Methodologies (BEL-17)

[BEL-18] JIRA methodology Created: 08/Oct/18 Updated: 14/Oct/18

Status:	Ready for review
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Highest
Reporter:	Matúš Kalafut	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Matúš Kalafut
Sprint:	BEL Sprint 1

Description

Create JIRA methodoogy.

Comments

Comment by Matúš Kalafut [14/Oct/18]

link to methodology

Store Logged Data (BEL-23)

[BEL-50] Tests and DI Created: 10/Oct/18 Updated: 10/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	High
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Issue Links:	**Blocks**			
	blocks	BEL-42	Backend server	Blocked
Watchers:	Kamil Janeček			
Sprint:	BEL Sprint 1			

Description

Find correct way to test python Flask applications.

pytest

some dependency injection or correct way to mock modules so we can easily make unit tests.

[BEL-17] Methodologies Created: 08/Oct/18 Updated: 09/Oct/18

Status:	In Progress
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Management Story	**Priority:**	High
Reporter:	Matúš Kalafut	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	**Remaining Estimate:**	Not Specified
Σ Time Spent:	Not Specified	**Time Spent:**	Not Specified
Σ Original Estimate:	Not Specified	**Original Estimate:**	Not Specified

Sub-Tasks:

Key	Summary	Type	Status	Assignee
BEL-18	JIRA methodology	Sub-task	Ready for review	
BEL-21	Methodology for code writing	Sub-task	To Do	Kamil Janeček
BEL-22	Methodology for version control	Sub-task	To Do	Kamil Janeček
BEL-39	Methodology for code review	Sub-task	To Do	Tomáš Jendrejčák
BEL-40	Methodologies for documentation	Sub-task	In Progress	Michaela Balážová
BEL-47	Product deployment methodology	Sub-task	To Do	Matej Končál
BEL-48	Definition of done	Sub-task	To Do	Michal Manak
BEL-49	Definition of ready	Sub-task	To Do	Michal Manak

Watchers:	Matúš Kalafut
Epic Link:	Project kickoff
Sprint:	BEL Sprint 1

Description

Create all required methodologies.

Methodologies (BEL-17)

[BEL-40] Methodologies for documentation Created: 09/Oct/18 Updated: 15/Oct/18

Status:	In Progress
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Michaela Balážová	**Assignee:**	Michaela Balážová
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		

Time Spent:	Not Specified
Original Estimate:	Not Specified

Watchers:	Michaela Balážová
Sprint:	BEL Sprint 1

Store Logged Data (BEL-23)

[BEL-43] Integrate server with database Created: 09/Oct/18 Updated: 14/Oct/18

Status:	Blocked
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Issue Links:	**Blocks**			
	is blocked by	~~BEL-41~~	Configure database system	Done
	is blocked by	BEL-42	Backend server	Blocked
Watchers:	Gitlab User, Kamil Janeček			
Sprint:	BEL Sprint 1			

Description

Save data to database.

Comments

Comment by Gitlab User [14/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-43 - Basic events DAO'

Comment by Gitlab User [14/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-43 - Use simple DI for MongoClient'

Store Logged Data (BEL-23)

[BEL-42] Backend server Created: 09/Oct/18 Updated: 14/Oct/18

Status:	Blocked
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Matej Končál

Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Issue Links:	**Blocks**			
	blocks	BEL-43	Integrate server with database	Blocked
	is blocked by	BEL-50	Tests and DI	To Do
Watchers:	Gitlab User, Kamil Janeček			
Sprint:	BEL Sprint 1			

Description

Select backend technology (language, framework) for server.

Expose endpoints for:
1. saving data

2. retrieving data

Setup repository + CI (dockerize) + auto deploy to our VM

Comments

Comment by Gitlab User [10/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-42 - Add python package instead of app.py'

Comment by Gitlab User [10/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-42 - Basic gitlab CI configuration'

Comment by Gitlab User [10/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-42 - Basic dockerfile'

Comment by Gitlab User [10/Oct/18]

Kamil Janecek mentioned this issue in a commit of tp-fastar/server:
'BEL-42 - Initial project structure'

[BEL-7] Log Mouse Raw Data

Created: 06/Oct/18 Updated: 14/Oct/18

Status:	Ready for review		
Project:	behametrics-learn		
Component/s:	None		
Affects Version/s:	None		
Fix Version/s:	None		

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Kamil Burda
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	**Remaining Estimate:**	Not Specified
Σ Time Spent:	Not Specified	**Time Spent:**	Not Specified
Σ Original Estimate:	Not Specified	**Original Estimate:**	Not Specified

Sub-Tasks:	**Key**	**Summary**	**Type**	**Status**	**Assignee**
	BEL-44	Logging functionality	Sub-task	Done	Kamil Janeček
	BEL-45	Verify logging	Sub-task	Done	Ján Vnenčák
Acceptation criteria:	List of log events in console				
Watchers:	Gitlab User, Kamil Burda				

Epic Link:	Data Logging on the Web
Sprint:	BEL Sprint 1

Description

As a researcher
I want to log raw data from computer mice on the web
so that I can use the data for further analysis.

