trapDetect

The goal of trapDetect is to provide the functionality to simulate the spread of individuals over a given area (such as an orchard or block), and provide the tools to determine the probability of detecting a pest using various detection functions.

Installation

You can install trapDetect from GitHub with:

```r
# install.packages("devtools")
devtools::install_github("dangladish/trapDetect")
```

Please note that trapDetect is in early development and likely will change significantly.

The main function: calc_escape_prob()

The main function is `calc_escape_prob()` which simulates the spread of a population of individuals using the `sim_spread()` function if not provided, and then determines the probability of detecting an individual for a given trap configuration using `p_detect_one()`. There are a number of optional arguments in `calc_escape_prob()` which the user can set for their own purposes. A basic example can be run using the following code:

```r
library(trapDetect)
calc_escape_prob()
#> [1] "Warning: generating survey and raster..."
#> [1] "No initial data detected, generating random simulations"
#> $mean_prob
#>  [1] 0.0537566 0.1644932 0.1979285 0.2092289 0.2173899 0.2200744 0.2212276
#>  [8] 0.2223050 0.2243215 0.2274192 0.2430412
```

Contact

For all inquires regarding the **trapDetect** R package, please contact: Dan Gladish (Dan.Gladish@data61.csiro.au).