MEDIA CONSUMPTION VISUALIZATION

This document contains six preliminary concept models for visualizing datasets containing demographic information and listenership data for all the radio stations in Canada.

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MODEL A

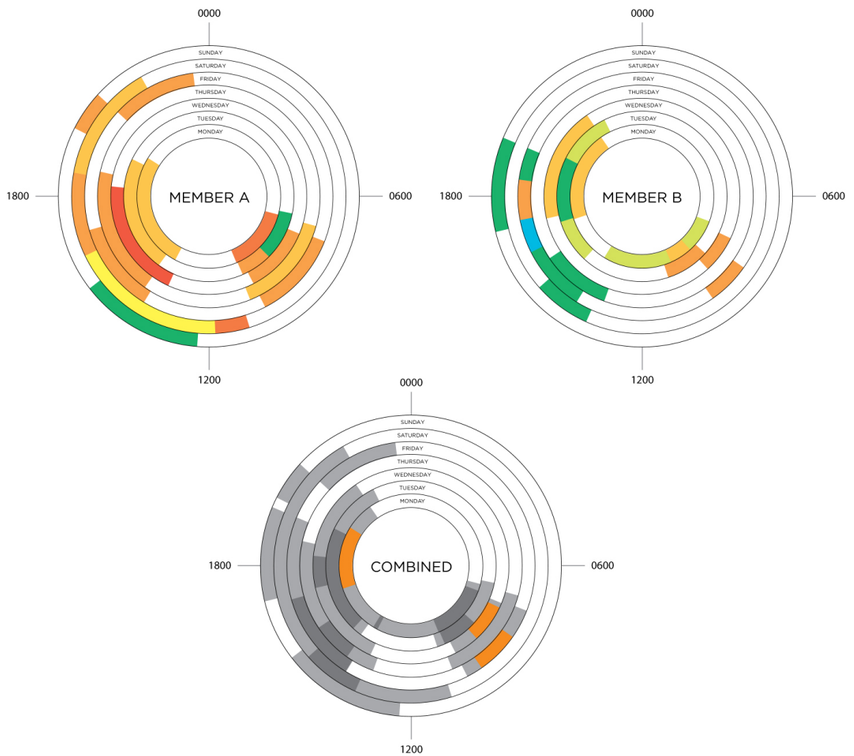
reveals member panel's listening habits on a weekly basis.

What does it answer?
Radio station IDs that member panels have tuned into (marked by different colors for each station), time of the day, and the duration they have listened to each station. More information is available by selecting each section/arc.

Why is it novel?
You can easily recognize reoccurring patterns which indicate members' listening habits and their favorite stations.

Strengths
You can overlap multiple diagrams for different members who share the same household ID to see an overview of their household combined hours (light gray), shared hours between members (dark gray) and shared radio station that they have listened to at the same time (colored areas).

Weaknesses
This model is only good for members who share the same household ID. There is a limitation in the number of colors that can be used to indicate each radio station.



MODEL B

monitors number of members that are tuned to a specific station (red dots multiply by 1000), total number of hours that these members have listened to this station for the past hour (outer red circle) and compares it with average number of hours spent on this station for the past 24 hours or preferred number of days (inner circle).

What does it answer?
By calculating number of listeners + inner and outer circles, this model draws a star that represents fluctuations in the number of listeners and their listening habits for each station. If the listeners' combined number of hours [for the past hour] is close to the median, the shape of the star gets close to a complete circle (figure A). But if there is a significant difference between the listeners' combined number of hours [for the past hour] and the median, final shape gets close to a perfect star (figure B). Radical increase in these numbers will produce either an exploded stars (figure C), or an imploded star (figure D).

Why is it novel?
In a galaxy full of stars (each representing a radio station), a user can quickly recognize sudden shifts in the number of listeners and their listening habits for any radio station.

Strengths
Comparing all the radio stations and their number of listeners/ listening habits at a glance.

Weaknesses
If the number if listeners is lower than 5000 listeners (five sides X 1000), this model will not have enough information to draw a star.

