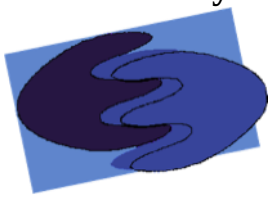
Preliminary Design

Subconscious Analysis Software (SAS)

Requested by:
Dr. Eric Breimer
Associate Professor
Department of Computer Science
Siena College

Delivered by:



enigma elucidation

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System Review

1.1 Product Overview

Our client, Dr. Breimer, is interested in researching biases using Implicit Association Tests (IATs). An IAT is a tool used by psychologists to test a person's bias of particular subjects based on the time it takes them to categorize stimuli objects relating to the subjects in question.

An IAT includes both a general demographic survey and the test itself. The survey is given to the participant before they take the test, so that whoever is viewing the data is able to thoroughly use the data to make conclusions. The reaction time test consists of four categories, including two pairs of opposites to compare to one another, and a set of stimuli objects associated with each category. One category from each pair is referred to as a primary category. These two categories are the main subjects that the test is checking for a bias. For example, a test may be as follows: the pair of opposites could be female and male, while the comparison pair could be computer science and liberal arts. This test example might check whether an IAT participant has positive or negative feelings about females in the computer science field, and how strong those feelings are. The primary categories in this example would be female and computer science.

The associated stimuli objects can be either pictures or words that correspond to the categories. A participant categorizes a stimuli object quickly by pressing one of two keys on their keyboard. The time it takes a participant to categorize certain stimuli is what helps calculate the bias they may have. Due to the fact that there are 200 associations, split into 6 blocks, in each test, creating IATs and collecting the data from them can be very time consuming. enigma elucidation will create a website where Dr. Breimer can log in as the administrator and create IATs. This software system, called Subconscious Analysis Software (SAS), will generate a URL for each IAT created, which Dr. Breimer can then give to anyone he wishes to be a participant. SAS will store data and calculate results for each participant, which Dr. Breimer will be able to view and export in different formats that will help him further his research interests.

1.2 User Case Narratives

There will be two users of SAS, the administrator and the participant. While using SAS, these two types of users will have access to IATs, but in different ways. The admittances of the two users of SAS are described below.

1.2.1 Dr. Breimer / SAS Project Client / SAS System Administrator

There will be a single administrator account for this system. The Administrator will be the client, Dr. Eric Breimer, and anyone else Dr. Breimer decides to share the account with. The Administrator will be able to login to an account on the SAS website with a specified username and password. Once logged in, the Administrator will not only be presented with a list of all the existing IATs, but will also be given several options. The Administrator will have the ability to click on any of the current IATs, which will then allow the Administrator to look at the current data of that IAT. If the Administrator chooses to access the IAT's data, the Administrator will be given a list of all the Participants. The Administrator can then choose to access the data of a specific Participant, where the Administrator will be given a summary of the Participant's experience including the following information: the Participant's answers from the demographic survey; whether or not the Participant completed the IAT; the Participant's latency for each question; the Participant's association scores for each pair of categories; and, anything else relating to the Participant's SAS experience.

Along with the ability to access records for existing IATs, the Administrator will have the ability to create new IATs. The Administrator will be able to create a unique demographic survey to help the Administrator analyze the new IAT. The Administrator can insert categories and selected stimuli associated with these categories. After all of the stimuli objects are chosen, the Administrator has the option to choose whether or not a Participant will be able to view the Participant's results after the Participant is done taking the IAT. When the Administrator is finished creating an IAT, the Administrator can save the IAT and a URL will be presented so that the Administrator can give it out to Participants for that particular IAT.

The Administrator may logout of the system at anytime.

1.2.2 IAT Participant

The IAT Participant is anyone who is given a URL to a specific IAT by the Administrator and chooses to take that IAT. When the IAT Participant takes the IAT, the IAT Participant will first be presented with a brief but detailed demographic survey that is associated with the IAT. After completion of the survey, the Participant can take the test. After the IAT is completed, if the Administrator lets the Participant view the Participant's results, the Participants results will be displayed. The Participant will be thanked for participating in the Administrator's research interest.

1.3 Functional Requirements Inventory

The functional requirements inventory is a complete list of our system's functions requested by our client, Dr. Breimer.

This site will have the ability to run on browsers such as, Internet Explorer, Mozilla Firefox, Google Chrome, and Safari.

Below are the functional requirements for the two users of SAS, the administrator and the participant.

Administrator:

- Will be able to securely login to SAS using the registered username and password
- Will be able to create an IAT.
  - Will be able to create a demographic survey
  - Will be able to enter four categories
  - Will be able to choose stimuli objects, words or images, associated with each category
  - Will be able to choose whether or not a participant will be able to view their test results
- Will be able to view all IATs created
- Will be able to view both the data collected and the results calculated for each participant of specific IAT
  - Will be able to view the participant's answers to the demographic survey
  - Will be able to view the participant's data for each of the 200 associations that the test requires
    - Will be able to view the time it took to categorize the stimuli object
    - Will be able to view whether the categorization was correct or incorrect

    - Will be able to view the participant's results calculated by SAS
        - Will be able to see participant's mean response time
        - Will be able to see participant's correlation score (-1.0 being the strongest negative – 1.0 being the strongest positive)
- Will be able to export all data into different formats
- Will be able to logout of SAS

Participant:

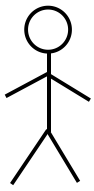
- Will be able to take the IAT
    - Will be able to fill out the demographic survey
    - Will be able to view directions for how to take an IAT test
    - Will be able to view all of the categories and the stimuli objects correlated with them
    - Will be able to take the test by categorizing stimuli for 6 different blocks
        - Will be able to categorize a stimuli by pressing the i or e keys on their keyboard (i for the category on the right and e for the category on the left)
        - Will be able to press the space bar to move on to the next block
- May be able to view bias if administrator allows

1.4 UML Use Case Diagram

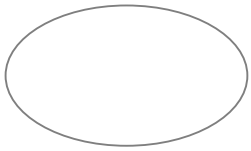
Subconscious Analysis Software's UML Use Case Diagram shows all the different users of the system, including both human and non-human. These are called actors. The diagram also shows the functions each user can perform called uses. Each user of SAS is connected to different functions in the diagram by lines, called participation lines. Below is the legend of the SAS UML diagram, followed by the actual diagram.

1.4.1 Legend

The legend explains all objects used SAS UML Diagram and what they represent.



Actors – Users that interact with the system. Human users are on the left, and non-human users are on the right.



Use case- The interactive activities that occur between the Actors and the SAS.

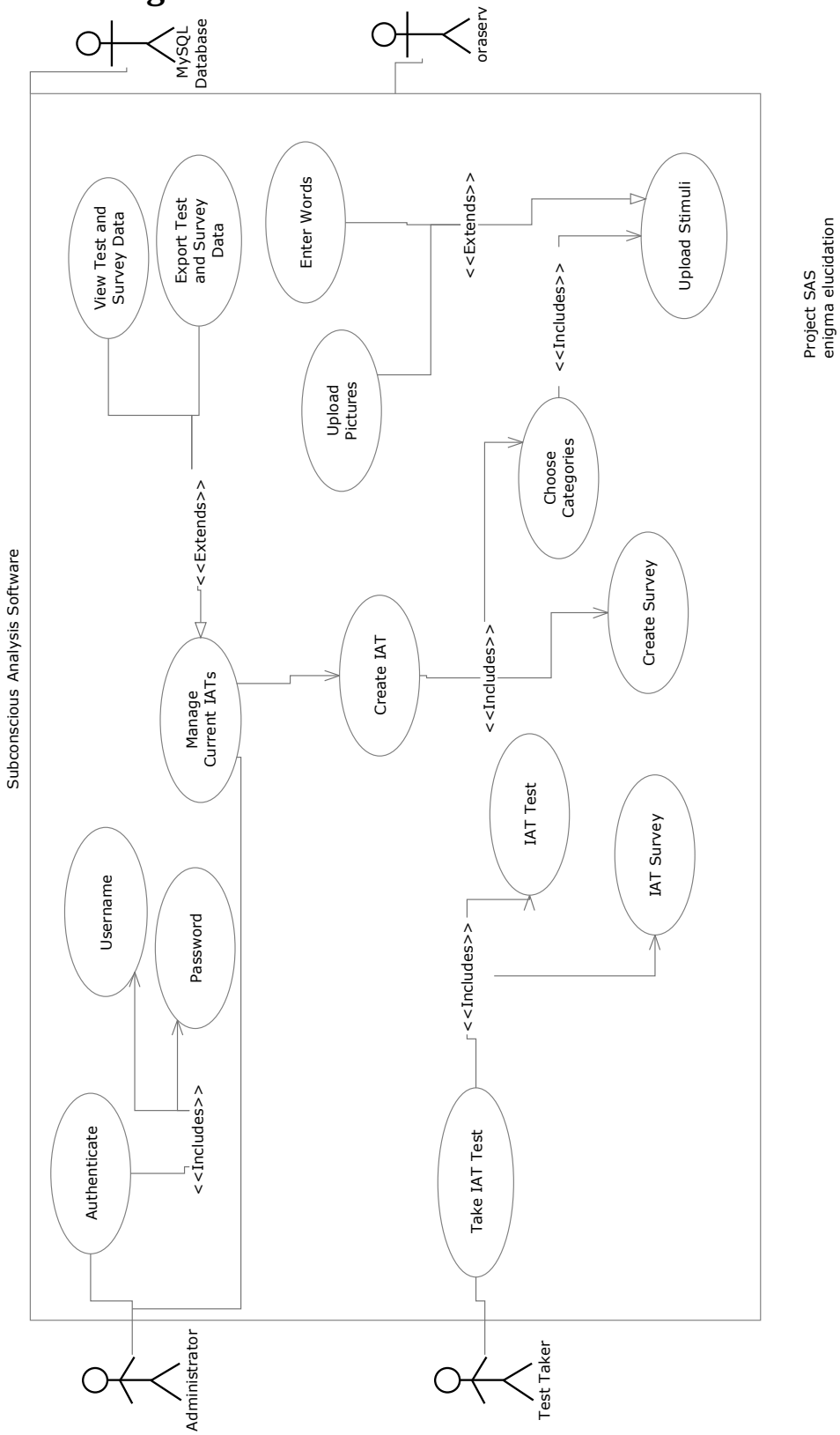
System- Represents SAS**,** Subconscious Analysis Software. This is our project.

Inheritance Arrow- Lines that point from parent use cases towards sub use cases that can function independently from their parent use cases.

Inclusion Arrow- Points from use cases towards their respective included use cases.

Participation Line- Depicts the relationship between actors and their uses.

1.4.2 Use Case Diagram



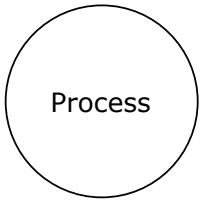
Preliminary Design

2.1 Data Flow Diagrams

The following data flow diagrams show how data is transferred and manipulated using SAS. The diagram will show the source of the data as well as the processes that can be chosen to transfer or analyze data. The Diagrams will also show the sources of data and how that data interacts with SAS and what roles the functions play concerning the data. The following legend will explain symbols for these diagrams.

2.1.1 Legend

Entity/Source/Sink-People,machines,organizations, etc,which contribute data or information to the system.



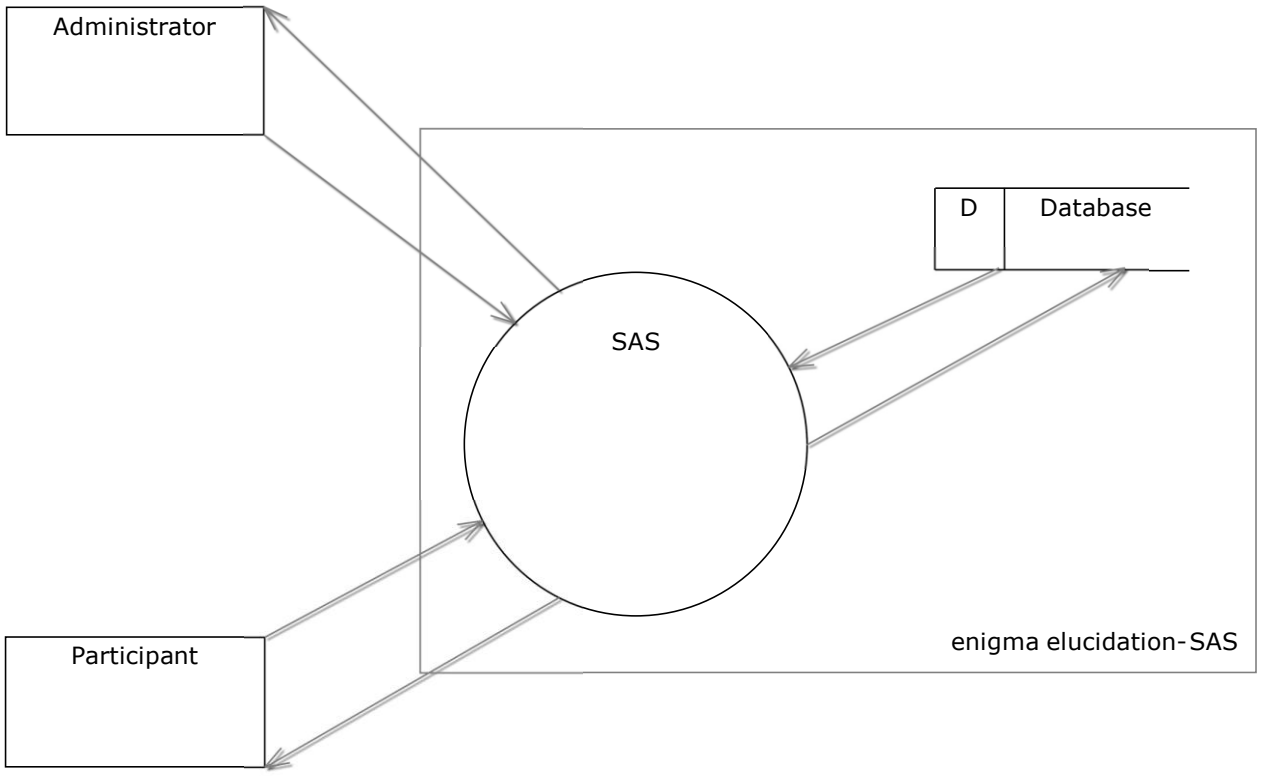
Process - Actions that are performed by the system.

Datastore- Represents where data is stored on the system.

