README

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Reason: This is being developed as part of a project for unit NPSC2001 (Curtin University)
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Access: https://dcrwapol.shinyapps.io/Dashboard_DEMO/

Abstract

- Sample data provided contained 800 incident reports.
- Each incident had 22 observations. E.g. Firearms used would either be reported "Y" for yes, "N" for no or "NA" for unavailable observation.
- The 22 observations have been summarised to 8 distinct latent variables based on a statistical model (Bayesian Belief Network) and were categorised as high or low.
- Each one of the latent variables if perceived at a high rate will be assigned a weight.
- The 8 variables and their respective weights when at a high rate;
    - Threat to community: 30
    - Risk to office safety: 30
    - Seized property: 5
    - Victims vulnerability: 16
    - Profile of location: 2.5
    - Vehicle involvement: 2.5
    - Suspect recidivism: 7
    - Harm of incident: 7
    - All low rates were assigned a weight of 0
- For each incident, a linear combination of each latent variable will provide this incident an interest score. (*Note the score will be out of 100).
- All incidents which score greater or equal to 65 are perceived as significant and should be reviewed by the preparing officer.

Dashboard

Home Page

- 3 value boxes at the top describing:
    - Total incidents reported
    - Total number of significant incidents (incidents which score 65 or greater)
    - Unknowns (these are incidents which contain unavailable observations which may make their total score fall within the outline threshold)
    - Daily Crime Review Box
        - Each bar represents an incident and what factors were involved in determining that particular interest score

- The legend describes what each colour signifies on the bar. If a particular colour is present, it is interpreted as a high level of occurrence. E.g. the above bar displays the aqua colour which means a high level of threat to community occurred or that particular incident scored 30 in threat to the community.

- The above widgets allow the user to input how many incidents to display. Note recommended to display a maximum of 30 incidents for clarity of display. Note if the incidents ranked between 30-40 is required. Alter the "From" to 30 and the "To" to 40.

Side Panel

- Consists of various tabs that can be accessed

Raw Data Panel

- Consists of a data table that outputs all the reported incidents and their respective score. Functionality of the table includes:
  - Search for specific incident number
  - Filter the latent variables. E.g. Can filter for only "High" rate of suspect recidivism and "Low" rate of all other variables
- Below the table has user input options to submit a form on which significant incidents are not agreed upon.

Unknown Panel

- Consists of a data table that outputs all the reported incidents which the statistical model was not able to score correctly due to unavailable data. As such these incidents may fall within the outline threshold)

All subsequent Side Panels

- On each remaining side panels, the user can access the data on that particular latent variable at high rate occurrence. E.g. selecting the "Suspect Recidivism" tab, it outlines all incidents where Suspect Recidivism was high.