image.

39. The method according to claim 28, wherein the nutritionist sends encouraging or congratulatory comments when the plate of food needs no suggestions.

30 40. The method according to claim 28, wherein the nutritionist provides appropriate observations, ask questions or provide encouraging messages to a particular user depending on their diet.

41. The method according to claim 28, wherein the nutritionist determine the consumable calories by a particular user based on the target amount of calories to be reduced, and determine the quantity of food items to be reduced/ increased.

42. The method according to claim 28, wherein the nutritionist uses pre-configured or
5 free graphical/ alphanumeric editing tools to indicate the food items to be modified.

43. The method according to claim 28, wherein the nutritionist is also a dietician or a veterinarian or other professional.

44. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user to submit specific
10 information for analyzing the uploaded photographs of the food items by Artificial Intelligence (AI) for providing suggested modifications/ notifications comprising steps of:

selecting a particular image and recognizing the individual food items in a meal to estimate their respective nutritional attributes and their corresponding values;

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analyzing the image algorithmically, applying the ranked weight-loss rules for the associated users, generating and composing suitable modifications to food items;

setting up an output queue for saving the photographs with modifications
and/or comments and automatically sending notifications to the respective registered

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users who uploaded the photographs;

applying known exception rules to analyze and mark a particular image as an exception;

analyzing and assigning a mark to a particular image as an exception if
unrecognizable or not clear to be properly analyzed or if the program is unable to
25 generate modifications;

setting up an exception queue for queuing of photographs marked with exceptions and automatically send notifications to an expert panel or agent for further processing;

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displaying a timeline of past photographs, modifications and comments to the registered user for examination; and

sending automated reminders/ notifications including tips related to health, weight-loss, meal-time reminders or the like.

45. The method according to claim 44, wherein the AI suggests modifications to reduce one item/ to increase another item to compensate nutritional values based on specific user goals.

46. The method according to claim 44, wherein each image in the output queue is
5 consolidated with its respective identifiers, time-stamps, modifications, comments and other associated information to save the entire data set in the secured server database.

47. The method according to claim 46, wherein the consolidated image is delivered to the registered users through push notifications as an entire data set or as a sub-data set.

48. The method according to claim 47, wherein the sub-data set consisting of
10 modifications, comments and associated information, but not the image uploaded by the registered user.

49. The method according to claim 48, wherein the sub-data are overlaid on the existing copy of the uploaded image saved in the mobile phone and displayed as a consolidated view.

15 50. The method according to claim 44, wherein after identifying the respective food items, the AI directs it to the nutritionist to estimate the nutritional attributes of the food items.

51. The method according to claim 44, wherein after identifying the respective food items, the nutritionist directs it to the AI to estimate the nutritional attributes of the food items.

52. The method according to claim 50, wherein the AI overlays color shading within the
20 food item borders to indicate each item's respective dominant nutritional attribute thereby assisting the nutritionist to recognize the items need to be modified.

53. The method according to claim 44, wherein the AI automatically edits the uploaded image by inserting text icons and graphics to convey the suggested modifications.

54. The method according to claim 44, wherein the AI intimates a particular user the
25 amount of nutritional attributes consumed on a particular day and recommends the items to be eaten by the end of that day to maintain the user's specific daily dietary limits.

55. The method according to claim 44, wherein the AI determines the current physical location of a user from the mobile phone to provide information relating to restaurants, menu items, grocery stores, and other places where meals or food items are available in
30 the vicinity of the user's current location.

56. The method according to claim 44, wherein the AI intimates a particular user the amount of nutritional attributes consumed on a particular day and recommend the items that are available in restaurants, grocery stores, etc., in the vicinity of the user's current

location to be eaten by the end of that day to maintain the user's specific daily dietary limits.

57. The method according to claim 44, wherein the AI examines the uploaded pictures of the meal or the container or the device and estimate the nutritional attributes of the food items and generate reports relating to the amount of nutritional values consumed on a meal by meal, daily, weekly or other time period basis.

58. The method according to claim 44, wherein automatically generates and displays personalized/ opening messages along with a calorie or other nutritional attribute value to be consumed for that day or to be consumed for lunch or to be consumed for dinner.

59. The method according to claim 44, wherein the AI automatically generates and displays personalized/ opening messages with recommendations for the next meal as specific food items or recipe modifications or restaurant menu choices or products available in store shelves with modifications.