Dataflow - Represents the flow of data throughout the system

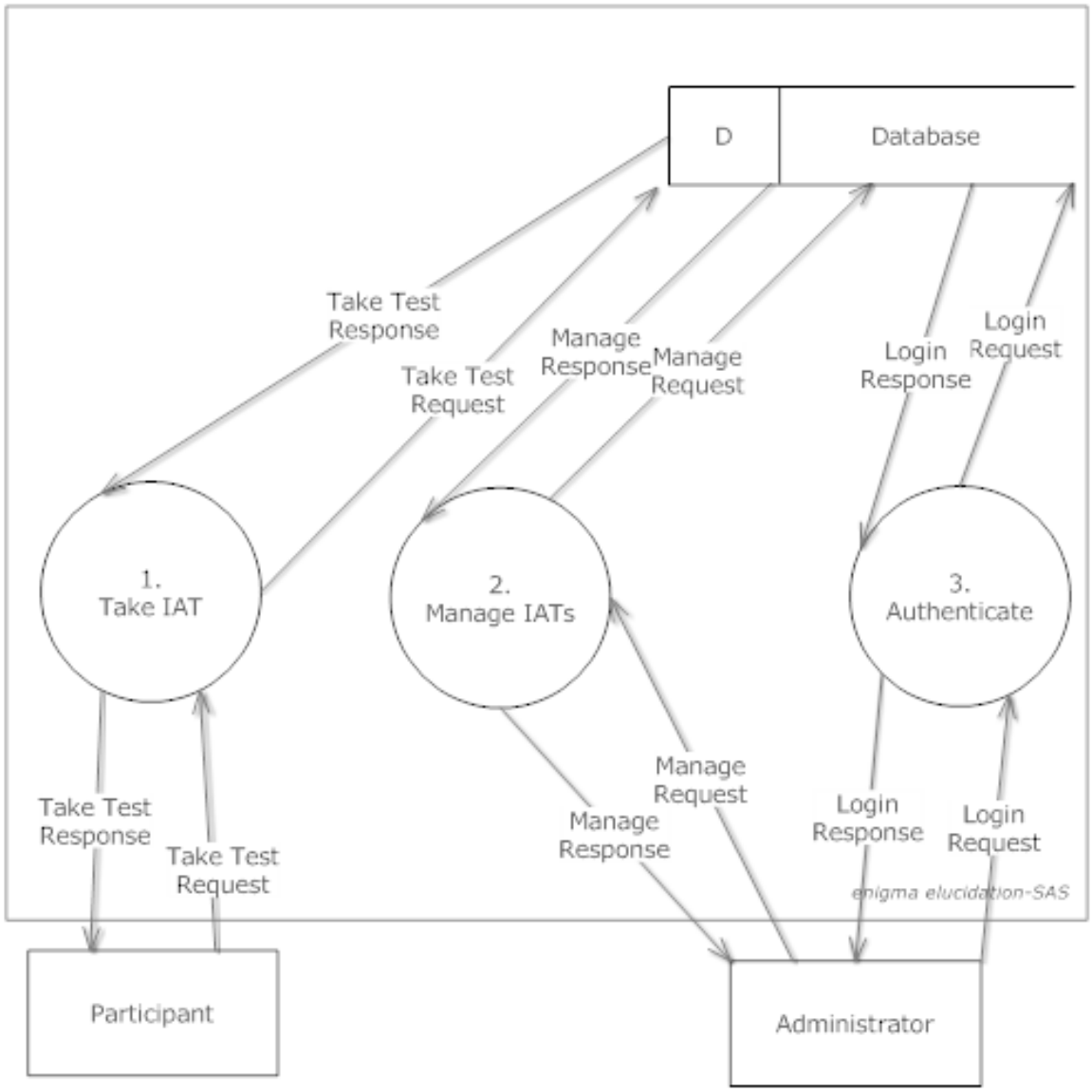
2.1.2 Context Diagram

This context diagram depicts a broad representation of the interaction between SAS exogenous and endogenous agents



2.1.3 Level 0 Diagram

This Level 0 diagram shows the most basic processes of the system SAS. It also shows the interaction between the two users, processes, and the Database.

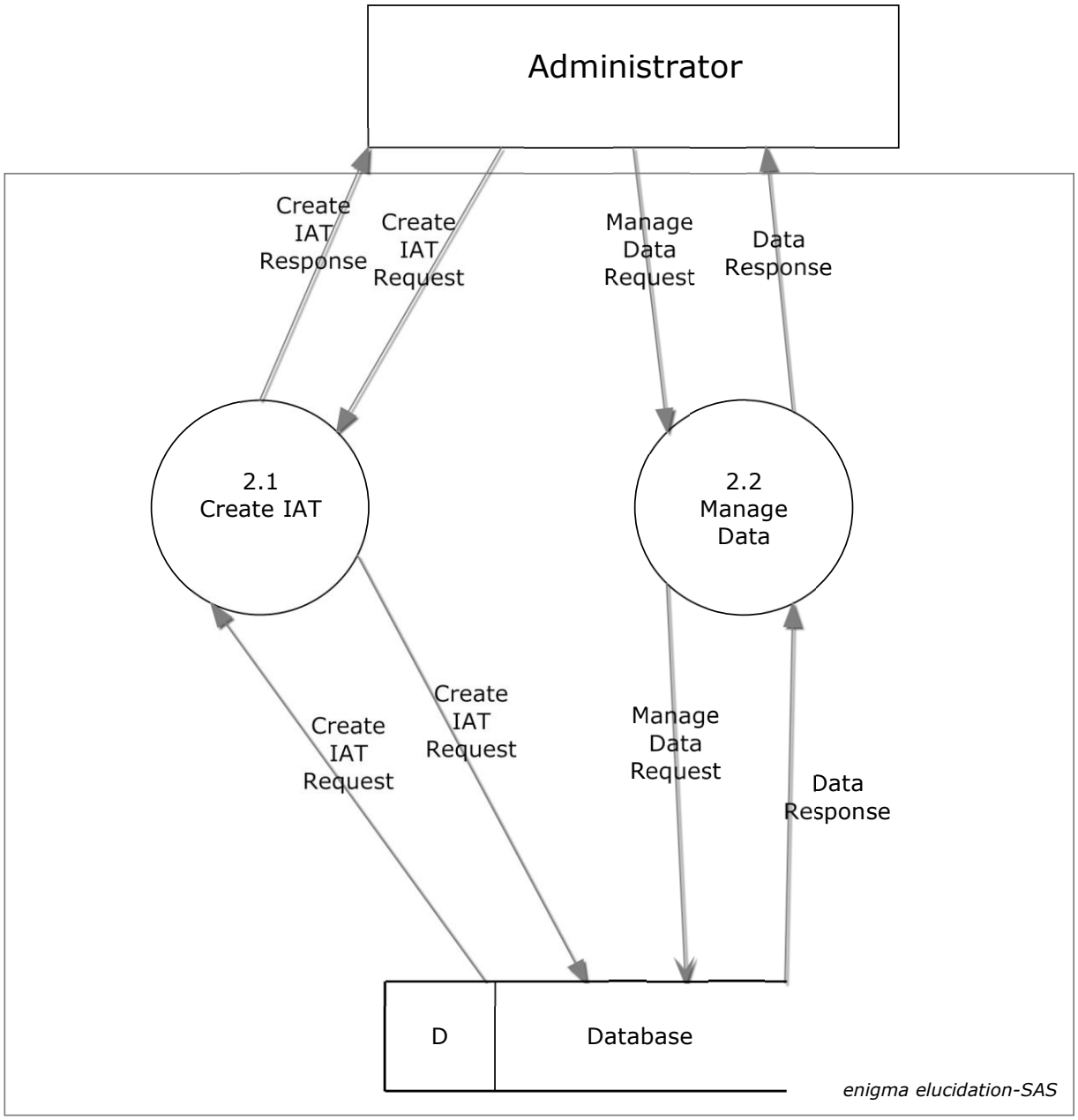


2.1.4 Level 1 Diagrams

2.1.4.1 Level 1: Manage IATs

This level 1 diagram expands on the previous process Manage IAT. This diagram shows the interaction between the administrator, sub-processes of Manage IAT, and the Database

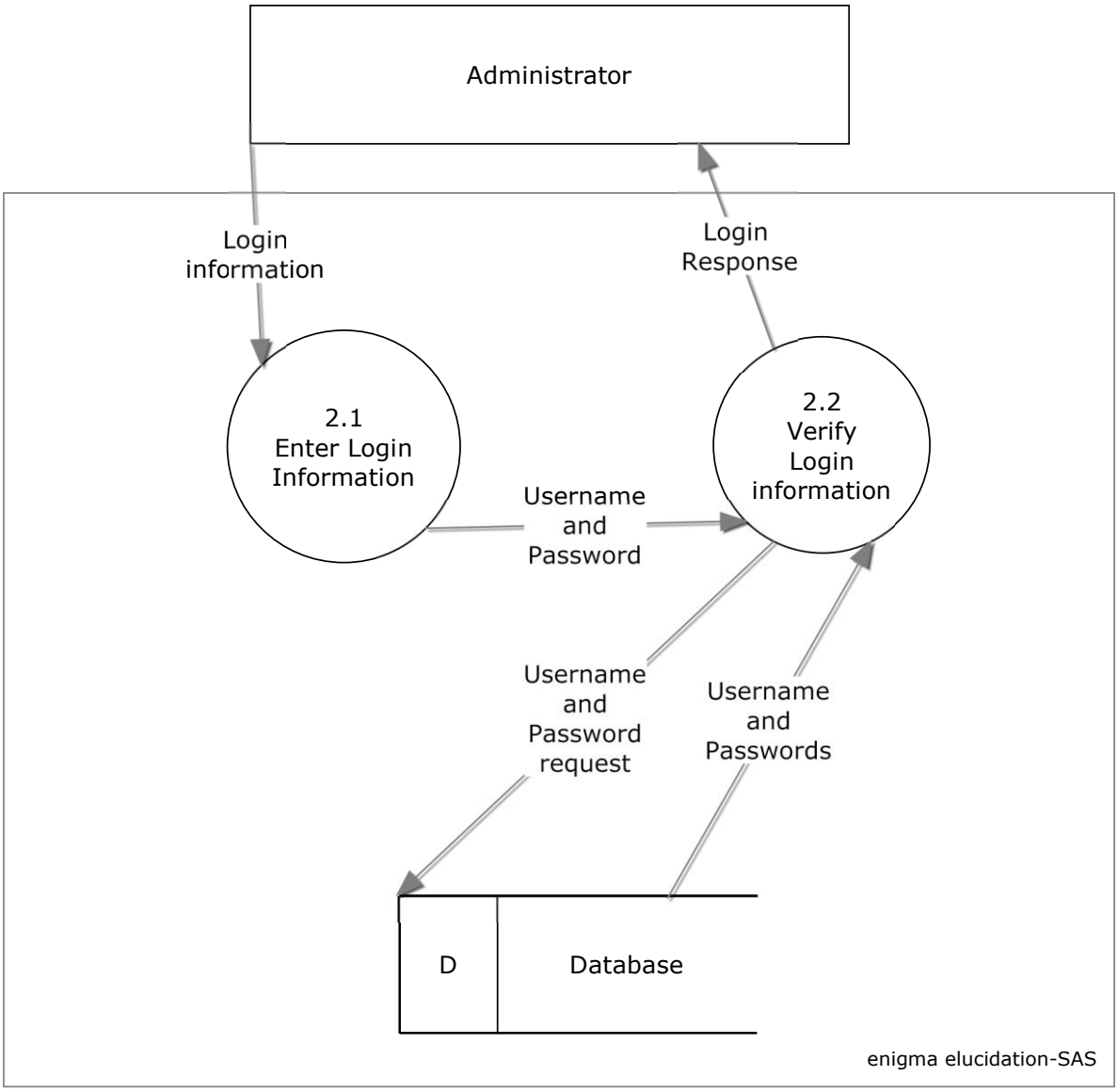
2.x ManageIAT



2.1.4.2 Level 1: Authenticate

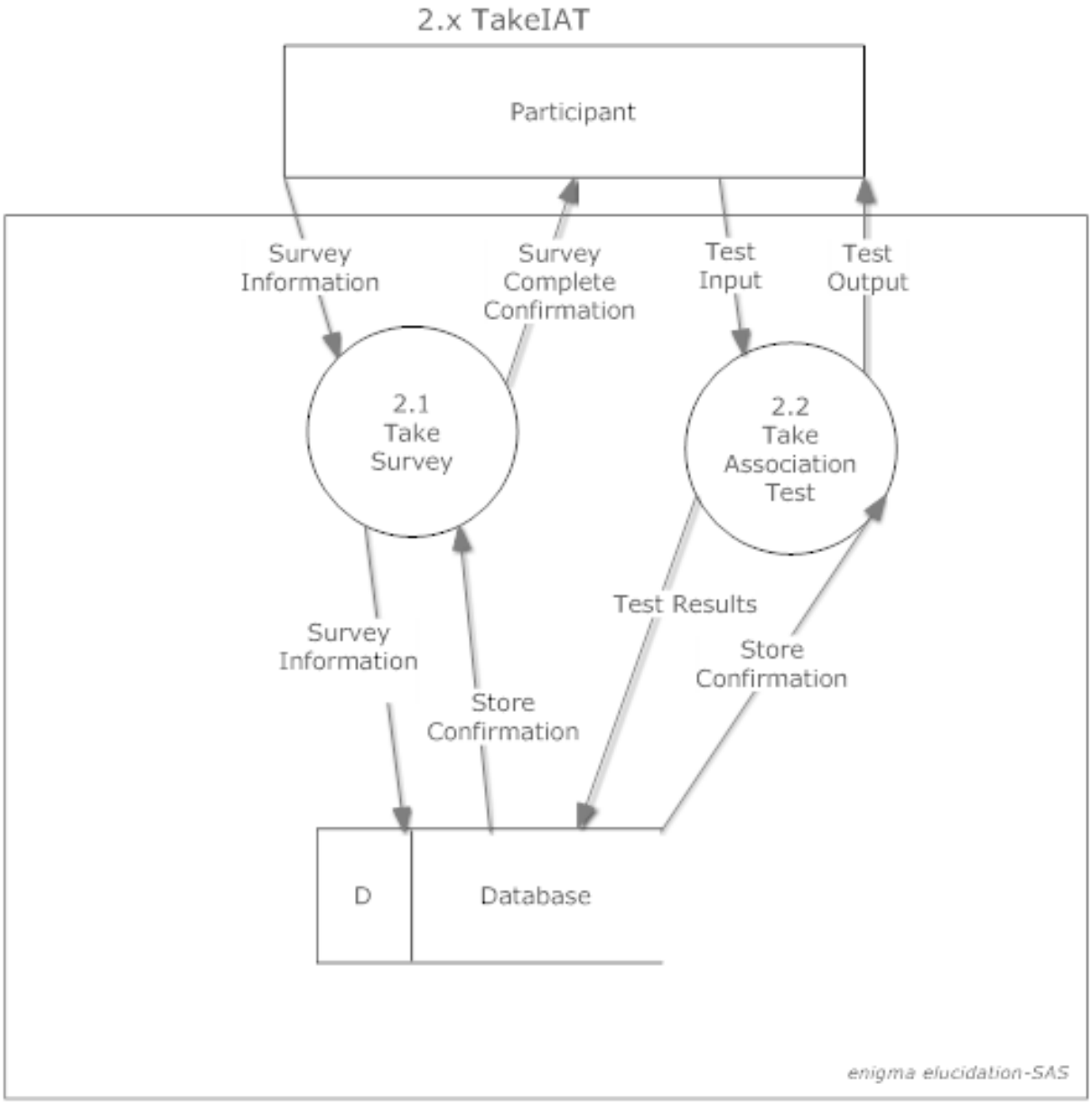
This level 1 diagram expands on the previous process Authenticate. This diagram shows the interaction between the administrator, sub-processes of Authenticate, and the Database

2.x Authenticate



2.1.4.3 Level 1: Take IAT

This level 1 diagram expands on the previous process Take IAT. This diagram shows the interaction between the Participant, sub-processes of Take IAT, and the Database.