Data to log:

- **log name of the event + generic data (x, y, timestamp)**
- coordinates (x, y)
- timestamp - as precise as possible
- event type - move, click (left, middle, right, ...), scroll, ...
  - in case of clicks, distinguish mouse-down and mouse-up

Additional comments:

- browser and version compatibility - not really sure, as many as possible, I guess
  - chrome- latest
  - firefox- latest
- performance concerns - not important at the moment

References:

- https://developer.mozilla.org/en-US/docs/Web/API/MouseEvent/buttons
- https://developer.mozilla.org/en-US/docs/Web/Events/wheel

Comments

Comment by Gitlab User [14/Oct/18]

Jan Vnencak mentioned this issue in a merge request of tp-fastar/logger-web:
'Resolve BEL-7 "Mouse logger"'

[BEL-23] Store Logged Data

Created: 09/Oct/18 Updated: 14/Oct/18

Status:	In Progress
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	**Remaining Estimate:**	Not Specified
Σ Time Spent:	Not Specified	**Time Spent:**	Not Specified
Σ Original Estimate:	Not Specified	**Original Estimate:**	Not Specified

Sub-Tasks:

Key	Summary	Type	Status	Assignee
BEL-41	Configure database system	Sub-task	Done	Kamil Janeček
BEL-42	Backend server	Sub-task	Blocked	Matej Končál
BEL-43	Integrate server with database	Sub-task	Blocked	
BEL-50	Tests and DI	Sub-task	To Do	

Acceptation criteria:	test of saving data (example input - json) and display correct data on retrieval
Watchers:	Gitlab User, Kamil Burda
Epic Link:	Data Logging on the Web
Sprint:	BEL Sprint 1

Description

As a researcher
I want to store logged data from the web
so that I can later analyze the data at any given time.

- display stored data
- technologies

Comments

Comment by Gitlab User [14/Oct/18]

Kamil Janecek mentioned this issue in a merge request of tp-fastar/server:
'WIP: Resolve BEL-23 "Store logged data"'

Methodologies (BEL-17)

[BEL-22] Methodology for version control Created: 08/Oct/18 Updated: 13/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Michaela Balážová	**Assignee:**	Kamil Janeček
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Acceptation criteria:	Defined methodologies for version control approved by all team members
Watchers:	Matej Končál, Michaela Balážová
Sprint:	BEL Sprint 1

Description

Create methodologies for version control

Methodologies (BEL-17)

[BEL-39] Methodology for code review Created: 09/Oct/18 Updated: 13/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Michaela Balážová	**Assignee:**	Tomáš Jendrejčák
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		

Time Spent:	Not Specified
Original Estimate:	Not Specified

Watchers:	Michaela Balážová
Sprint:	BEL Sprint 1

[BEL-11] Choose Frequency of Logging from Mobile Devices

Created: 07/Oct/18 Updated: 12/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher
I want to be able to set the frequency of logging of individual sensors
in order to preserve website performance while logging.

[BEL-19] Team setup

Created: 08/Oct/18 Updated: 12/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Management Story	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	**Remaining Estimate:**	Not Specified
Σ Time Spent:	Not Specified	**Time Spent:**	Not Specified
Σ Original Estimate:	Not Specified	**Original Estimate:**	Not Specified

Sub-Tasks:

Key	Summary	Type	Status	Assignee
BEL-14	Assign roles	Sub-task	Done	Michaela Balážová
BEL-15	Team logo	Sub-task	Done	Michaela Balážová
BEL-16	Webpage	Sub-task	In Review	Ján Vnenčák
BEL-51	Font webpage	Sub-task	Done	Michal Manak

Watchers:	Kamil Janeček
Epic Link:	Project kickoff

[BEL-36] Plot curves for FAR, FRR and EER

Created: 09/Oct/18 Updated: 12/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Visualization of data

Description

x axis - classifier threshold

y axis - FAR curve, FRR curve, EER (intersection of FAR and FRR)

This plot only applies to classifiers yielding a continuous value on the output (probability, distance, etc.).

