Software Engineering: requirements
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Requirements case study:

Identify the stakeholders:

Chief Executive Officer, Human resources department, Finance department, staff development team, public transportation services.

Write 3 user stories for this app:

1. As a health-conscious employee, I want the app to integrate with my other fitness trackers so that I can monitor my health and fitness in a wholistic way.
2. As a human resource manager, I want the app to provide a clear overview of the level of participation and commitment to the programme so that I can understand its effectiveness and share this with my managers.
3. As a team member in the finance department, I want to understand the number of bonus points aggregated by the different employees as well as the value of a point so that I can estimate the costs and make sure that the employees are compensated correctly.

Select one user story and write a use case specification:

User story 1: Integrating the jogging app with other fitness tracking services.

Actors: Employee, jogging app, fitness tracker

Preconditions:

- Employee has an account on the jogging app
- Employee has a fitness tracker that can be made to be compatible with the app
- Employee's tracker is connected to the internet

Basic Flow:

- Employee unlocks their phone and navigates to the jogging app
- They head to the user settings and check the section related to connecting fitness devices
- They scroll through the list of compatible devices and select their model
- Upon selecting the model it pings said device and ensures that there is a working connection between the app and the tracker
- The user is shown a confirmation message to indicate that the connection was successful
- The user now does their run to work as per usual
- Upon the completion of the run the data is captured in both the jogging app as well as on their fitness tracker
- The fitness tracker presents a host of health analytics relating to employees performance over the course of the run
- The employee reviews these analytics to draw informed insights to live as healthily as possible
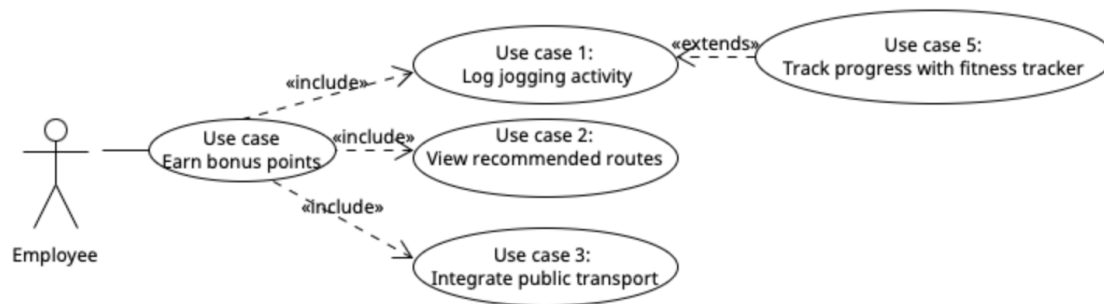
Post-conditions:

- Fitness tracker is successfully integrated with the joggin app
- Employee receives insightful health analytics related to their jogging activity

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Homework: Draw a use case diagram for the app:

For our own game:

Identify the stakeholders:

Players, Lecturers, developers, IT services team

Write 3 user stories for this app

As one of two players I want to play a functional game that is easily understandable, matches the description provided and makes me feel that I am doing something competitive and fun

As one of the lecturers I want to see a game that has evolved as per the software engineering principles we have covered over the course of the term that makes me feel like the team has learned to collaborate effectively

As one of the developers I want to create a game quickly that is well-documented, easily changeable in the future, exceeds stakeholder expectations and where the team worked well together in order to demonstrate mastery of software engineering principles

Write a use-case specification for a chosen user story:

As one of two players I want to play a functional game that is easily understandable, matches the description provided and makes me feel that I am doing something competitive and fun

1. Player 1 runs the programme to open the game
2. Player 1 is presented with the welcome screen providing help and settings if required
3. Otherwise, player 1 initiates a game by pressing start
4. They then enter their name under player 1 and presses create to start an online multiplayer session
5. Player 1 is then provided a game number/key that can be shared with player 2 (via a messaging platform say)
6. Player 1 then waits until player 2 has successfully entered the session and their name appears under player 2
7. When both players have pressed start they enter the game screen
8. Players use the arrow keys to navigate the maze and collect coins (to increase their recorded score) and uranium powerups (in order to gain novel abilities) as they are chased by the ghosts
9. When a ghost makes contact with a player they lose a life and reappear at the place at which they started

10. When a player runs out of lives their score is locked in and they become a ghost and can try and capture their competitor
11. When both players are out of lives the high scores are logged into a leader board which appears after the end game screen
12. An option to exit or restart appears at the leader board screen that allow the players to decide what to do next