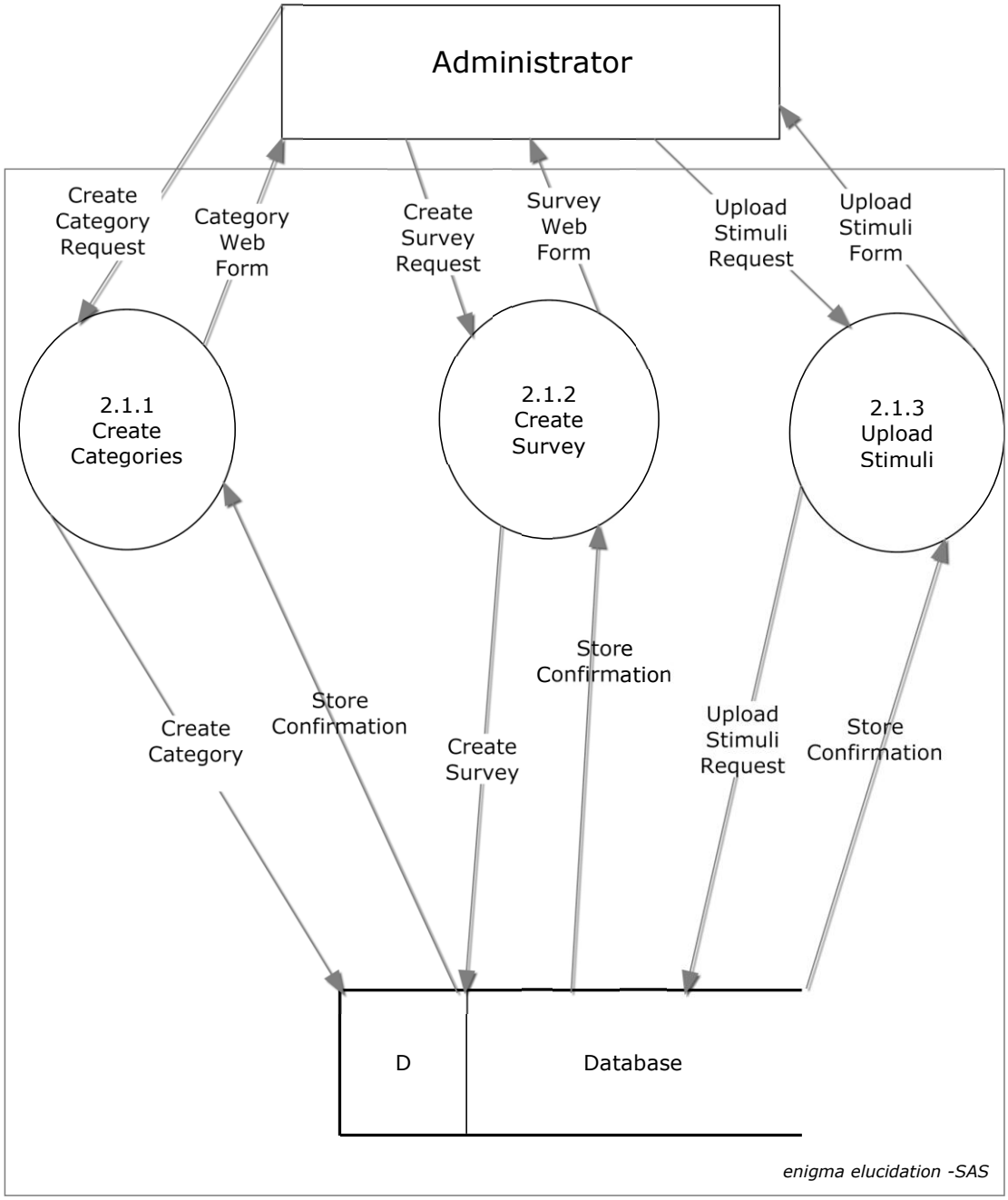


2.1.5 Level 2 Diagrams

2.1.5.1 Level 2: Create IAT

This level 2 diagram expands on the previous process Create IAT. This diagram shows the interaction between the administrator, sub-processes of Create IAT, and the Database

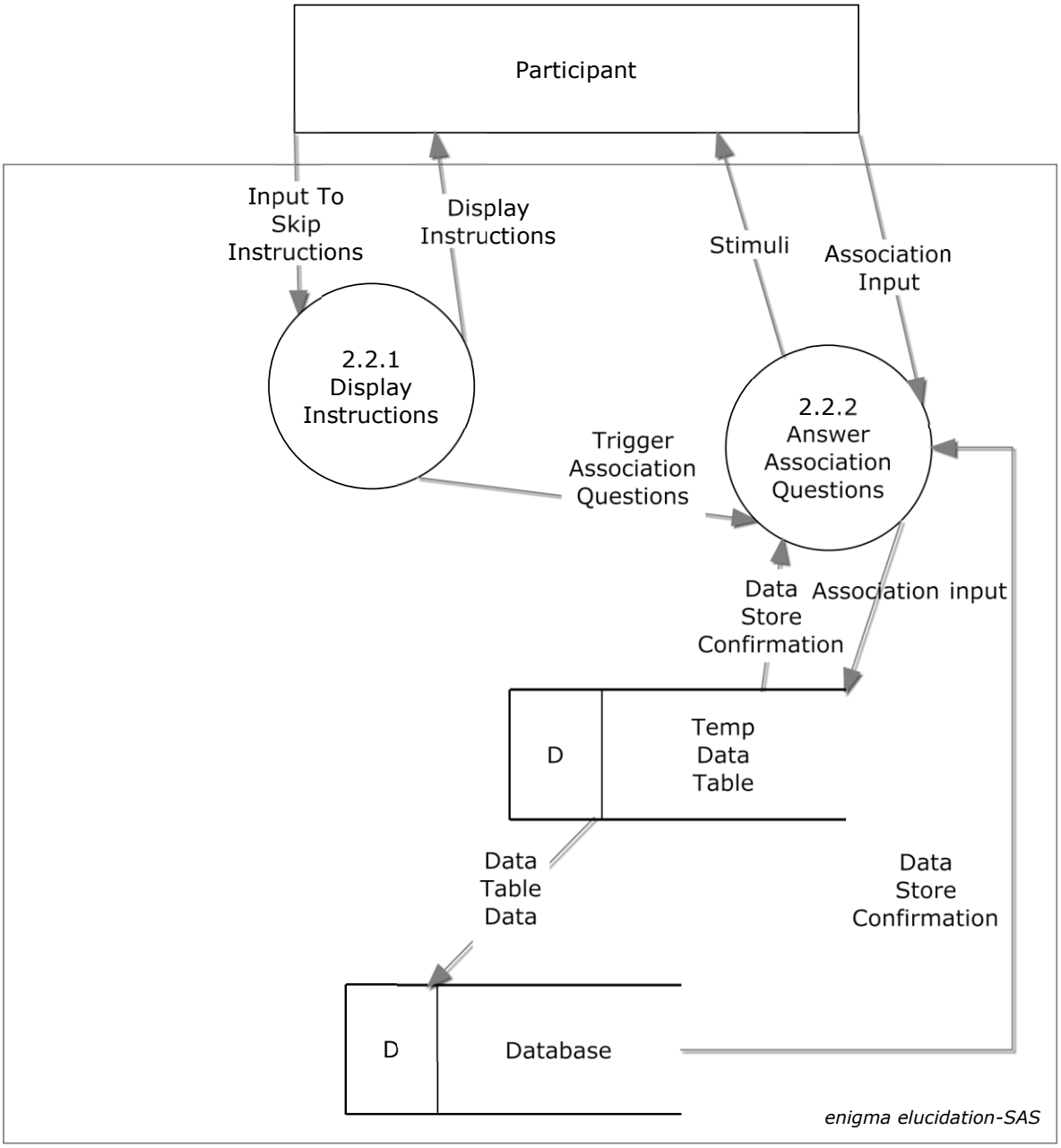
2.1.x ManageIATs.CreateIAT



2.1.5.2 Level 2: Take Association Test

This level 2 diagram expands on the previous process Take Association Test. This diagram shows the interaction between the Participant, sub-processes of Take Survey, and the Database

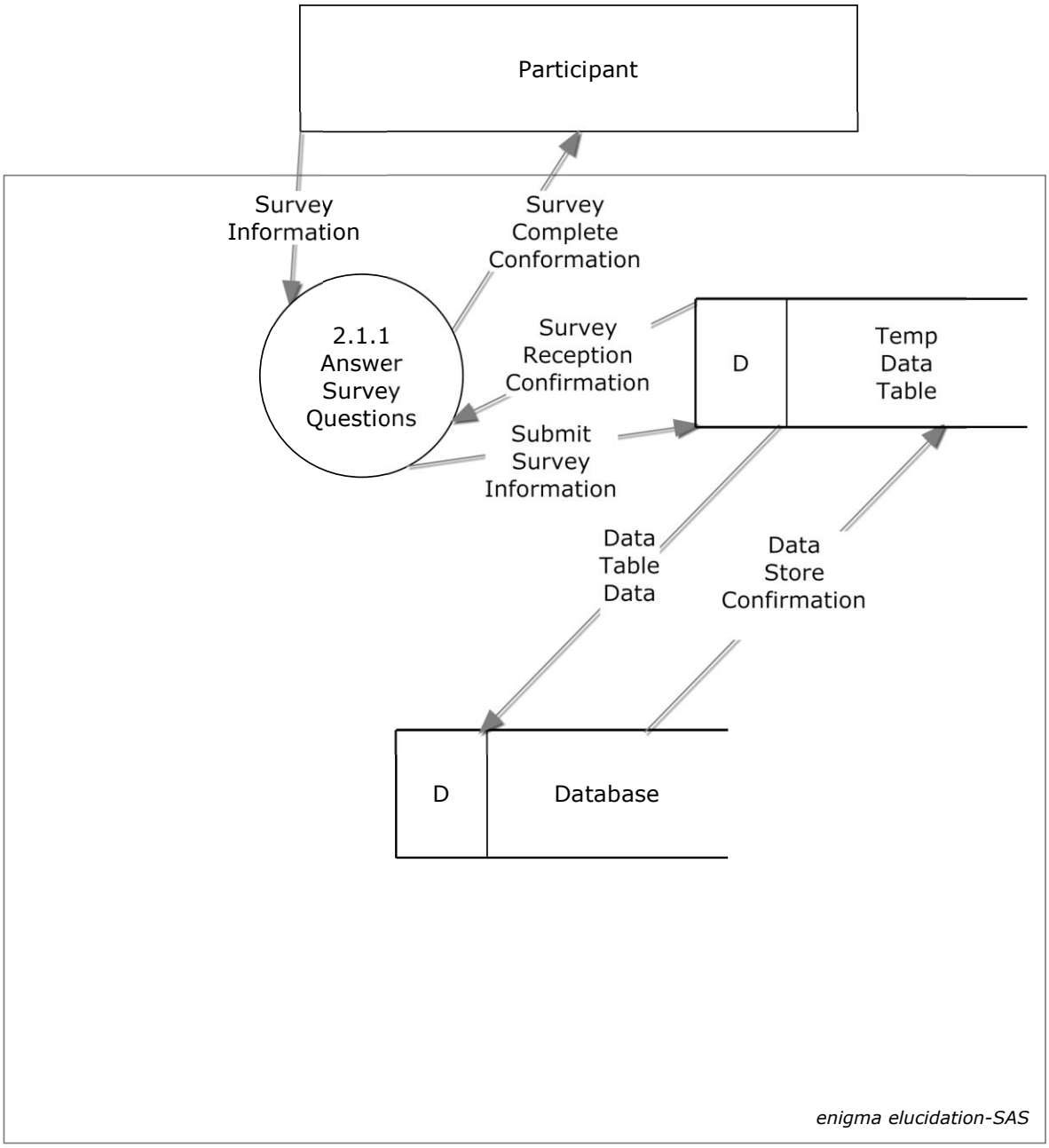
2.2.x TakeIAT.TakeAssociationTest



2.1.5.3 Level 2: Take Survey

This level 2 diagram expands on the previous process Take Survey. This diagram shows the interaction between the Participant, sub-processes of Take Survey, and the Database

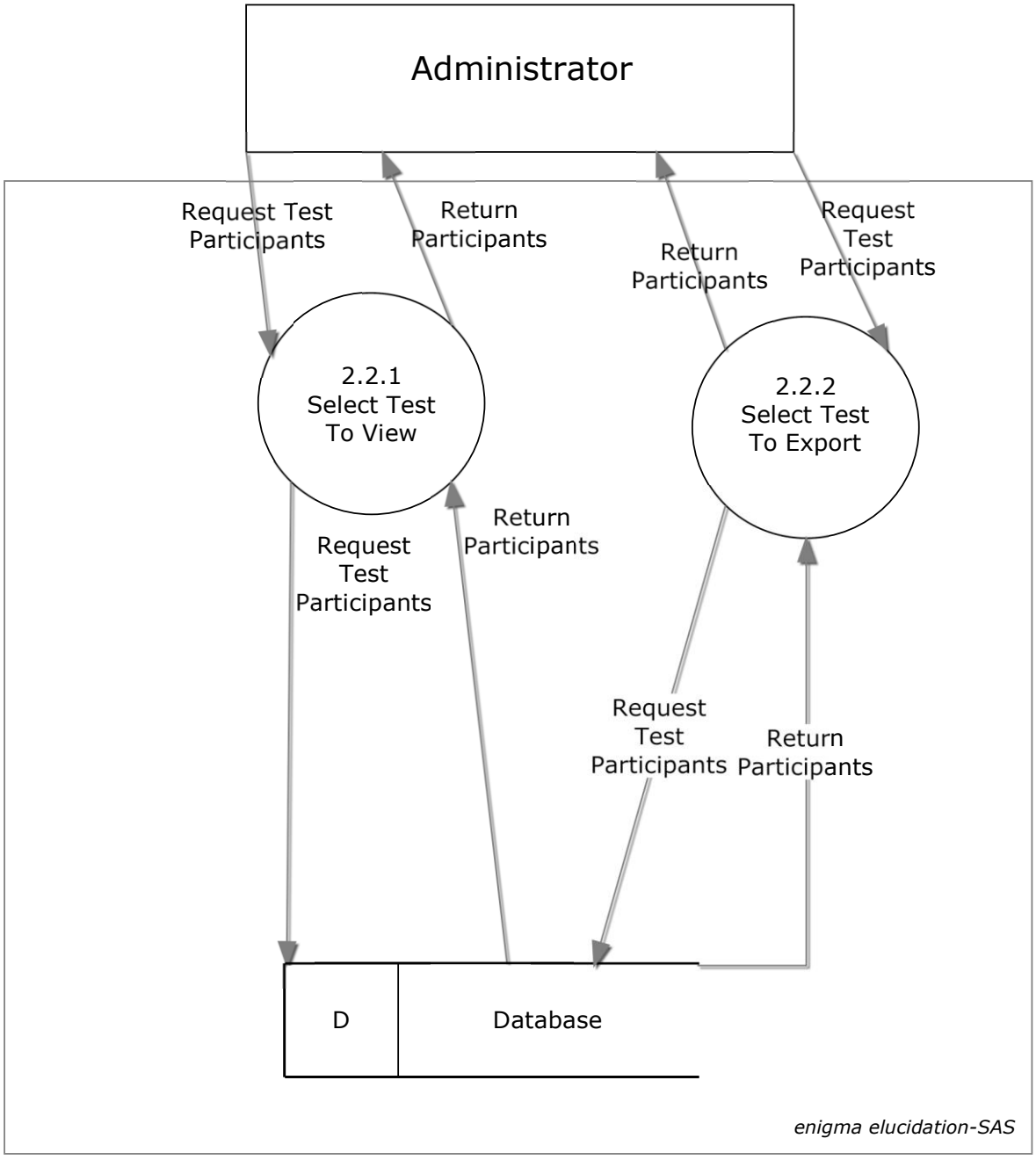
2.1.x TakeIAT.TakeSurvey



2.1.5.4 Level 2: Manage Data

This level 2 diagram expands on the previous process Manage Data. This diagram shows the interaction between the administrator, sub-processes of Manage Data, and the Database.

