PROJECT 3 CONCEPT SKETCH

Here we go! The goal of this activity is to start sketching out your ideas for Project 3. Working with your project partner(s), do your best to fill in each of the four boxes below.

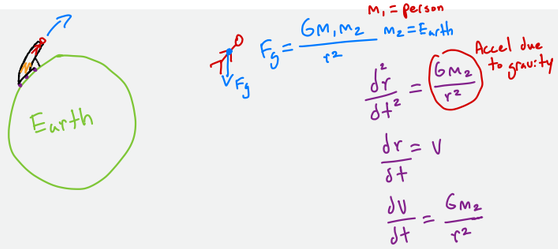
1 Question

What is your motivating question? Is it an explain, predict or design question? What makes this question interesting; who would be interested in it?

what angle and velocity should a person be launched at in order to hit the moon, at a particular point in time? This is a Design question, because we're optimizing this model to answer our question. The (initially) unintuitive nature of orbital physics makes this question interesting, also because we don't know the answer to the question. Astrophysicists, daredevils, and astronauts would be interested in our model

2 Model

Draw a well-labeled schematic, FBDs, and ODEs here to represent your model. Capture anything else you know about your model (parameters?) and questions you'll need to answer as you proceed.



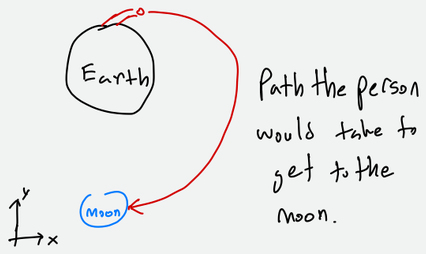
Questions

- Optimal angle + velocity?
- Should we include Drag (within the atmosphere) The influence of gravity from other planets
- Take into account escape velocity

Input time and location, get the minimum speed to hit the moon

3 Results

What output would you expect the model to produce? Draw at least one graph — be sure to label the axes.



Path the person would take to get to the moon.

4 Interpretation

How will your results help you answer the question? What implications might they have in the real world? Connect this back to "who would be interested in this question."

If the graph reaches where our moon will be, then we have reached one of the solutions to our problem. With astrophysicists involved, we can use this model in the real world to send people to space

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