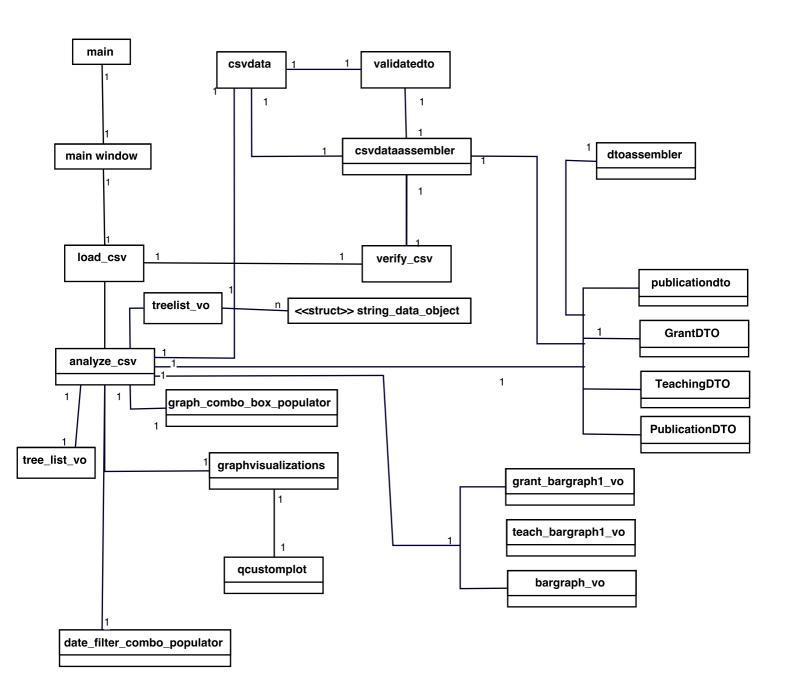
CLASS DIAGRAM



analyze_csv

- ui: AnalyzeCSV
- scene: QGraphicsScene
- customPlot: QCustomPlot
- p_tree: tree_list_vo
- teach_tree: tree_list_vo
- get_ui_pointer
- on_load_btn_clicked()
- on_verify_btn_clicked()
- on_filter_btn_pres_clicked()
- on_filter_btn_teach_clicked()
- on_filter_btn_pub_clicked()
- on_filter_btn_grant_clicked
- populate_publication_tree()
- populate_grant_tree()
- populate_teaching_tree()
- populate_presentation_tree()
- populate_publication_bargraph()
- populate_grant_bargraph()
- populate_teaching_bargraph()
- populate_presentation_bargraph()

bargraph_vo

- + name: string
- + maxY: double
- + yearLabel: QVector<Qstring>
- + yearTick: QVector<double>
- + field2: QVector<QString>
- + values:
- OVector<OVector<double>> + values: vector<vector<int>>>
- + Bargraph_VO()

csvdataassembler

+ AssembleData

(data: CSVData<PublicationDTO>>, filename: string)

csvdata

- + nMan: int
- + errorRows: vector<vector<string>>
- + dtos: vector<DTOType>
- + header: vector<string>
- + CSVData()
- + addError(vector<string>)
- + addDTO (dto: DTOType)
- + validateErrors()

date_filter_combo_populator

- + PopulateDateCombo(data: shared_ptr <CSVData<GrantDTO>>)
- + PopulateDateCombo(data: shared_ptr <CSVData<TeachingDTO>>)
- + PopulateDateCombo(data: shared_ptr <CSVData<PresentationDTO>>)
- + PopulateDateCombo(data: shared_ptr <CSVData<PublicationDTO>>)

dtoassembler

+ assembleDTO (dto: PublicationDTO, f: vector<string>)

grant_bargraph1_vo

- + name: string
- + years: vector<string>

start: int, end: int)