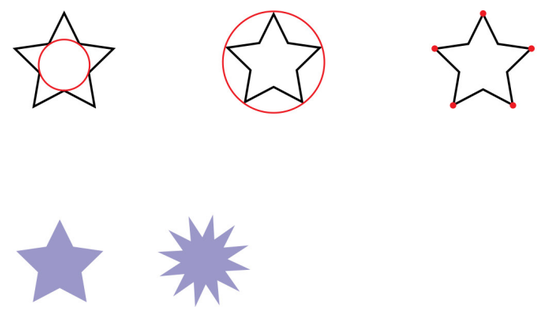


FIGURE A

FIGURE B

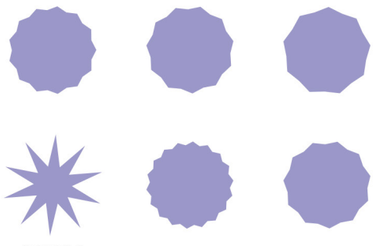


FIGURE C

FIGURE D

MODEL C

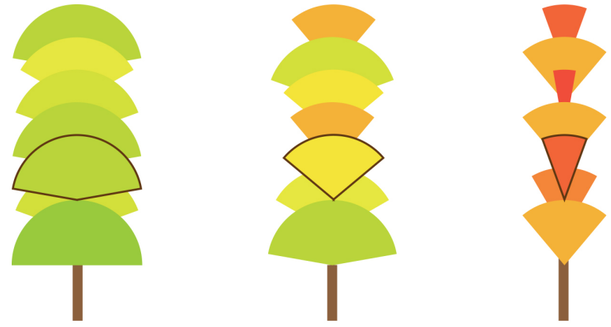
monitors the total media consumption of a group of listeners by means of seven color filled arcs (leaves), each representing a day of the week.

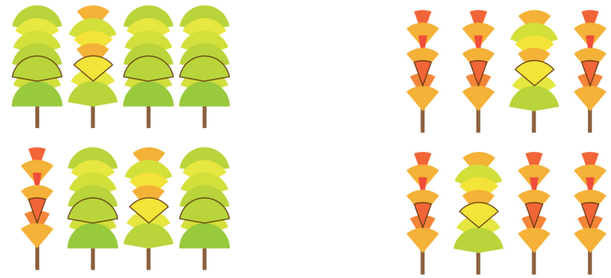
What does it answer?
If the group's average number of media consumption hours in one day is close to the desired amount (for example eight hours), the arc's shape for that day is half a circle with a fill color of green. As the average number of hours for each day decreases, the size of the arcs get smaller and their fill color sampled from a spectrum of colors (from green to dark red or brown), shifts toward brown.

Why is it novel?
The idea is borrowed from nature (grouped shapes represent a garden of plants). Bigger leaves with dark green color represent a healthy state, while smaller leaves with dark red or brown color represent an *unhealthy* state.

Strengths
User can monitor a plot/garden filled with these plants (representing a household, neighborhood, province, etc.) at a glance and compare them together. In a different model, each individual plant can represent the health of a radio station.

Weaknesses
This model can only represent a limited number of days at any time– in this case seven days.





HEALTHY GARDEN

POOR GARDEN

MODEL D

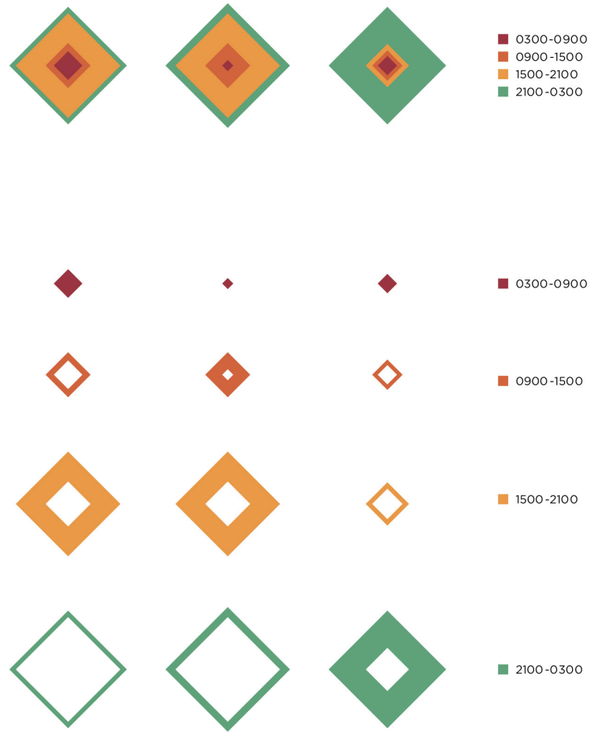
represents media consumption (traffic) of each radio station based on equal time periods.

