Project instructions : Phase 2

Introduction:

The company ibriquet wishes to analyze its user behavior for interesting insights.

The lighter has 7 different modes: Observation week, cheated, friend, ontime, skipped, snoozed and auto skipped

-   Observation week is the first week of the user behavior (example: 01/07/2017 12h55 – 08/07/2017 12h54): the lighter observes and registers the user behavior. If the user wishes to light the lighter for a friend he/she should click on the friend mode button.

So the first week there is only observation week mode and friend mode.

-   Cheat mode: When the user wishes to unblock the lighter to light himself/herself a cigarette
-   Friend mode: When the user wishes to unblock the lighter to light a cigarette for a friend (or use it for something else)
-   Ontime: When the lighter alerts the user that he/she can smoke a cigarette now
-   Skip mode: When the user chooses to skip the lighter alert to smoke a cigarette
-   Snooze mode: When the user asks the lighter that is alerting him/her tp smoke to delay the smoking time a few minutes
-   Auto-skip: When the lighter keeps ringing for the user to smoke and the user does not respond by lighting it/skipping or snoozing the lighter goes to auto-skip mode. It means the cigarette has been skipped and the counter starts for the next cigarette.

The project:

In this project you are asked to create a portal (R Webapp) with the shiny package and/or its variants (shiny dashboard package, etc) that shows pertinent graphs and valuable information about the data.

Phase 2:

You have to build a shiny dashboard (webapp).

The dashboard contains 2 main Tabs: "Single User" and "All Users" tab, within each we have several tabs.

A. Single USER:

1. Information Tab

    -   Age

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- Age Category: 1:Young (Age < 30)2: Middle (30 <= Age < 50) 3: Old (Age >= 50)

- **Money Saved** Cigarettes saved * Cigarettes cost (assumed to be 1$ for all users)

- **Cigarettes Saved** SUM(for all weeks){cigarettes smoked in behaviour week - cigarettes smoked in week n}

  - **Overall Progress** average of the column progress without taking the value of the behaviour week (value is 0)

  - **Overall Progress Category** 3 categories: low medium high p <= 0.2 Lowp >= 0.5 Highelse Medium

  - **Overall Engagement** average (engagement per week), without behaviour week

  - **Best Rate of Progress** week index of max (rate of progress)

  - **Mean of consumed cigarettes** average (consumed cigarettes per day)

  - **Mean of consumed cigarettes in weekdays** average (consumed cigarettes per day) considering only weekdays (M,T;W;T;F)

  - **Mean of consumed cigarettes in weekends** average (consumed cigarettes per day) considering only Saturday and Sunday

  - **Most Smoking Intensity Slot** Mean of cigarettes smoked in slot with the most smoking intensity

2. Classic Tab

  - **Cigarettes consumption per weekday**

    o Consumption = ontime + cheated
    o Consumption weekends = consumption saturday + consumption sunday
    o Consumption weekdays = monday to friday

  - **Cigarettes consumption in last seven days** Cheated + On time

  - **Mean and std of cigarette consumption per weekday**Mean_weekday =

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average(Cheated + On time + behavior) in the weekday in question

- **Progress over all period**

  - for Week 1 and 2 after the behavior week: progress = (consumption(behaviour) - consumption(week))/consumption(behaviour)

  - for Weeks n (3+)o progress = (Average(consumption(week n-1, n-2,n-3)) - consumption(week n))/Average(consumption(week n-1, n-2,n-3)

- Rate of progress

- Rate of progress week n = (progress week n - progress week n- 1)/ABSOLUTEVALUE(progress week n-1)

- For week n where progress week n-1 is zero, rate of progress = (progress week n - progress week n-2)/abs(progress week n-2)

3. Week Tab:

- **Cigarettes per weekday per time slots**

For each week For each time slot of 2 hours

- If week is behavior week Cigarettes per weekday = behaviour

- If week is not behavior week Cigarettes per weekday = cheated + ontime

- **Comparison of cigarettes consumption between weeks**

  - If week is behavior week Cigarettes per weekday = behaviour

  - If week is not behavior week Cigarettes per weekday = cheated + ontime

  - For each week, we plot the Mean cigarettes per each weekday (Monday till Sunday)

  - The graph starts with the day the user started to use the slighter

- **Mode usage per week** For each week, number of smoked cigarettes smoked in that

mode

- **Cigarettes consumption per weekday** For each week

  • If week is behavior week Cigarettes per weekday = behaviour

  • If week is not behavior week Cigarettes per weekday = cheated + ontime

4. **Engagement Tab** :

- **Engagement over all period**

• engagement per day = 1 - number of autoskips that day/(autoskips + skipped + on time + snoozed)

• Engagement per week = 1 - (number of autoskips that WEEK/(autoskips + skipped + on time + snoozed)) If engagement is < threshold (0,4), the user is considered not to be engaged that week, and the number of smoked cigarettes that week is neglected, the effective number of smoked cigarettes that week is equal to the number of smoked cigarettes of the last week where the user was engaged.

5. All days Tab

  - **Cigarettes consumption over all period** For each day of usage of slighter

    • If week is behavior week Cigarettes per weekday = behaviour

    • If week is not behavior week Cigarettes per weekday = cheated + ontime

  - **Mode usage over all period** Number of times the user selected a specific mode for each day since the beginning of usage of slighter 6. Conclusions

B. All Users

1. Information tab

  - **Total number of saved cigarettes:**SUM (for all users) [saved cigarettes for single user]

  - **Total number of money saved:**SUM (for all users) [money saved for single user]

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- **Avg number of saved cigarettes:**Total number of saved cigarettes / number of users

- **Average amount of money saved:**Total amount of money saved / number of users

2. Classic

- **Mean and std of cigarette consumption per weekday** Mean and std of cigarettes consumption per weekday for all users: average of smoked cigarettes (on time + cheated) for all mondays of each user then the average of these averages Mean every user on monday = SUM(ontime+cheated+behaviour on monday for every week) / number of week

- **Average progress of all users** Sum of progress of every user for that week / users that reach that week

- **Cigarettes per weekday per time slots** Sum for every user of the smoked cigarettes that day in that time slot.

- **Average rate of progress of all users** Rate of progress of "Average progress of all users". First two weeks are 0.

3. Engagement

- **Engagement over all period**Average engagement of all users in week n = average of engagement of week n of all users

Deadline: 13/12/2018