2.2.x ManageIAT.ManageData

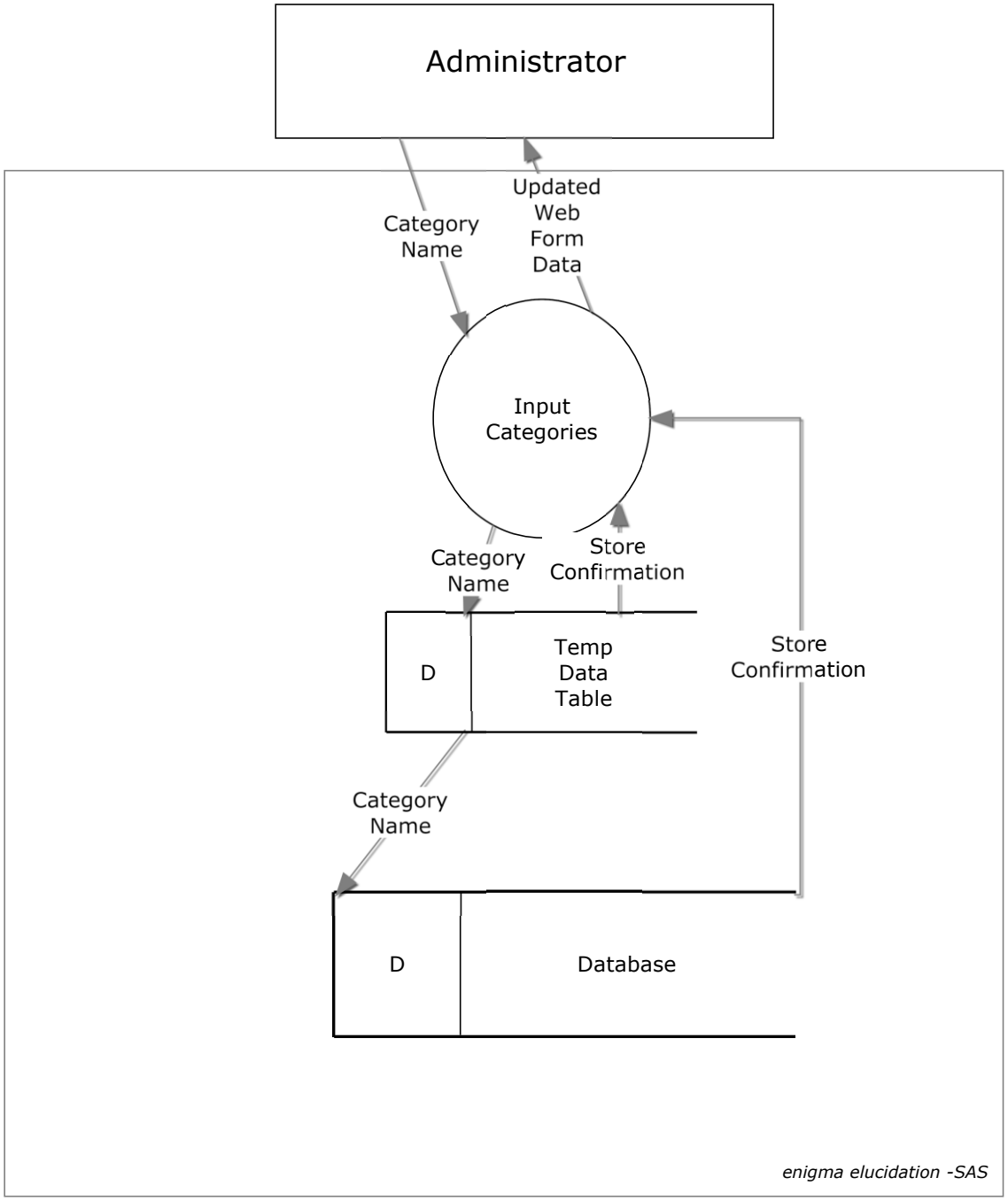


2.1.6 Level 3 Diagrams

2.1.6.1 Level 3: Create Categories

This level 3 diagram expands on the previous process Create Categories. This diagram shows the interaction between the administrator, sub-processes of Create Categories, and the Database

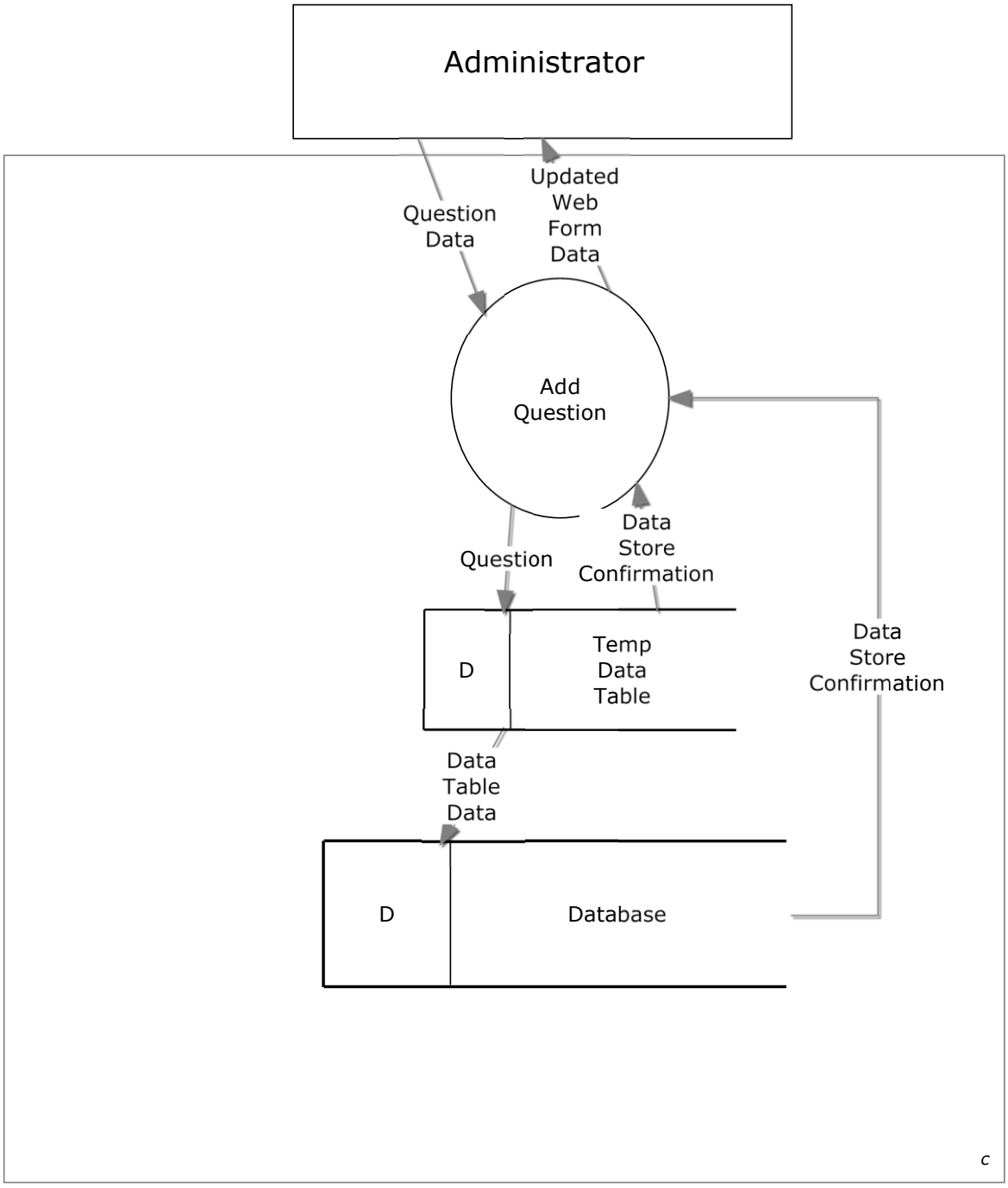
2.1.1.x ManageIATs.CreateIAT.CreateCategories



2.1.6.2 Level 3: Create Survey

This level 3 diagram expands on the previous process Create Survey. This diagram shows the interaction between the administrator, sub-processes of Create Survey, the Web Application, and the Database

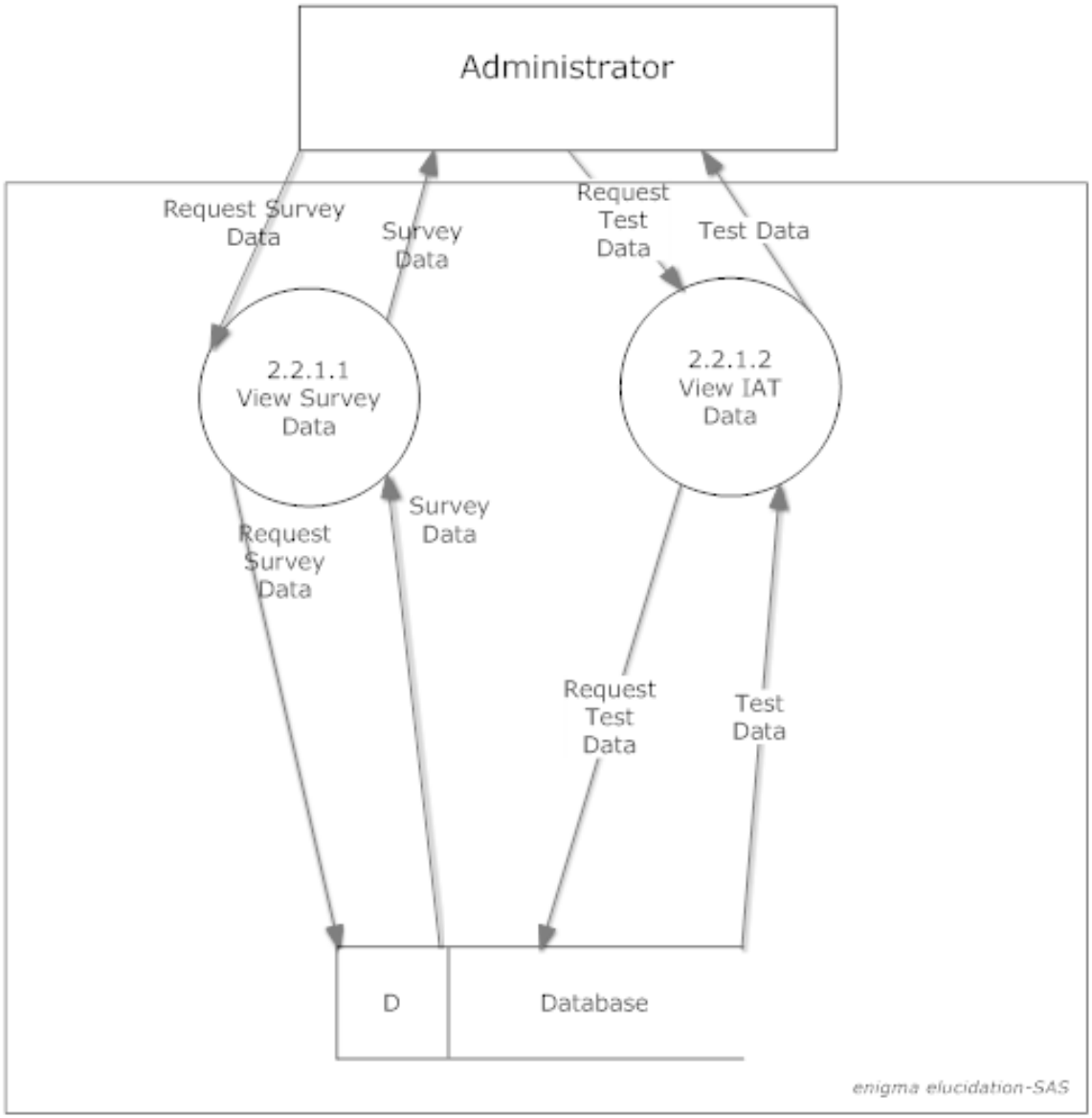
2.1.2.x ManageIATs.CreateIAT.CreateSurvey



2.1.6.3 Level 3: Select Test to Export

This level 3 diagram expands on the previous process Select Test To View. This diagram shows the interaction between the administrator, sub-processes of Select Test To View, and the Database.

