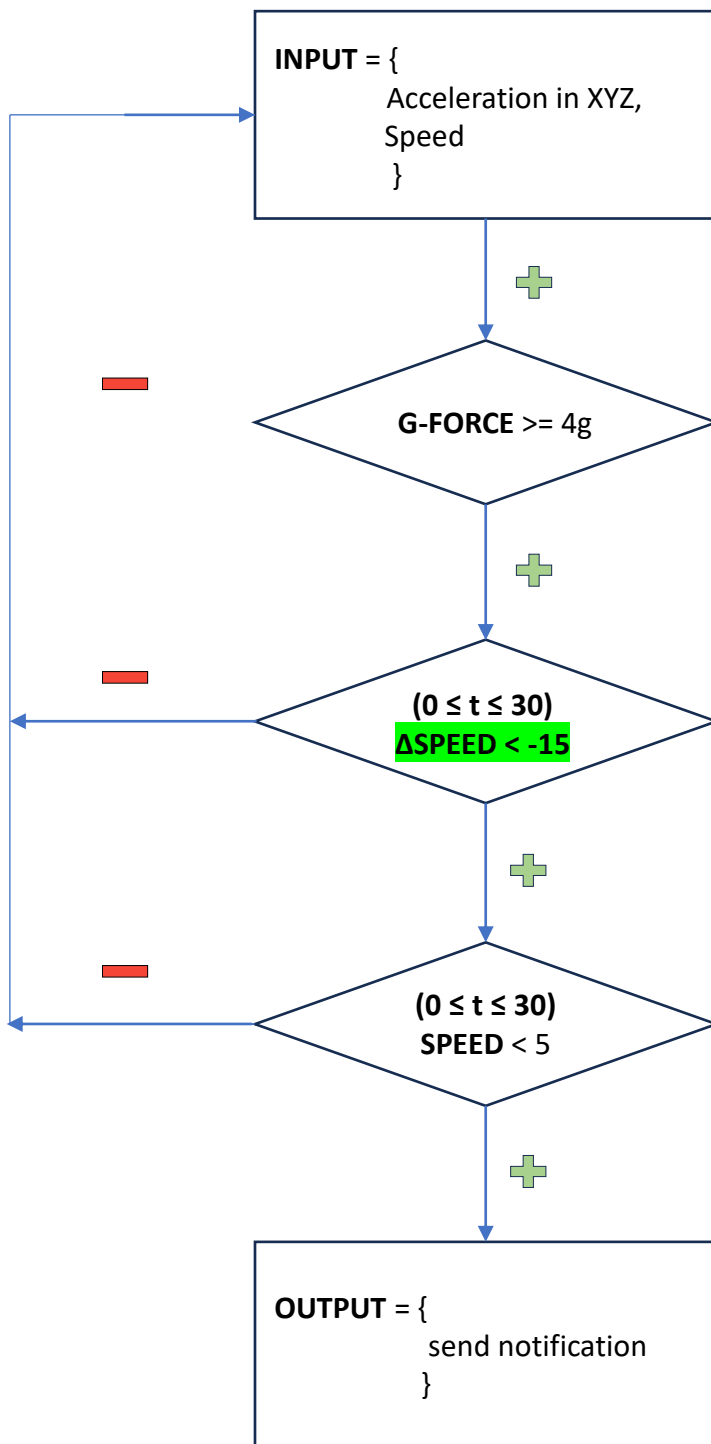


CRASH ERROR NEGLECT ALGORITHM

A set of rules to detect the perfect crash and to neglect the noises
being detected



$$g = \frac{\sqrt{a_x^2 + a_y^2 + a_z^2}}{9.81}$$

- STEP 1
- The algorithm takes **Three dimensional acceleration** and **Speed** as input

- STEP 2
- **g** is calculated 20 times for every second
 - A threshold of **4g** is set
 - Algorithm checks if the calculated **g** crosses the threshold

$$g = \frac{\sqrt{a_x^2 + a_y^2 + a_z^2}}{9.81}$$

- STEP 3
- Whenever calculated **g** crosses the threshold of **4g**, now to confirm vehicle is not moving, in next 30sec algorithm calculates **ΔSPEED** 20 times for every second
 - If **ΔSPEED > -15**, then vehicle may not be under any impact
 - If **ΔSPEED < -15**, then there may be a chance vehicle is under an impact

NOTE • If next bump in **g** value happens within 30 sec, where **g > 4** then from that instant next 30 sec is taken

- STEP 4
- Now to confirm if the vehicle is under an impact, **SPEED** of the vehicle is checked using the data in the same **30sec** where **ΔSPEED** is calculated
 - If **SPEED < 5**, then vehicle is not under any impact
 - If **SPEED > 5**, then vehicle must be under an impact according to our algorithm

- STEP 5
- Notification is sent