- + grantTypes: vector<string>
- + values: vector<vector<int>>
- + Grant_BarGraph1_VO (data: shared_ptr<CSVData<GrantDTO>>>,

graphvisualizations

- + plot_bargraph (customPlot: QCustomePlot, vo:
- + plot_grants_vs_trials(plot: QCustomPlot, bargraph_vo: Grant_BarGraph1_vo)
- + plot_pubtype_vs_date (plot: QCustomPlot)
- + plot_teaching_vs_course (plot: QCustomPlot, barograph_vo: Teaching_Bargraph1_vo)

grantdto

- + memberName: String
- + domain: String
- + fundingType: String
- + status: String
- + role: String
- + title: String
- + pInvestigator: String
- + startDate: unsigned int
- + endDate: unsigned int
- + totalAmount: float
- + cInvestigator: shared_ptr<vector<string>>
- + shortTitle: String
- + applicationSummary: String
- + grantPurpose: String
- + area: String
- + grantNum: String
- + administeredBy: String
- + fundingSource: String
- + project : String
- + currency: String
- + personnelPaid: String
- + proratedAmount: float
- + receivedAmount: float
- + memberShare: float
- + HrPerWk: float
- + treePath: vector<string>
- + treeValues: vector<double>
- + peerReviewed: String
- + industryGrant: String
- + monetary: String
- + rpt: String
- + rnw: String
- + edGrant: String
- + dupReported: String
- + getName(): string
- + getBarField1(bType:int)
- + getBarField2(bType:int)
- + getBarValue(double)
- + getYear(bType: int)
- + getTreePath(bType: int)
- + getTreeValues(bType: int)

graph_combo_box_populator

- + PopulateGraphComboName(tdata: shared_ptr <CSVData<PublicationDTO>>)
- + PopulateGraphComboType(tdata: shared_ptr <CSVData<PublicationDTO>>)
- + PopulateGraphComboName(tdata: shared_ptr <CSVData<PresentationDTO>>)
- + PopulateGraphComboType(tdata: shared_ptr <CSVData<Pre>resentationDTO>>)
- + PopulateGraphComboName(tdata: shared_ptr <CSVData<GrantDTO>>)
- + PopulateGraphComboFunding(tdata: shared_ptr <CSVData<GrantDTO>>)
- + PopulateGraphComboProgram(tdata: shared_ptr <CSVData<TeachingDTO>>)

load_csv

- ui: LoadCSV
- verify_csv_page: VerifyCSV
- analyze_csv_page: AnalyzeCSV
- filename: QString
- recentFilesList: QStringList
- recentFilesModel: QStringListModel
- csvType: int
- on_verify_btn_clicked()
- on_analyze_btn_clicked()
- on_publication_btn_clicked()
- on_grant_btn_clicked()
- on_presentation_btn_clicked()
- on_teaching_btn_clicked()
- # addRecentFile(file: QString)
- + LoadCSV(parent: QWidget)

main

+ main: int

main window

- ui: MainWindow
- load_cv_page: LoadCSV
- + MainWindow (parent: QWidget)
- on_open_program_clicked()

presentationDTO

- + name: String
- + domain: String
- + type: String
- + role: String+ title: String
- + date: unsigned int
- + activityType: String
- + geoScope: String
- + host: String
- + country: String
- + province: String
- + city: String
- + attendeeNum: String
- + hours: String
- + teachScore : String
- + presentation: String
- + remarks: String
- + citation: String
- + personalRenumeration: String
- + authorship:
- shared_pt<vector<string>>
- + presentationDTO()
- + getName(): string
- + getBarField1(bType:int)
- + getBarField2(bType:int)
- + getBarValue(bType:int)

teach_bargraph1_vo

- + name: string
- + years: vector<string>
- + teachTypes: vector<string>
- + values: vector<vector<int>>
- + Teach_BarGraph1_VO
- (data: shared_ptr<CSVData<TeachDTO>>,

start: int, end: int)

