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A Report on Catastrophe

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# Brief

Based on the last digit of your student number, write a short report based on one of the scenarios

below. The report should be no more than 500 words. You may use any templates you find online, or

you can create your own formatting if you prefer.

Submit your report (.PDF or .DOCX) using the upload point available on Moodle.

Tips:

Ask yourself the following questions when planning your report:

• How many paragraphs/sections do I need to write?

• How long should this report be?

• What should I say in your introduction? – what we are working on

• What should the last section contain? – the raw data

• Who is the audience for this report? Head of engineering

• What kind of style should I use? - professional

• Do I know what the current situation is?

• Where can I claim to have obtained my information?

• Am I being asked to express an opinion?

• Should I use any visualisation or data?

• Should I include more information than was officially requested?

You are the manager of the engineering team in a start-up company that is poised to become the next big thing. You have been asked by the Head of Engineering to prepare a report that details the progress that has been made on the latest software release. The Head of engineering has also asked what would happen if the release deadline were missed, in addition to requesting an outline of mitigating steps that could be taken to ensure this does not happen. Write a report for that outlines the requested information.

# Report

## Introduction

Hello Engineer Head,

I am reporting on our latest software release on adding AI augmentation to robotic cats.

Overall, I am pleased to hear that the Catastrophe™ 1.0 is an incredible success and progress on update 1.1 is well under way. Our focus is reducing the aggression of the cats around children and lowering the grip strength of the robots. We are working on resolving the minor issue in the cats walking on walls and ceilings in their sleep and aim to lower the likelihood of this issue to 0.01% from the current 10%.

Additionally, we would like to prevent the tail whipping around so fast that it generates lift and prevent our cats from flying into the stratosphere. We know that the distance the stratosphere is from 14.5 km to 50 km. (Dunbar, 2013)

## Progress

In terms of raw data, we have noticed that the force claws are capable of grabbing onto was magnitudes of strength too high and could exert a force that was breaking bones with a T-score of -1.5, which is slightly weak but not to be unexpected for a large portion of our target demographic being children. I am pleased to report that we expect the current force is safe for those with a T-score of -5, and in most cases are not even capable of puncturing skin.

A BMD test measures your bone mineral density and compares it to that of a standard value to give you a score called T score:

A T-score value between +1 and –1 is considered normal.

T-score between –1 and –2.5 indicates that you have low bone mass, but it is only a mild issue that can be remedied by exercises, diet, and lifestyle changes.

T-score of –2.5 or lower indicates that you have osteoporosis. You may need medications along with lifestyle changes to improve your bone strength. (Hart, 2017)

## Worst Case Scenario

The worst-case scenario is that our coding contains a bug that leads to the maximum force being increased rather than decreased, this would be extremely dangerous as anything the paw would grip would be crushed due to the possible pressure exerted onto the object due to the small size of the paws.

## Mitigating Steps

A last-ditch attempt at curtailing the crush issue would be to issue a recall for the robots and alter their physical buildup to reduce the limit on what force they can exert. But it is looking likely that all systems will be operational and there will be no issues this time around.

# Bibliography

Dunbar, B., 2013. *Earth's Atmospheric Layers.* [Online]   
Available at: https://www.nasa.gov/mission\_pages/sunearth/science/atmosphere-layers2.html  
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Hart, N., 2017. *Mechanical basis of bone strength: influence of bone material, bone structure and muscle action.* [Online]   
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