***Background:***

This case examines the fictitious company, High Note, which is an online music streaming service where the majority of users are free subscribers.  The “freemium” model allows for users to build a profile and use the service for free.  They hear advertisements at regular intervals.  Paid subscribers receive more features and hear no ads.  You should think about how freemium can be monetized and what is new with this freemium model.  In the case, the High Note employees turn to customer data to try and figure out how to increase paid subscriptions.

***Instructions:***

The questions for this exercise are based upon the assigned reading for this class, Freemium.  Please complete this reading before answering these questions.  Links for the dataset and R script are provided here:

[freemium\_Analysis\_Logistic.R](https://canvas.cmu.edu/courses/9526/files/3602554/download?wrap=1)

[High Note data csv.csvPreview the document](https://canvas.cmu.edu/courses/9526/files/3508802/download?wrap=1)

[High Note data dictionary.xlsxPreview the document](https://canvas.cmu.edu/courses/9526/files/3508800/download?wrap=1)

This script guides you in conducting an exploratory data analysis and a classification and regression tree to build a predictive model that helps you understand what users are most likely to upgrade from free to paid subscriptions.

This exercise is to be completed in your group as listed on Canvas.

Please provide a clear, concise, and well organized essay that addresses at least the following questions:

1. How can we convert more free users to paid premium subscriptions?
2. How can we attract more premium subscribers?
3. How can we keep the users we have engaged so they don’t wander off?

You are free to address other issues in the case as well.  The intent of the assignment is to have you think critically about the business problem faced in the case and how it can be solved through data mining.  Analyze the quantitative material in the case to support your answers.  Spend most of your time in defining and defending your recommendation for what should be done.

Good answers may require assumptions of facts that may not be presented in the case.  You are welcome to make these assumptions, but please state these assumptions and briefly justify why that are reasonable.  Also, you may use whatever resources you can locate to provide further information about this industry or the web in general.  Please reference your sources.

Your response must be typed, double spaced, with one-inch margins, and a 10 to 12 point font size, and must be a PDF file.  This writeup must not exceed 3 pages in length.  You may attach exhibits, tables, and/or graphs to support your arguments.  These supporting materials must be referenced in the text and do not count toward the 3 page limit.

***Required:***

Write a memo to Lisa around at least one of the following questions:

1. How can we convert more free users to paid premium subscriptions?
2. How can we attract more premium subscribers?
3. How can we keep the users we have engaged so they don’t wander off?

The purpose of this memo is to persuade Lisa about your recommendations on some aspect of providing freemium services to motivate users to go “from free to fee”.  You should assume that Lisa is not a data scientist, but it a knowledgeable manager and is interested in using the data that is available to make better decisions.  In your memo you should carefully lay out your analysis and recommendations, but do it in a way that will appeal to a manager who is not trained in data mining.  This means that you need to give enough background about the data and your analysis to help convince Lisa that your recommendation is a good one.  My learning goal for this exercise is not for you to provide me tables and output from R, but to use your analysis and model to interpret the data and tell a story that persuades the reader about motivating users to go “from free to fee”.

To help you write a good memo think about your memo as not a series of tables and analytical models, but a story.  This viewpoint is well illustrated in the following graphic from the blog by Michael Walker entitled “Data Scientists Draw Pictures and Tell Short Stories” ([http://www.datasciencecentral.com/profiles/blogs/data-scientists-draw-pictures-and-tell-short-stories (Links to an external site.)Links to an external site.](http://www.datasciencecentral.com/profiles/blogs/data-scientists-draw-pictures-and-tell-short-stories)).  Although this graphic is about social media metrics, it is still pertinent for our data scientists.  Carefully consider the four main points: capture, analyze, context, and package.  Michael’s suggestion is to “1) be brief, 2) be blunt, and 3) be gone”.

Another good resource for understanding how data scientists can create stories is “Tell a Meaningful Story with Data” ([https://www.thinkwithgoogle.com/marketing-resources/data-measurement/tell-meaningful-stories-with-data/ (Links to an external site.)Links to an external site.](https://www.thinkwithgoogle.com/marketing-resources/data-measurement/tell-meaningful-stories-with-data/)).

Your memo will be evaluated on the following four dimensions:

Content:          How well did your memo answer one of the questions posed?

Analysis:          Did you support your recommendation?

Concept:          Did you demonstrate good knowledge of data science principles and data mining concepts?

Overall:           Is your recommendation persuasive?