publicationdto

- + name: String
- + domain: String
- + journalName: String
- + title: String
- + ISBN: String
- + status: String
- + type: String
- + role: String
- + date: unsigned int
- + id: unsigned int
- + authors: shared_ptr<vector<string>>
- + volume: String
- + issue: String
- + pageRange: String
- + DOI : String
- + website: String
- + publisher: String
- + personalRenumeration: String
- + traineeDetails: String
- + mostSignificantDetails: String
- + pubmedID: String
- + authorNumber: String
- + impactFactor: String
- + peerReviewed: String
- + international: String
- + presentation: String
- + mostSignificant: String
- + education: String
- + treePath: vector<string>
- + treeValue: vector<double>
- + publicationDTO()
- + getName(): string
- + getBarField1(bType:int)
- + getBarField2(bType:int)
- + getBarValue(bType:int)
- + getYear(bType: int)
- + getTreePath(bType: int)
- + getTreeValues(bType: int)

teachingdto

+ name: String

+ domain: String

+ program: String

+ type: String

+ scope: String

+ hourSession: float

+ numberSession: float

+ totalHours: float

+ startDate: unsigned int

+ endDate: unsigned int

+ institution: String

+ faculty: String

+ department: String

+ division : String

+ location: String

+ facultyComments: String

+ students: String

+ lecture: String

+ development: String

+ stipend : String

+ comment: String

+ teachingDTO()

+ getName(): string

+ getBarField1(bType:int)

+ getBarField2(bType:int)

+ getBarValue(bType:int)

treelist_vo

+ treelist_vo(data: shared_ptr <CSVData <DTOType>>, start:int, end:int, type:int))

+ addbranch (node: TreeList_Node, dto: DTOType, depth: size_t)

+ makeQTreeNode (parent: QType, node: TreeList_Node)

+ makeQTree (tree: QTreeWidget)

<<struct>> TreeList_Node

+ label: string

+ children: vector<TreeList_Node>

+ value: double

tree_list_vo

+ num_pub_types: int

+ num_grant_types: int

+ num_funding_types: int

+ num_teach_types: int

+ parent_set: vector<string_data_object>

+ child_set:

vector<vector<string_data_object>>

+ tree_list_vo()

+ populate_for_publications (_data: shared ptr<CSVData<PublicationDTO>>)

+ populate_for_grants (_data: shared_ptr<CSVData<GrantDTO>>)

+ populate_for_teaching (_data: shared_ptr<CSVData<TeachingDTO>>)

+ populate_for_presentations :(_data: shared_ptr<CSVData<PresentationDTO>>)

+ get_parent_set()

+ get_child_set()

- find_label_index(label: string, set: vector<string_data_object>)

validatedto

+ trimLeft (s: string)

+ trimRight(s: string)

+ trimString(s: string)

+ validateString(s: string)

+ isLeapYear(y: int)

+ makeDate(s: string)

+ validateDate(s: string)

+ validateAuthorName(s: string)

+ makeAuthors(s: string)

+ makeMoney(s: string)

+ validateMoney(s: string)

+ validateAuthors(s: string)

+ validatePublications (fields: vector<string>)

+ validateGrant (fields: vector<string>)

+ validatePresentation (fields: vector<string>)

+ validateTeaching (fields: vector<string>)

<<struct>> string_data_object

+ label: string

+ num: double

+ num2: double

+ value: double

verify_csv

- ui: VerifyCSV

analyze_csv_page: AnalyzeCSV

- data_pub: shared_ptr <CSVData<PublicationDTO>>>

- data_grant: shared_ptr <CSVData<GrantDTO>>

- data_teach: shared_ptr <CSVData<TeachingDTO>>

- data_pres: shared_ptr <CSVData<Pre>entationDTO>>

- dtoType: int

- assembled: bool

+ verifyVSC (filename: QString, csvType: int, parent: QWidget)

- on_load_btn_clicked()

- on_analyze_btn_clicked()

- on_ignoreall_btn_clicked()

- on_ignore_btn_clicked()

- onDataChanged(topLeft: QModelIndex, bottomRight: QModelIndex)

-PublicationTableModel()

-PublicationTableModel()

- on_confirm_btn_clicked()

- enableConfirmChanges()