What does it answer?
Current number of listeners for each radio station is represented with a rectangular (diamond) shape. Thicker outlines/strokes for these shapes indicate more number of listeners to that station and thinner outlines/strokes represent less number of listeners. Different colors represent different time periods.

Why is it novel?
Use of simple geometric shapes and colors to illustrate traffic.

Strengths
User can compare all the stations' traffic at a glance. She can also select only a single time period to compare different stations' traffic during that time.

Weaknesses
This model is a bit abstract and might require some time for the user to understand it. This model functions well if the number of time periods (colored sections) is less than six.



MODEL E

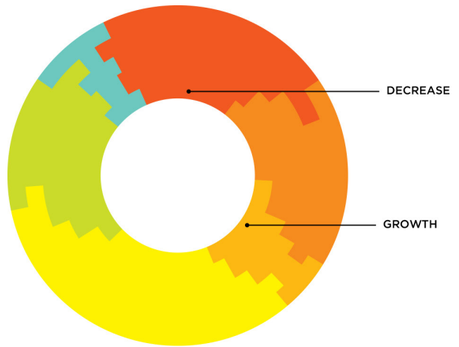
is based on Apple's OS X Time Machine back up schedule.

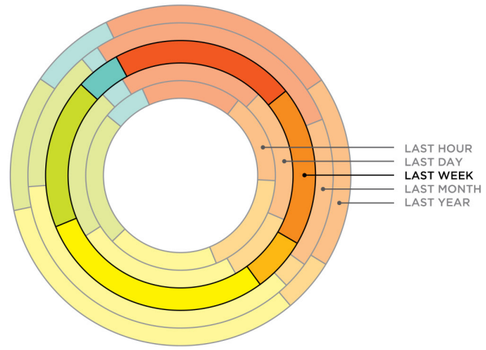
What does it answer?
It is a derivative of a standard pie chart, representing the share of total radio traffic for each station in a certain time period. Each radio station is marked with a color. Inner circles represent smaller time periods (such as last hour or last 24 hours) and outer circles represent longer time periods (last month or last year).

Why is it novel?
User can compare share of traffic for each radio station–at different time periods–at a glance.

Strengths
This model represents the growth or decrease in station traffic and/or number of listeners for each station in an easy and understandable manner.

Weaknesses
This model can only represent a small number of radio stations at any time.





MODEL F

shows the number of listeners on the horizontal axis (base of the triangle) and the combined number of hours that they have listened to that station in a certain time period (for example last day), on the vertical axis (height of the triangle).

What does it answer?
A triangle with a wide base and a short height: it means that a lot of listeners tuned into a station for a short period of time (maybe to listen to a special program). A triangle with a narrow base and high height: It means a few listeners tuned into a station for a long period of time (their favorite channel). An equilateral triangle represents a healthy radio station in terms of both number of listeners and also number of hours they have listened to that station.

Why is it novel?
This model work very well with real data. It employs a very basic geometric shape that is easy to read, understand and analyze. Tis model is color independent.

Strengths
Condition/health of a radio station can be monitored over different time periods by overlapping shapes. For example a set of overlapped triangles with a dark color in both center and sides represent least amount of change in number of listeners and their media consumption hours. Another strength of this model is that user can compare a lot of stations at the same time.

Weaknesses
This model requires a large computer display in order to represent a large number of stations side by side. Scroll bars or various filtering methods can be employed to overcome this weakness.