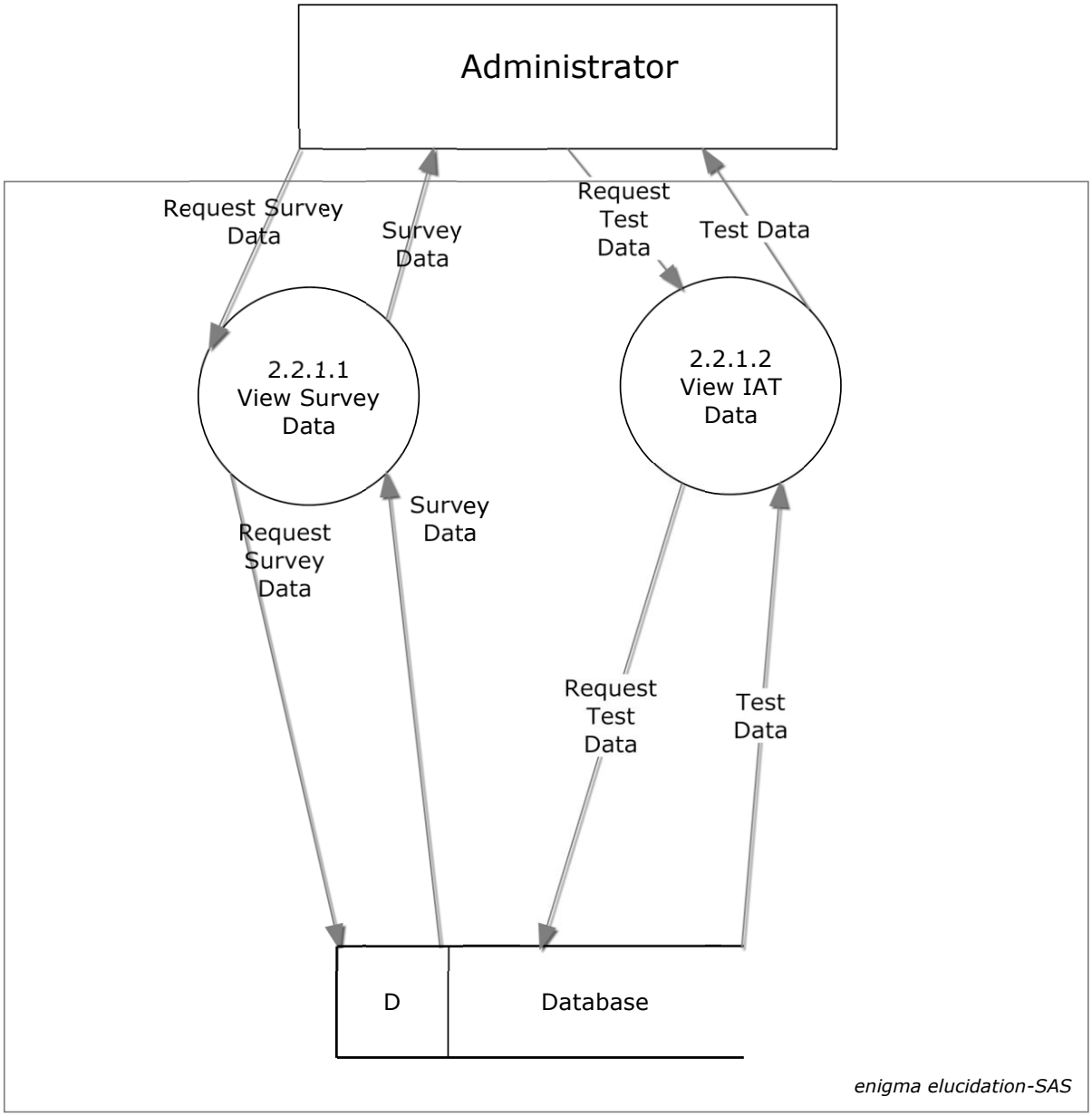
2.2.1.x ManageIAT.ManageData.SelectTestToView



2.1.6.4 Level 3: Select Test to View

This level 3 diagram expands on the previous process Select Test To View. This diagram shows the interaction between the administrator, sub-processes of Selec Test To View, and the Database

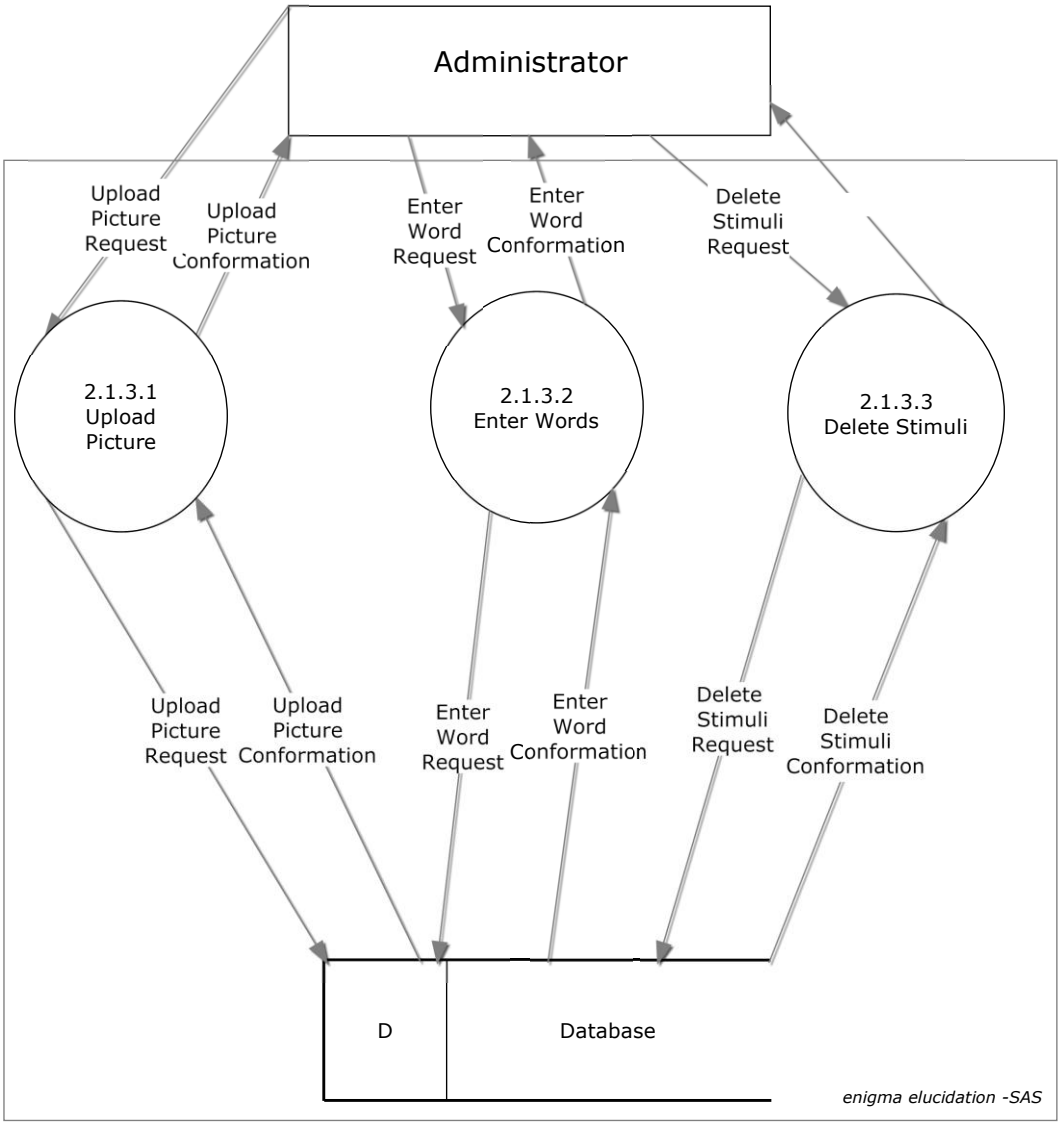
2.2.1.x ManageIAT.ManageData.SelectTestToView



2.1.6.5 Level 3: Upload Stimuli

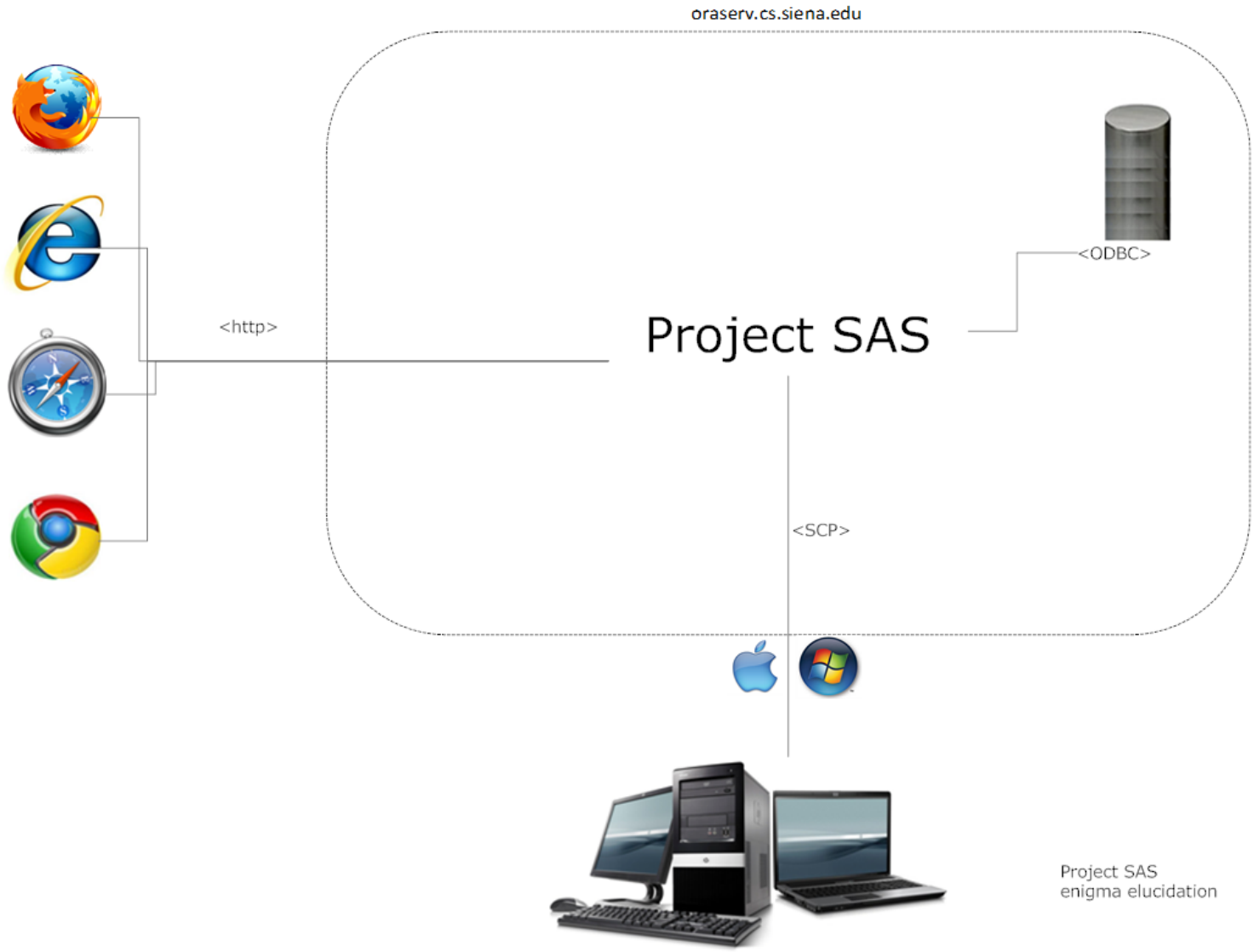
This level 3 diagram expands on the previous process Upload Stimuli. This diagram shows the interaction between the administrator, sub-processes of Upload Stimuli and the Database

2.1.3.x ManageIATs.CreateIAT.UploadStimuli



2.2 UML Deployment Diagram

The deployment diagram shows the different components that interact with SAS, including the different browsers, the developing environment, and the database.



2.3 UML Activity Diagrams

The UML Activity diagrams show how the users interact with SAS during the tasks that are critical to the operation of the system. The diagrams show the decisions and processes that are involved in each operation.

2.3.1 Legend

Start/End - Represents the start and end point of the process.

Activity - Describes the action being taken.

Decision - Describes a decision that causes the process to branch.

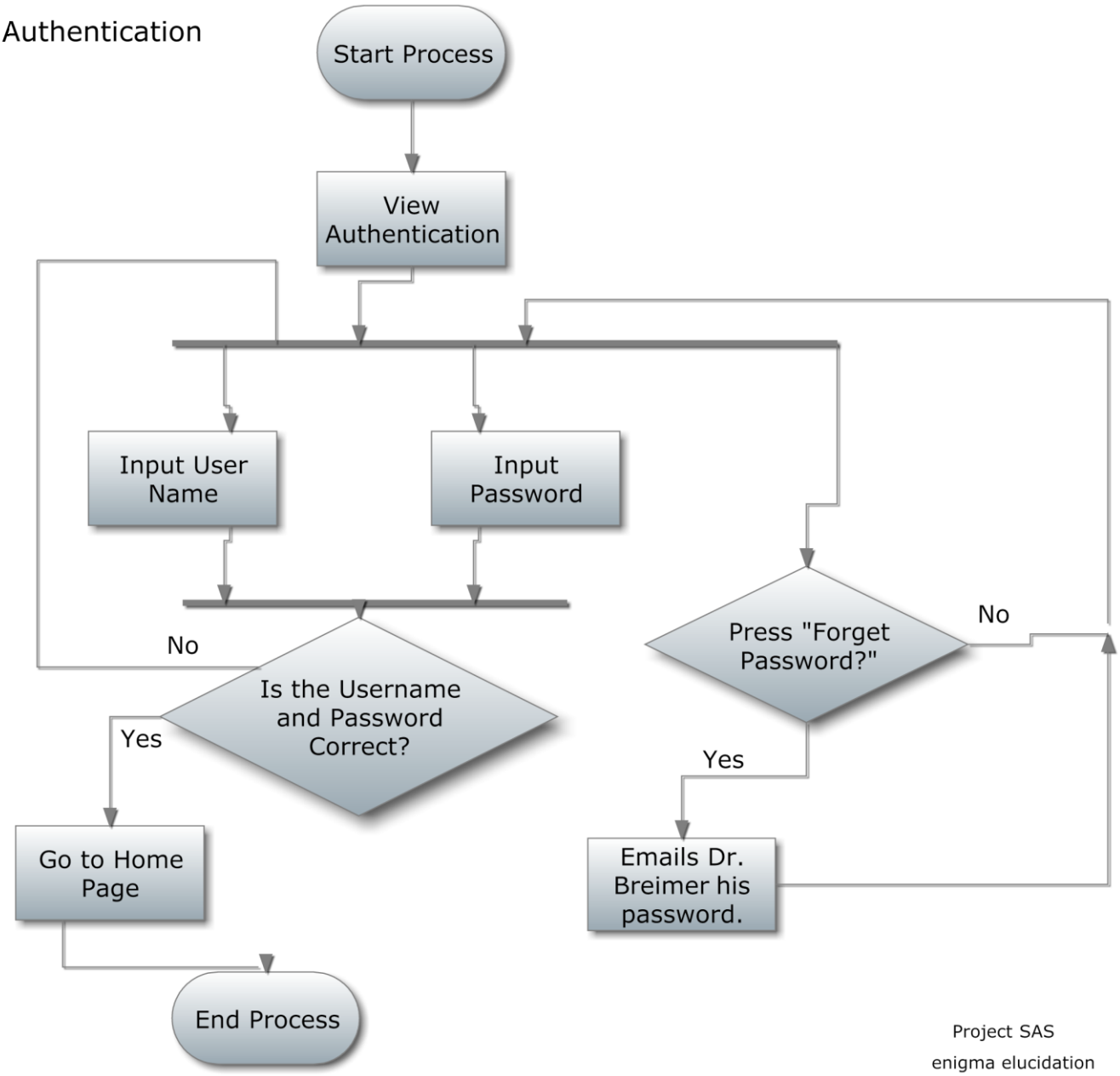
Arrow - Shows the direction of procedure from one activity to another.