If the threshold variable has a finite number of possible values, calculate FAR and FRR for each threshold value.

Otherwise, select an interval to choose threshold values from and calculate FAR and FRR.

If there is no threshold for which FAR = FRR, calculate EER from the two adjacent points where the FAR becomes greater than FRR or vice versa.

Methodologies (BEL-17)

[BEL-47] Product deployment methodology

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Matej Končál
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Janeček
Sprint:	BEL Sprint 1

Methodologies (BEL-17)

[BEL-48] Definition of done Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Michal Manak
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Janeček
Sprint:	BEL Sprint 1

Methodologies (BEL-17)

[BEL-49] Definition of ready Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Michal Manak
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Janeček
Sprint:	BEL Sprint 1

[BEL-32] Visualization of raw data Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0

Labels:	None
Remaining Estimate:	Not Specified
Time Spent:	Not Specified
Original Estimate:	Not Specified

Watchers:	Kamil Burda
Epic Link:	Visualization of data

[BEL-33] Visualization of segments

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Visualization of data

Description

Segments = chunks of raw data

[BEL-34] Plot ROC curve

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Visualization of data

Description

ROC = receiver operating characteristic

[BEL-35] Plot DET curve Created: 09/Oct/18 Updated: 09/Oct/18	
Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Visualization of data

Description

DET = detection error trade-off

[BEL-37] Add events to raw data visualization Created: 09/Oct/18 Updated: 09/Oct/18	
Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Visualization of data

Description

Events:

- device-specific (mouse-down, ...)
- custom

Different types of events should be marked differently.

[BEL-38] Big picture Created: 09/Oct/18 Updated: 09/Oct/18

Status:	In Progress
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Management Story	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Σ Remaining Estimate:	Not Specified	**Remaining Estimate:**	Not Specified
Σ Time Spent:	Not Specified	**Time Spent:**	Not Specified
Σ Original Estimate:	Not Specified	**Original Estimate:**	Not Specified

Sub-Tasks:	**Key**	**Summary**	**Type**	**Status**	**Assignee**
	BEL-46	Architectural view	Sub-task	To Do	
Watchers:	Kamil Janeček				
Epic Link:	Project kickoff				
Sprint:	BEL Sprint 1				

Methodologies (BEL-17)

[BEL-21] Methodology for code writing Created: 08/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Michaela Balážová	**Assignee:**	Kamil Janeček
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Acceptation criteria:	Defined methodologies for code writing approved by all team members
Watchers:	Matej Končál, Michaela Balážová
Sprint:	BEL Sprint 1

Description

Create methodologies for code writing

Big picture (BEL-38)

[BEL-46] Architectural view Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None

Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Janeček
Sprint:	BEL Sprint 1

[BEL-20] Project kickoff

Created: 08/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Epic	**Priority:**	Medium
Reporter:	Kamil Janeček	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Name:	Project kickoff
Watchers:	Kamil Janeček

[BEL-31] Visualization of raw data, events, preprocessed data and results

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Epic	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Name:	Visualization of data
Watchers:	Kamil Burda

[BEL-30] Scalability of user model w.r.t. number of users

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Classification of samples for experimental results

Description

As a researcher
I want to be able to assess the metrics for classification results w.r.t. the number of users in the model
so that I can determine the scalability of the behavioral biometric user model.

Example:

Suppose I have data from 1000 users, I want to compute the accuracy of user identification for 5, 10, 20, 50, ... up to 1000 users. If the identification accuracy drops below e.g. 90% at 100 users, I can proclaim that my method is not usable for identification on the web for UX purposes for that many users.

[BEL-28] Simplify training and testing of user models for experiments

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Epic	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Name:	Classification of samples for experimental results
Watchers:	Kamil Burda

[BEL-29] User authentication

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn

Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Classification of samples for experimental results

Description

Usually, for *n* users from an experiment, user authentication is computed as follows:

- For each user:
  - make user the owner (positive class), the others impostors (negative class)
  - train model (binary classifier, anomaly detector)
  - test model
- report metrics from all users
  - metrics for each user individually
  - statistics - average, std.

