Assignment 1

Team number: 26
Team members

Name	Student Nr.	Email
Harsh Vijay	2696378	h.vijay@student.vu.nl
Sarthak Bajaj	2699648	s.bajaj@student.vu.nl
Vilen Geghamyan	2703673	v.geghamyan@student.vu.nl
Philip Vacca	2712798	p.p.p.vacca@student.vu.nl

Introduction

Authors: Philip & Sarthak

GPX_manager is an application that helps the user keep track of their physical activities and gives the user a detailed report on it. On top of this, the application calculates the body mass index and also gives the user a dietary recommendation concerning the daily amount of calories they should take in. These features help the user to achieve their respective goals in terms of overall fitness/health. The user can choose from the vast variety of sports and can also add sports into the list.

The main type of user for this application is people who are interested in tracking and managing their daily physical activities, this can be for fitness/health reasons, pure curiosity or other reasons.The stakeholders for the project Users(who wants to manage their physical activity at a single place) and the developers of the project.

The first time users open the app , they will be asked to add their personal data. Here they will be asked to enter their personal information such as age, height and weight which will be used to give them personalised recommendations in terms of exercises and calorie-intake, helping them with achieving their fitness/health goal.

The main components of the application will be:

1. **User interface**: The window where the user can see the analysis and also interact with the application.
2. **Backend**: It converts the data and does all the necessary calculations such as calculating average pace, distance covered and visualising of the gpx file
3. **Data**: it stores the user data such as their past activities , name , daily goal ,etc.

The app work as follows:

1. Users are asked to create their profile by entering basic personal data.
2. Users upload their physical activity in the app which is then converted and used to analyse their record. They can choose the type of sports while importing the data into the app.
3. They get a detailed analysis which includes stats such as average pace , max speed, duration and their timeline.
4. The user can set their daily goals and the app will notify when the user completes their daily goal.
5. The user get their diet recommendation according to the goal they set
6. The user also gets a map of their locations during the exercise
7. The User will know their BMI which helps them figure out if they are following the right track

Features

Author(s): Vilen

Functional features

ID	Description	Detailed Description \ Features	Champion
F1	User Personalisation	The user may add/change their details such as name, age, height, weight and daily goals to personalise the application and to get the recommendations according to the data provided. ● BMI ● Diet Plans	Harsh
F2	Extendability	A developer can add different sports with ease by specifying some basic characteristics about the specific sports.	Sarthak
F3	Interface	A user can upload a gpx file and choose the corresponding sports and click on the upload button to get the analysis and report of the gpx file. The user will be able to see their name and also a cross sign at the top corner of the screen. While choosing the sport the user will see a dropdown list with all the sports available. The user will be able to see different things such as their average speed and distance covered after pressing the upload button which will initiate the computation of the gpx file.	Philip

		The menu interface contains features such as theme, map view and personal details of the user.	
F4	**Bonus:** Export to pdf	The user can export the analysis of the data into a pdf by simply clicking on export to pdf button available on the user interface.	Vilen
F5	Toggle between map views	User can swap between roadmap and satellite view which	Harsh
F6	Parsing the GPX file	Users can see various analyses which can be selected after selecting the sport activity and uploading the gpx file. ● Average Speed. ● Total Covered Distance ● Time Duration of the activity ● Their location timeline during the exercise	Sarthak and Harsh
F7	**Bonus:** History of Tasks	The user can see the history of all the files that they have uploaded	Sarthak

Quality requirements

Author(s): Harsh

ID	**Short name**	**Quality attribute**	**Description**
QR1	Analyzation of the data	Reliability	The user gets a detailed analysis of their stats. All these calculations are either done by a library or are using basic mathematical and scientific formulas
QR2	Organised structure of the tool	Maintainability	The application has a very organised code structure with different classes to divide different functional features, which make it easy to add or update the classes/features.
QR3	Access to the tool	Availability	The user can use the application anytime they want as it is working 24/7.
QR4	Integrity of the data	Security	The data that the user entered is stored locally in an independent class with private variables and cannot be accessed by anyone

			except the user.
QR5	Responsive menu	Usability	All the buttons in the menu user interface correspond to a certain feature which can be accessed by clicking the button such as changing the map view, theme , uploading the gpx file, etc.
QR6	Computing results	Responsiveness	All functions on the tool are responsive and it directly takes on the data and begins computing the result after applying the respective formulas and algorithms. The calculations would not take more than 500ms.

Java libraries

Author(s): Harsh & Vilen

JFoenix
Used for styling the user interface of the system. We chose it among others because it is simple and easy to use and will help us build the software in an interactive way.

Jpx
This library helps in parsing gpx file and also has some helper functions to do some further functions

JavaFx
Used for designing user interfaces of java applications.This has extensions and libraries that helps users build dynamic applications with ease. For example, Hansolo is a library that will help build charts which is better for visualisation of the data.

Time logs

	Member	Activity	Week number	Hours
2	Group	brainstorm functional requirements	1	2
3	Sarthak and Philip	search Java libraries	1	1.5
4	Vilen	Write functional requirements	1	1.5
5	Harsh	Write Quality requirements	1	2
6	Sarthak and Philip	Write introduction	2	1
7	Group	Update and discussion	2	1
8	Harsh and Vilen	Write java libraries	2	0.5
9	Sarthak and Philip	Write introduction	2	1
10	Vilen	Write functional requirements	2	2
11	Harsh	Write Quality requirements	2	1
12	Sarthak and Philip	Write introduction	2	0.5
13				
14				
15				
16				
17				
18				
19				
20				
21			**TOTAL**	14