Splitter - Arrows directed away from the bolded line indicate that the processes they point to are performed simultaneously. Arrows that point towards the bolded line indicate that the procedures they point from must execute before the next step can occur.

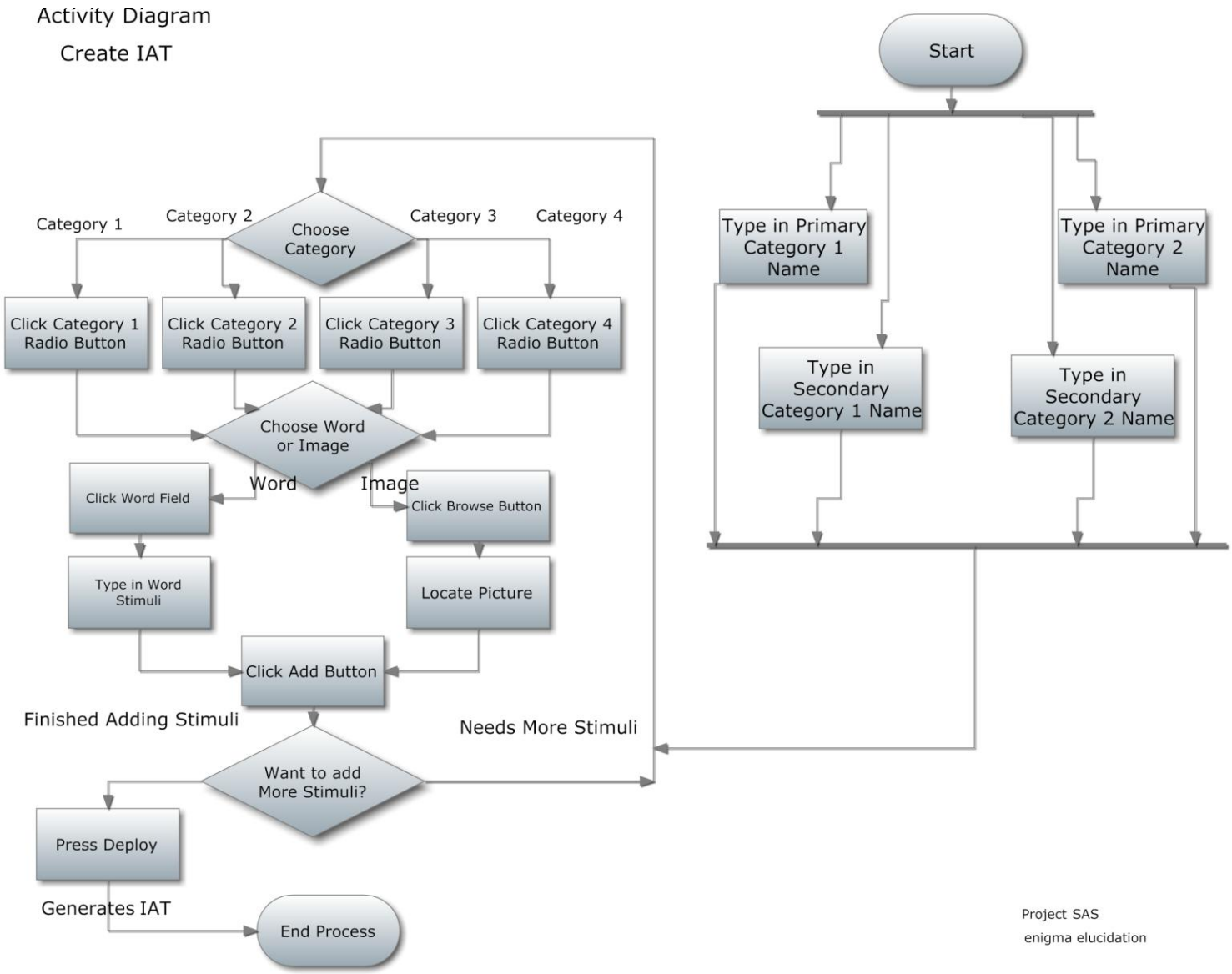
2.3.2 Authenticate (Administrator)

Activity Diagram

Authentication



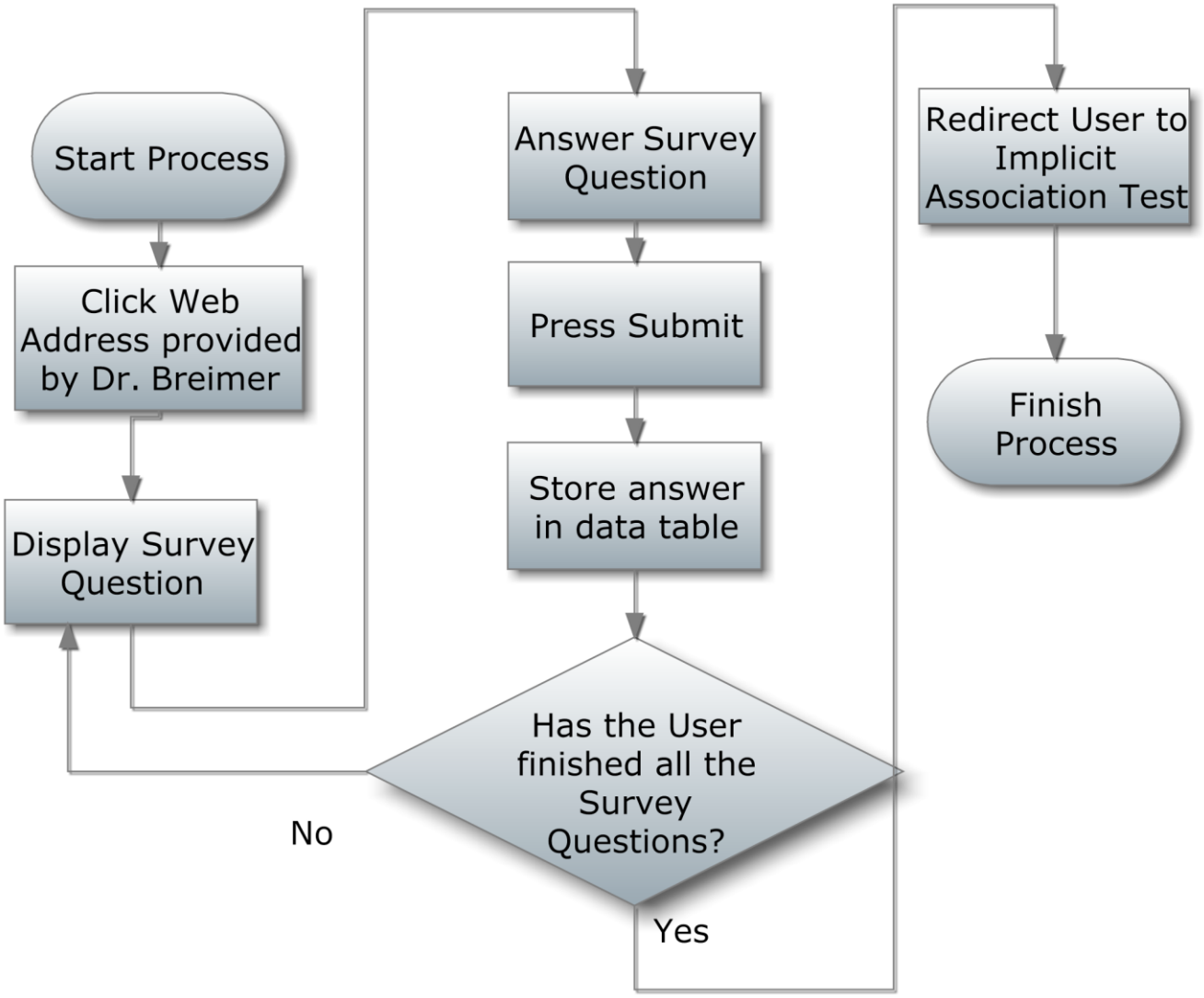
2.3.3 Create IAT (Administrator)



2.3.4 Take Survey (Participant)

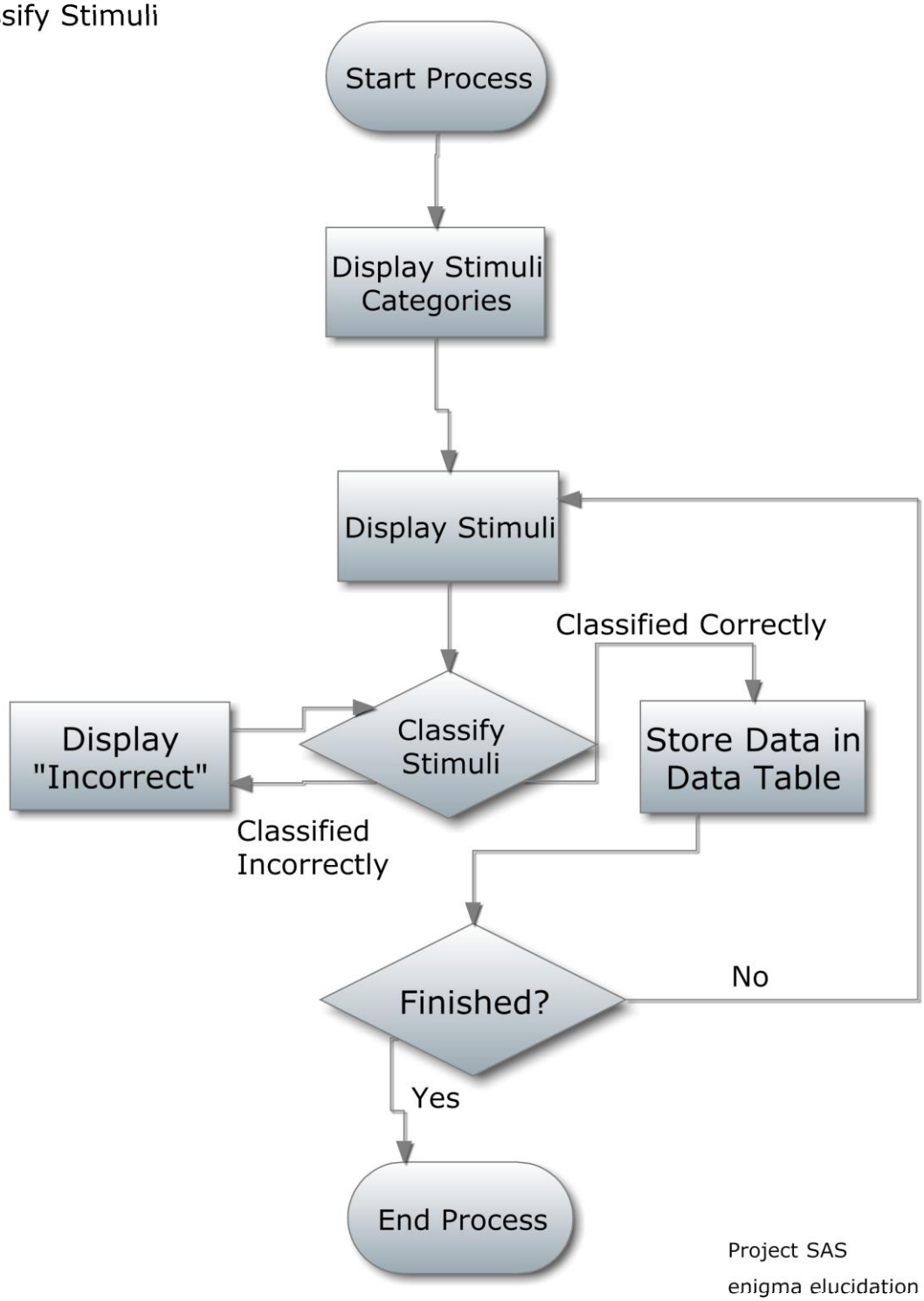
Activity Diagram

Take Survey



2.3.5 Take IAT (SAS Process)

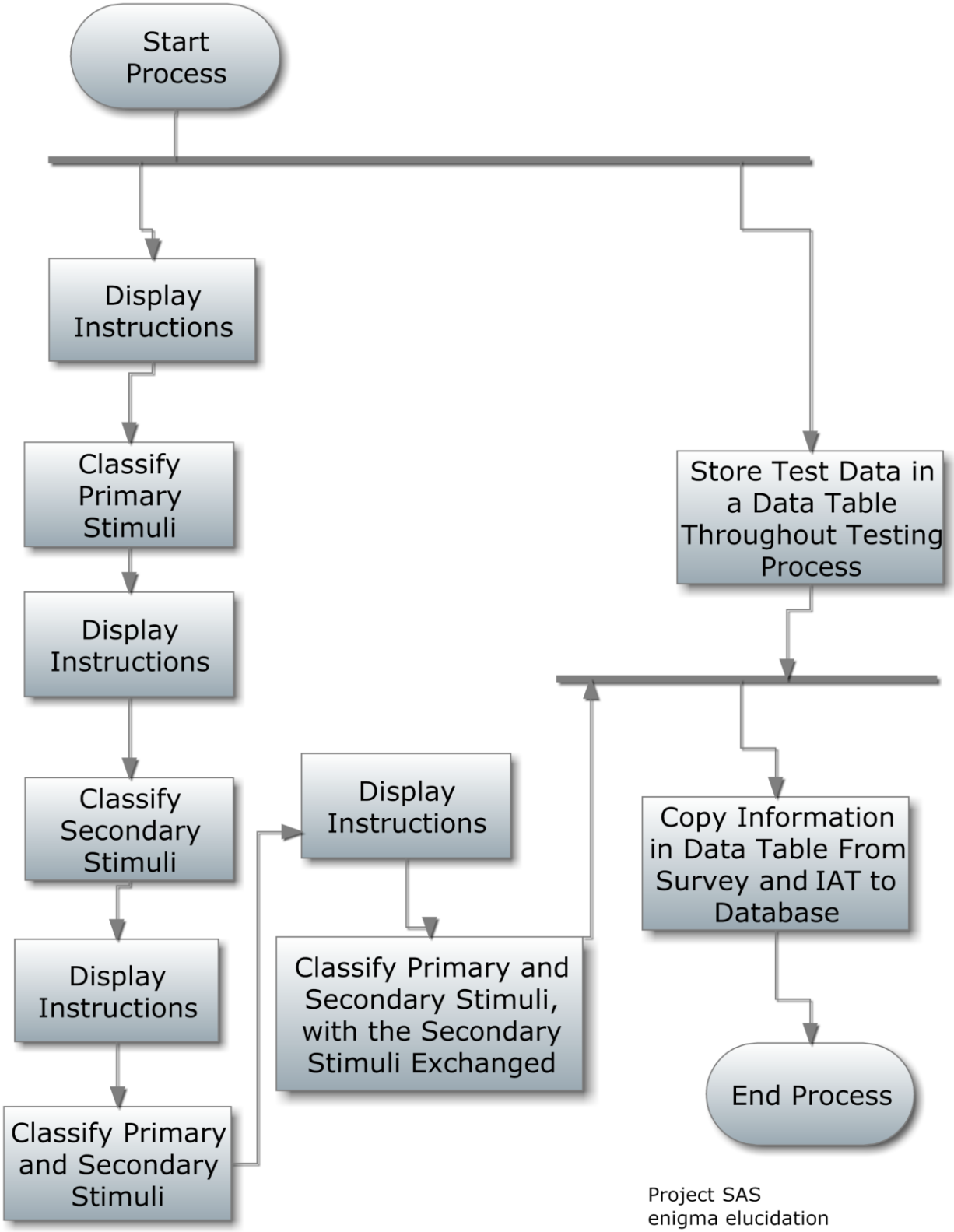
Activity Diagram
Take Implicit Association Test
Classify Stimuli