Metrics

- "typical" metrics for binary classifiers: accuracy, precision, recall, F1-score
- domain-specific: FAR, FRR, EER

Team setup (BEL-19)

[BEL-16] Webpage Created: 08/Oct/18 Updated: 09/Oct/18

Status:	In Review
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Sub-task	**Priority:**	Medium
Reporter:	Ján Vnenčák	**Assignee:**	Ján Vnenčák
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Issue Links:	**Relates**			
	relates to	~~BEL-4~~	Setup webpage deploy to VM	Done
Acceptation criteria:	Webpage meets all the minimum requirements. Webpage is available on team04-18.studenti.fiit.stuba.sk.			
Watchers:	Ján Vnenčák			

Description

Website minumum requirements:

- team name
- information about teammates

- project plan
- current state of plan
- teammates roles
- links to documentation and meetings records
- all interesting things connected with the project and the project workflow

[BEL-27] Extract features from segments

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Preprocessing

Description

Examples:

- mean velocity on x-axis
- std. dev. of velocity on x-axis
- mean velocity on x-axis at the start
    - start - first *n* points, first points satisfying a criterion, ...

[BEL-24] Apply preprocessing methods to logged data during analysis

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Epic	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Name:	Data Preprocessing
Watchers:	Kamil Burda

[BEL-26] Split raw data to segments

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Preprocessing

Description

Examples of split criteria:

- explicit events - for touch screen, all data between touch-down and touch-up form one segment
- regular time intervals - for accelerometer data
- difference in values of a column
- - e.g. rapid change in velocity -> new segment

[BEL-25] Compute derived columns from raw data

Created: 09/Oct/18 Updated: 09/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Preprocessing

Description

Examples of derived columns:

- *velocity on x-axis* - computed from *x* and *timestamp* columns from raw data
- *velocity magnitude* - computed from *x*, *y* and *timestamp*
- *acceleration magnitude* - computed from *velocity magnitude*

[BEL-6] Log and store raw data and events from websites Created: 06/Oct/18 Updated: 09/Oct/18	
Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Epic	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Epic Name:	Data Logging on the Web
Watchers:	Kamil Burda

[BEL-13] Log Session Metadata Created: 07/Oct/18 Updated: 07/Oct/18	
Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher
I want to log information about the current session
so that I can distinguish raw data from multiple sessions.

Fields:

- session identifier
- user identifier

[BEL-12] Log Device Metadata Created: 07/Oct/18 Updated: 07/Oct/18	
Status:	To Do
Project:	behametrics-learn
Component/s:	None

Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher
I want to log metadata about the currently used device for browsing
so that I can distinguish raw data from different devices.

Fields:

- type - mouse, mobile device, ...
- device sensor - touch, accelerometer, ... (undefined if type is mouse)
- OS, version, model
- a unique device identifier

[BEL-8] Log Custom Events

Created: 06/Oct/18 Updated: 07/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher
I want to specify custom events to be logged
so that I can enhance pre-processing of raw data.

Events could be defined in the code.

Examples: clicking or moving through a specific object

The number of fields to be logged is variable. At the minimum, the name of the event should be logged (could be anything).

Logging custom events on the web should be possible on any device.

[BEL-9] Log Raw Data from Mobile Devices

Created: 07/Oct/18 Updated: 07/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher
I want to log raw data from mobile devices on the web
so that I can use the data for further analysis.

Mobile devices = for now, smartphones and tablets

Raw data to log:

- touch screen
  - touch coordinates (x, y)
  - timestamp (as precise as possible)
  - touch size, touch pressure (only one of these fields returns valid values, depending on the device)
  - major and minor axis of touch area
  - touch events - down, move, up, ...
  - do not forget to support multi-touch gestures
- sensors (accelerometer, gyroscope, ...)
  - values (e.g. acceleration in x, y. z)
  - timestamp

Some of the sensors (or fields therein) may not be supported on all browsers/devices, this may help:

- https://github.com/Modernizr/Modernizr

References:

- https://developer.mozilla.org/en-US/docs/Web/API/Touch_events/Using_Touch_Events

[BEL-10] Choose Sensors to Log from Mobile Devices

Created: 07/Oct/18 Updated: 07/Oct/18

Status:	To Do
Project:	behametrics-learn
Component/s:	None
Affects Version/s:	None
Fix Version/s:	None

Type:	Story	**Priority:**	Medium
Reporter:	Kamil Burda	**Assignee:**	Unassigned
Resolution:	Unresolved	**Votes:**	0
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Watchers:	Kamil Burda
Epic Link:	Data Logging on the Web

Description

As a researcher,
I want to be able to easily select which sensors from mobile devices are logged from a website
so that I can obtain relevant data up front and potentially prevent degradation of the website performance.

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