60. The method according to claim 44, wherein the AI monitors eating patterns and flags serious issues that may prevent achievement of user objectives and initiates or recommends a counseling session with an adviser or to provide personalized or general advice.

61. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user submits specific information for analyzing the uploaded photographs of the food items by a nutritionist / Artificial Intelligence (AI) and providing adherence/ evaluation by the registered user comprising steps of:

indicating the actual adherence to the suggested modifications and comments by selecting an appropriate number on a linear indicator, representing a percentage of adherences;

indicating the actual adherence by uploading a second image depicting the actual post-consumption left-over's/ unconsumed food items set aside;

evaluating the quality of the suggested modifications for the food items; and evaluating the nutritionist relating to quality, timeliness and effectiveness of the modifications and comments;

wherein the evaluation is attained by providing comments, star-rating on a scale representing the quality of the modifications or by dragging on the timeline by holding a slider.

62. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user obtains assistance in neutralizing a food craving comprising the steps of:

- initiating a craving help request in dealing with food cravings at any time by
- 5 the registered user;
- setting up other users as helpers or groups along with their contact numbers
- and other information to whom the craving help request is sent;
- specifying the helpers or groups to whom the request should be sent;
- broadcasting the craving request to the specified helpers or groups and notify
- 10 the registered users, helpers or groups individually;
- responding and attempting to distract the requesting registered user from the
- craving by calling, texting, sending video clips, links or other means by the registered/
unregistered helpers; and
- maintaining the craving help request open for a specified duration and
- 15 automatically closing it after receiving at least one response;
- wherein the AI automatically responds to the craving request to distract the
- registered user from the craving at typical snack-craving times or at anytime
- or if there is no response from any helper or group after a set duration.

63. The method according to claim 62, wherein the AI automatically engages different
20 friends when having different kinds of cravings by mapping specific cravings to a given friend's profile.

64. The method according to claim 62, wherein the AI automatically sends a reminder or a notification to a specially-designated friend to proactively distract a specific registered user from a craving.

25 65. The method according to claim 62, wherein the AI analyzes patterns of craving to predict the next time of day when a registered user might get a craving and proactively suggests or engages a friend to respond to the craving.

66. A method for providing real-time assistance to users in achieving their personalized health goals through a mobile phone, wherein the registered user submits specific
30 information for analyzing the uploaded photographs of the food items stored in a container or a device on a plate comprising steps of:

- providing a container[170, 172];
- storing the rejected food items in the container [170, 172];

creating a partition of the plate [174] into which the rejected food items are placed using the device [178];

providing a placemat printed with colored squares patterns of standard color and size located around the periphery of plate [174] for providing size reference for estimating size and/or quantity of food items on the plate [174], said placemat is placed under the plate [174]; and

providing a closable lid [176] with a knob for closing the container [170, 172] to cover the rejected food items.

67. The method according to claim 66, wherein the square patterns serves as reference for determining the angle of the camera while taking the image providing further input to analyze the size of the food item.

68. The method according to claim 66, wherein the standard colors of the square patterns serve as reference for recognizing the color of the food items by comparing it with standard colors.

69. The method according to claim 66, wherein the nutritional values calculated are displayed in a tabular form and each food item is labeled by its predominant nutritional attribute for storing in the secured database.

70. The method according to claim 66, wherein generates personalized reports for individual users with stored nutritional attribute data.

71. A system for providing real-time assistance to users in achieving their personalized health goals through a mobile phone comprising of:

a mobile phone integrated with a software application;
one or more secured databases to store the photographs of the food items/
meals, generated ranked weight-loss rules/ meal modification rules, suggested
modifications;

a processor for performing analysis of nutritional information;
wherein comprises a container [170, 172] a device [178] provided with a
closable lid [176] and a knob for categorizing the food items for consuming
placed on a plate [174],

wherein creates a partition of the plate [174] into which the rejected food items are placed using the device [178], and

wherein comprises a placemat printed with colored squares of standard size for providing size reference for estimating size and/or quantity of food items on the plate [174] that is placed on top of the placemat.

72. The system according to claim 71, wherein a user access the software application by registering with it by providing the personalized profile parameters, personalized health goals, other health goals.

73. The system according to claim 71, wherein provides a personalized coaching through a two-way rich media on various queries.

74. The system according to claim 71 or 72, wherein stores all the captured photographs, uploaded data and personalized profile parameters, personalized health goals and other health goals.

75. The system according to claim 74, wherein generates reports depicting past trends, current status and future predictions and displays the reports at the time of analyzing.