2.3.6 Take IAT (Participant)

Activity Diagram

Take Implicit Association Test



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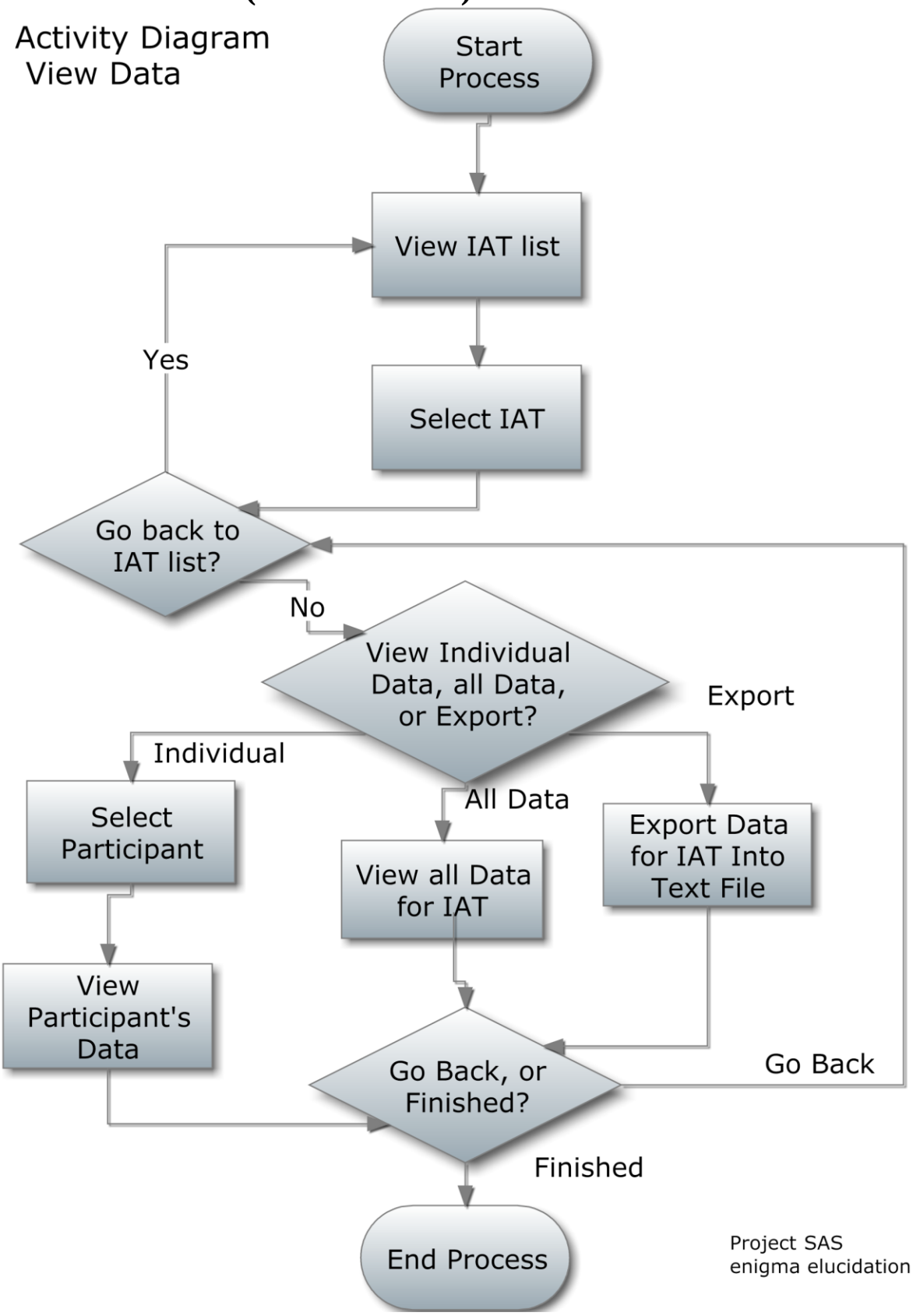
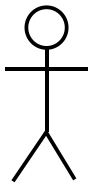
2.3.7 View Data (Administrator)



2.4 Website Map

The website map shows the organization of SAS's website. In addition to showing how pages link to each other, our website map also shows which users can view which websites.

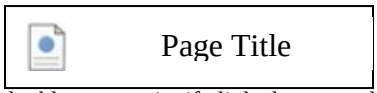
2.4.1 Website Map Legend



Actor/User

Link *

Home Page

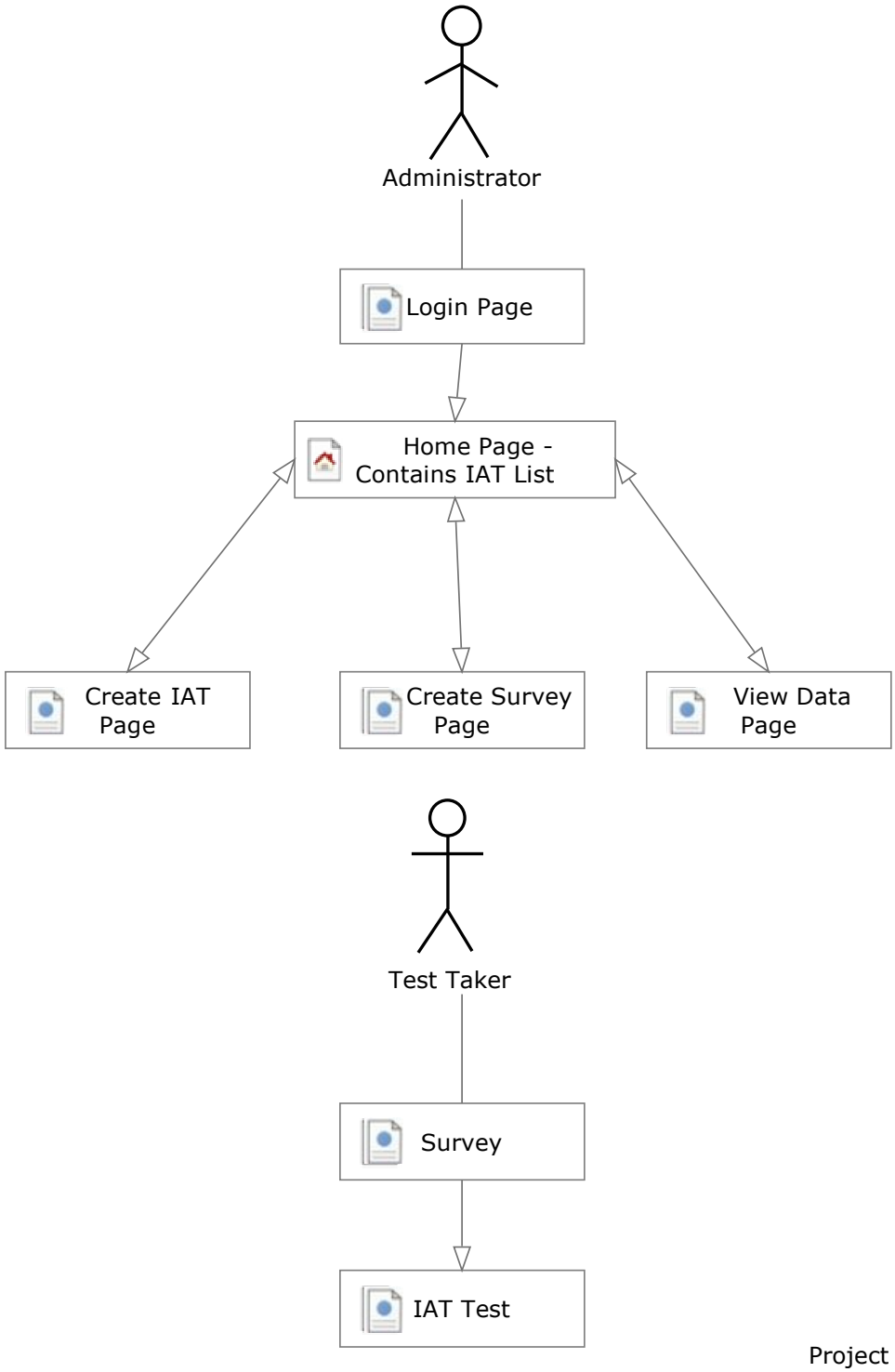


HTML File

*double arrows signify linked pages as being doubly linked

2.4.2 Website Map

Preliminary Website Map



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2.5 Logical Data Dictionary

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Data Dictionary
This data dictionary is used to record all data entities used and recorded in SAS' software.
Key:

Data Name:	Name of the data that is being stored in the databaase
Applicable to:	Processes in which the data is involved
Data Type:	The type of the inputted data
Description:	Brief description of the data
Acceptable Input:	Valid characters that can be accepted by the system
Good Example:	An example of data that will be accepted by the system
Bad Example:	An example of data that will not be accepted by the system
Notes:	Any other important information about the data

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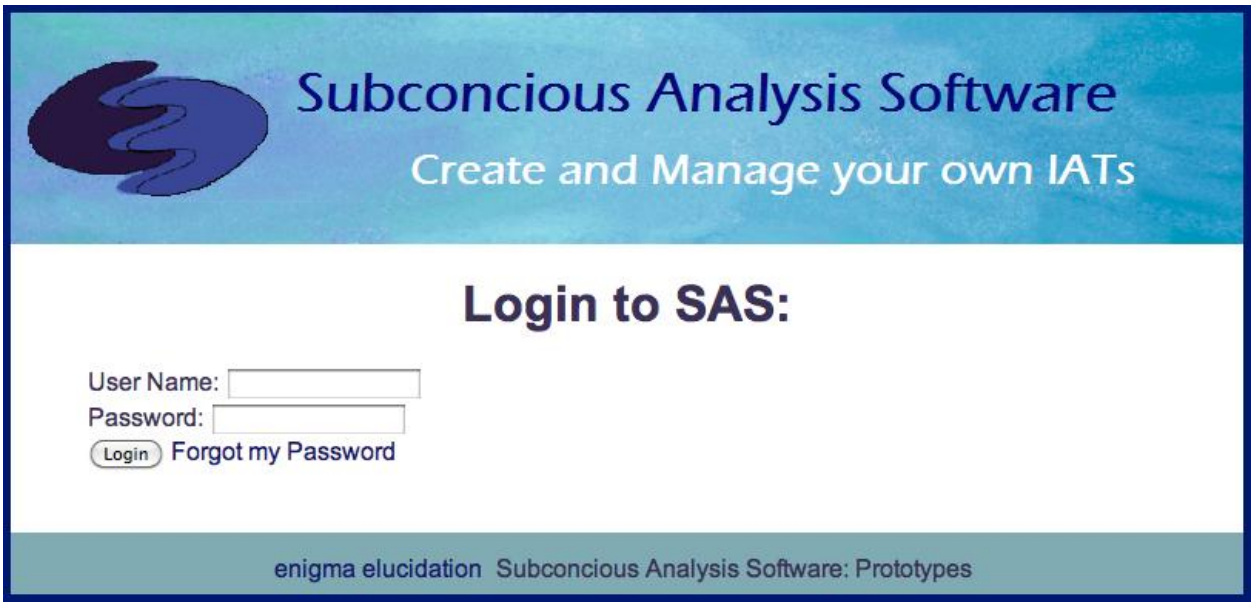
Data Dictionary

Data Name	Applicable To	Data Type	Description	Acceptable Input	Good Example	Bad Example	Notes
loginName	Login	String	Login name used by an administrator	A-Z, a-z, 1-9	eBreimer	oanfe@$%	
Password	Login	String	Password used by an administrator	A-Z, a-z, 1-9	password123	p#as()w^r$	
testName	Create IAT, Take IAT	String	Specifies the name of an IAT	A-Z, a-z, 1-9	Test1	Test&	
testID	Create IAT, Take IAT	INT	A positive integer representing the ID of a created IAT	1-9	1, 4, 100	a, b, -1, 1.045	UNIQUE
testURL	Take IAT	String	URL generated when an IAT is created	A URL	http://oraserv.cs.siena.edu/RgAA/AAAsoZw/bHtyqQaOL%/2fP6xiQ9IBwAIfgIBF3fg/SIMwioQn4vEwAAAAAytHAA/	http://oraserv.cs.siena.edu/BreimersIATHomepage/number_7/	
surveyID	Create IAT, Take IAT	INT	number of the survey linked with a specific IAT	0-9	18933	aeafe	UNIQUE
category	Create IAT	String	Category associated with an IAT	A-Z,a-z	Race, gender	category1, r^ce, g3nd3r	
stimuliImage	Create IAT, Take IAT	String	Images used in an IAT	a URL or file name of an image			must be an image file or URL to an image
stimuliText	Create IAT, Take IAT	String	Words used to describe stimuli	A-Z, a-z	good, bad, white, black	1, 2, g00d, b@d	
questionNumber	Create IAT, Take IAT	INT	The number of a question in an IAT	1-200	1, 2, 3, 100, 200	1.045, -7, 201	
questionTime	Take IAT	INT	amount of time it took a participant to categorize a stimuli	0-9	125, 256, 710	one minute, thirty seconds	in seconds or milliseconds?
participantID	Take IAT	INT	ID of a participant	A-Z, a-z, 0-9	participant1, p2, part4	p@rticip@nt1, p#4	
questionCorrect	Take IAT	boolean	Correctness of a participants answer to an IAT question	True, False	True, False	2,3,a,answer1, yes, no	True if categorized correctly, false if incorrect
stimuliID	Create IAT, Take IAT	INT	ID of a inputted stimuli	1-9	1, 2, 1000, 1245	1.7, -10, a, c	UNIQUE

