



Fall Detection for Elderly with FALLALERT



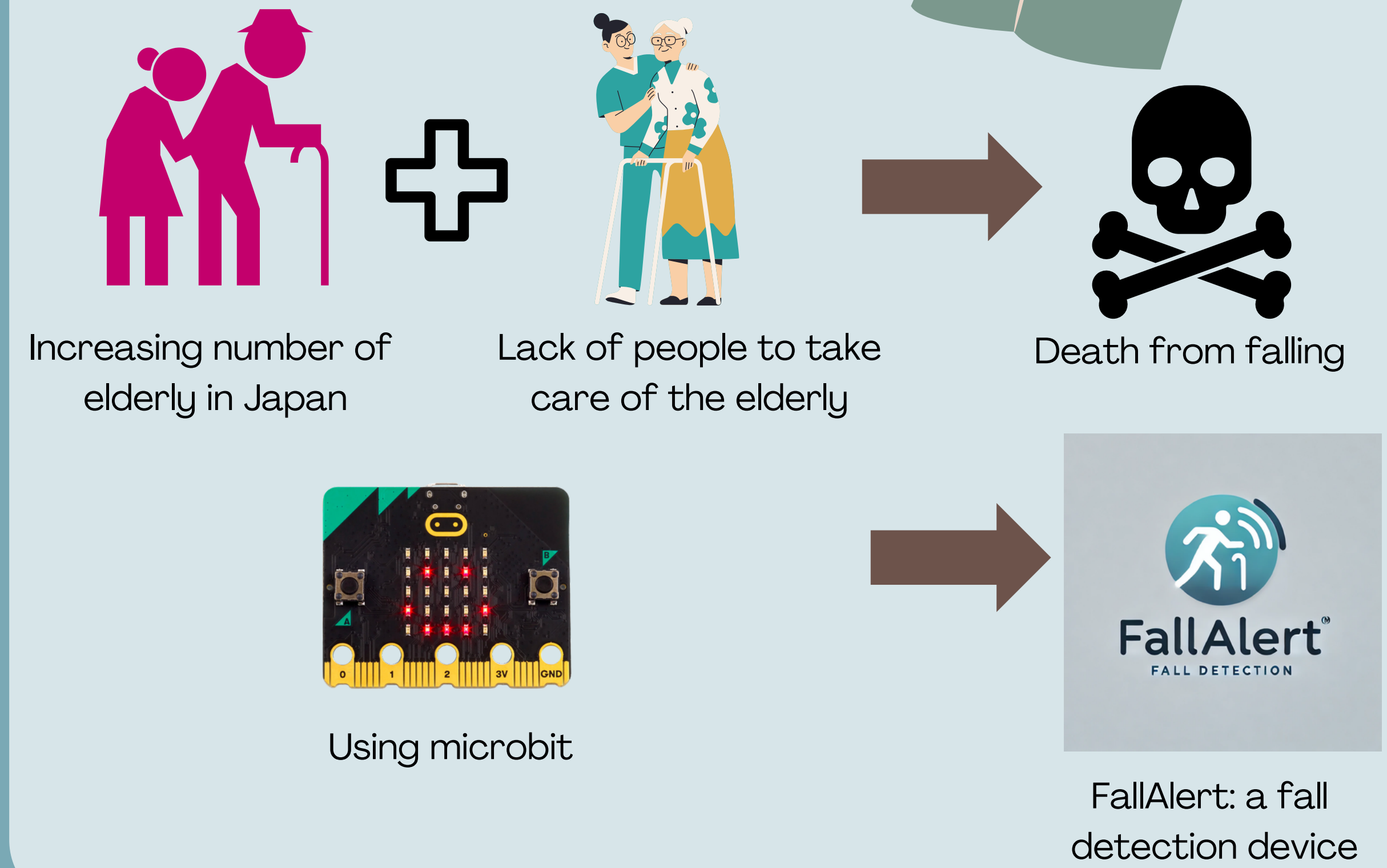
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FRAMEWORK



1. Study and research
2. Modelling the problem
3. Plan and design program development
4. Develop the program according to the plan
5. Test the performance of the program
6. Improve the program

PROBLEM



FINDING

1. Select equipment - use microbits
2. Review the method - make sure you can get the micro bit to make a sound
3. Program making
4. Verify acceleration
5. Modify the program accordingly
6. Make the belt for the device
7. Attach the microbits to the belt



CODE



```

on start
  set logging to false
  set second to 2000
  set temp to 2000
  set temp to 2000
  show icon
  set columns

on button A pressed
  stop all sounds
  play melody at tempo 200 (bpm) until done
  set logging to true
  show icon

on button AB pressed
  set logging to false
  stop all sounds
  play melody at tempo 200 (bpm) until done
  delete log
  set columns
  show icon

on button B pressed
  stop all sounds
  play melody at tempo 200 (bpm) until done
  set logging to false
  show icon

forever
  acceleration (g) > 2000 then
    set volume
    play melody at tempo temp (bpm) until done
    play melody at tempo temp (bpm) until done
    play melody at tempo temp (bpm) until done
    play melody at tempo temp (bpm) until done
    change temp by

every second ms
  if logging then
    log data column value acceleration (g)

on log full
  set logging to false
  show icon
    
```

1. When only button A is pressed, it sounds a melody and starts recording.
2. When only button B is pressed, it sounds a melody and stops recording.
3. When both buttons AB are pressed, the full log is deleted.
4. Measures the acceleration in the X-axis direction every 2000 milliseconds.
5. When the measured acceleration exceeds the specified value (2000 mg), a melody is sounded to alert the surrounding area to the abnormal situation.
6. Displays on screen when the log is full.

CONCLUSION

With this device, we hope it can lower the prevalence of death by fall among the elderly. In the future, it will be necessary to add additional functions such as sending notifications from this device to smartphones or to the nearest hospital.

REFERENCES

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