2.6 Prototypes

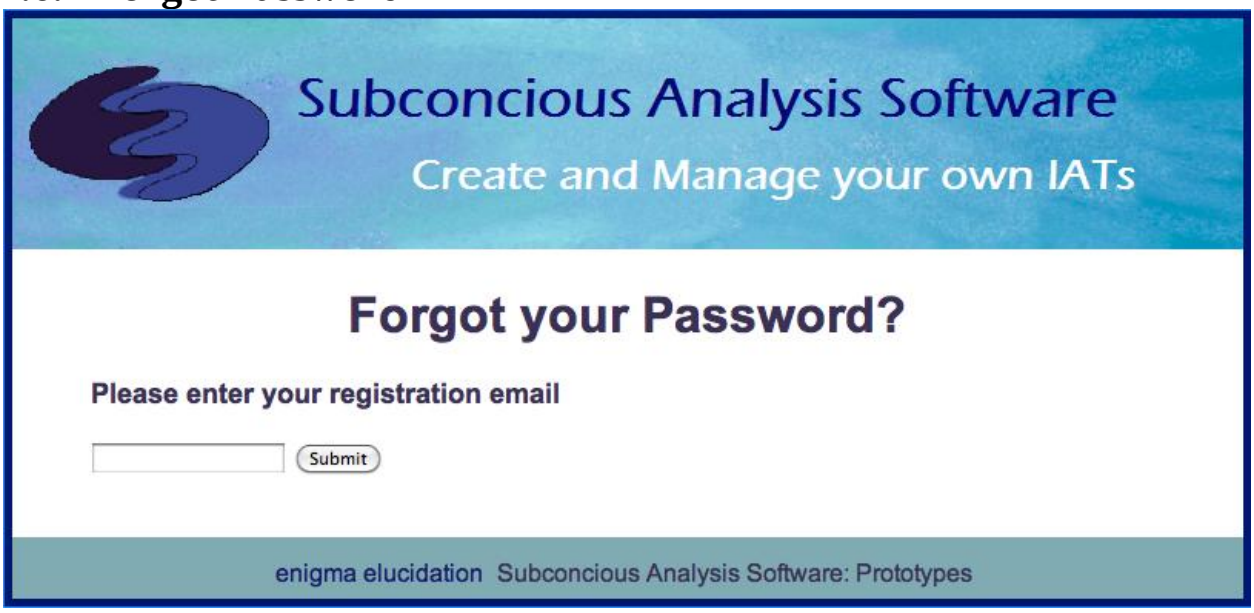
A prototype is an early model of a software application. The following prototypes of Subconscious Analysis Software (SAS) are the earliest and incomplete versions of the software program that we plan to develop. Note that our final product may be very different from these models.

2.6.1 Login



The login prototype shows a model of the screen the administrator will see upon signing into SAS with the administrative username and password.

2.6.2 Forgot Password



The forgot password prototype shows the screen the administrator would see if he clicked on the forgot my password button.

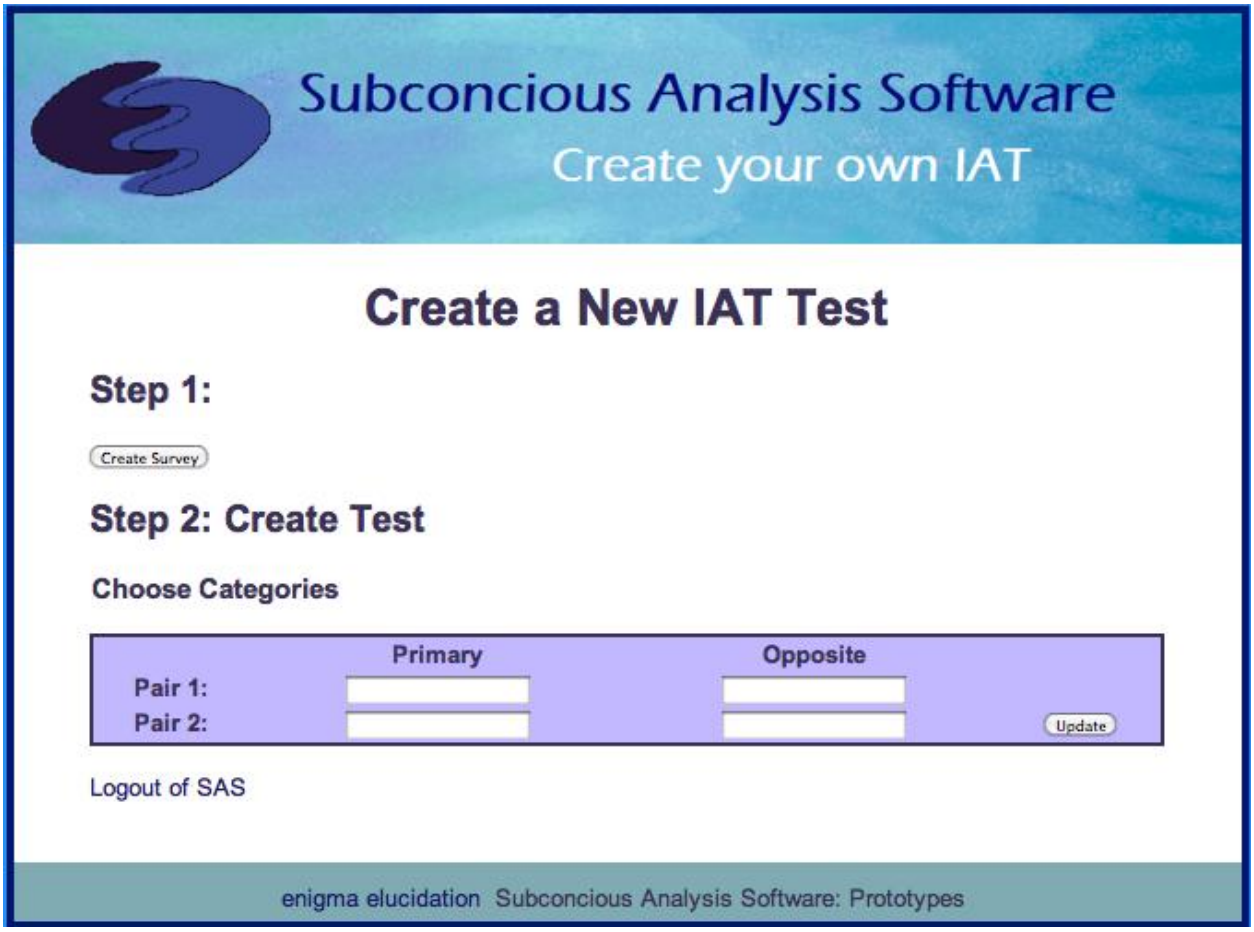
2.6.3 Welcome / Options

The welcome prototype shows the options that the administrator will have after logging into SAS.

2.6.4 Create IAT Prototypes

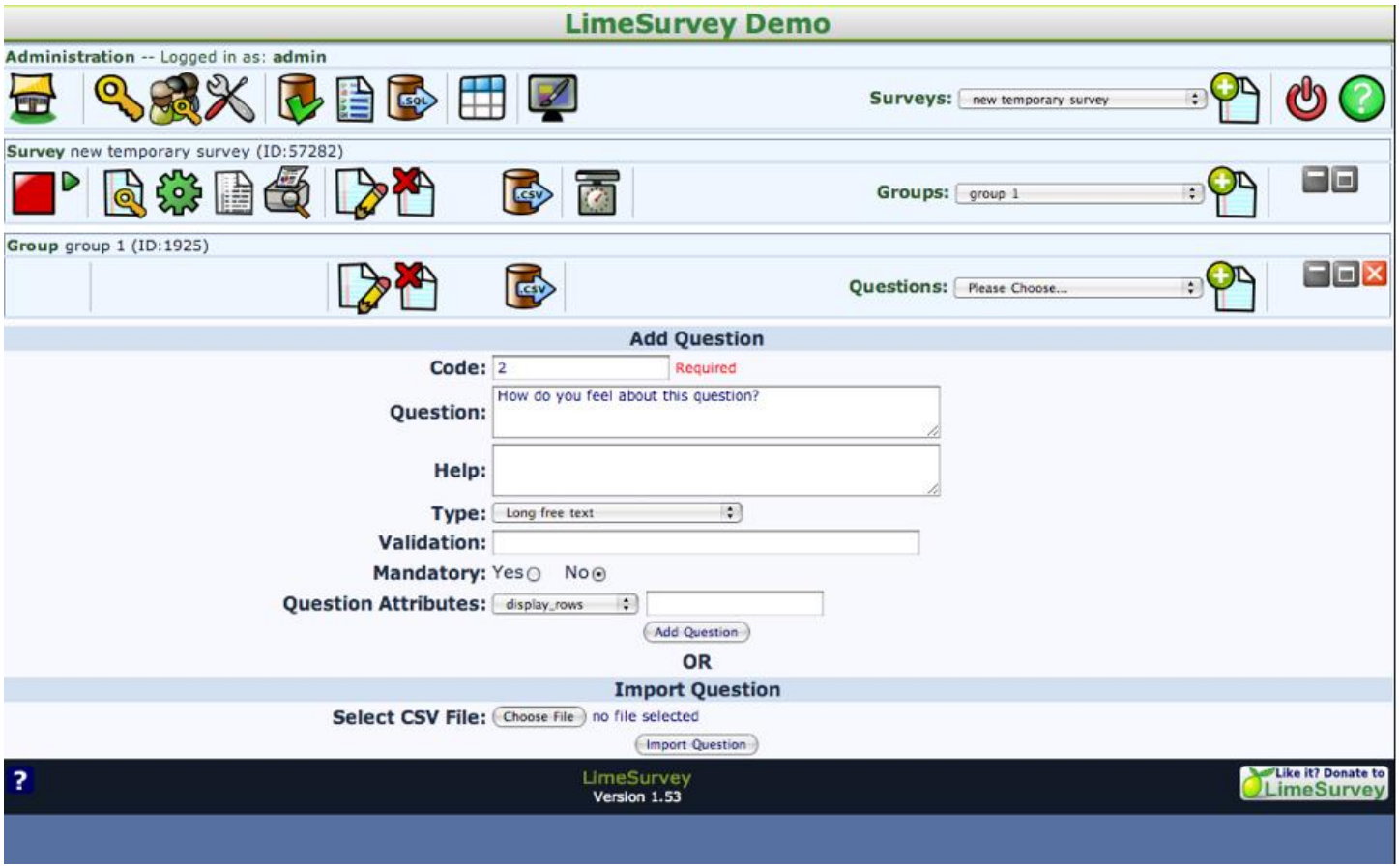
The next five prototypes show the series of screens that the administrator will encounter if the administrator decides to create an IAT.

2.6.4.1 Category Selection



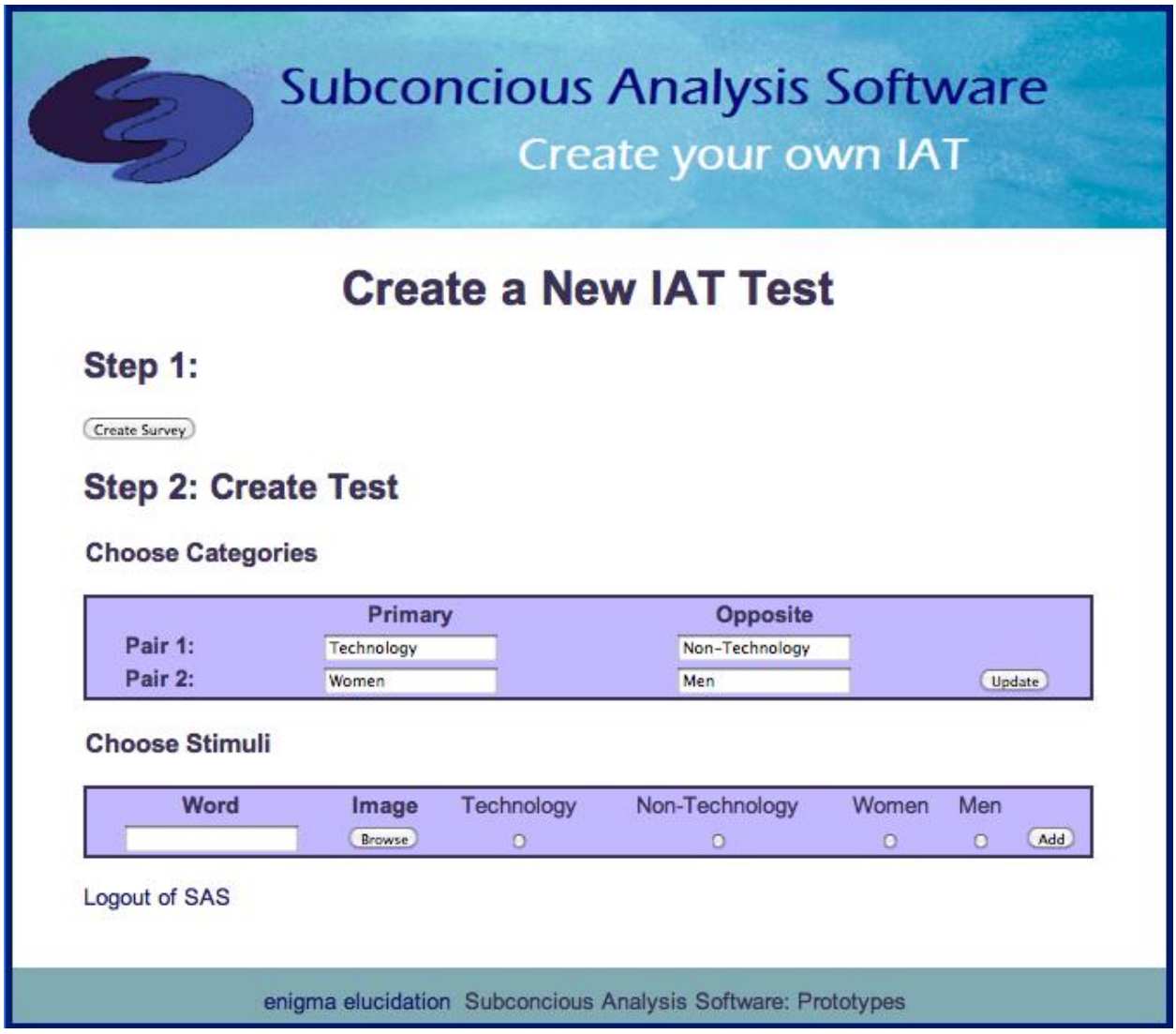
The category selection prototype shows the first screen the administrator will encounter during the creation of an IAT. This screen allows the administrator to either go on and create a survey, or insert the four categories of the IAT test.

2.6.4.2 Create Survey



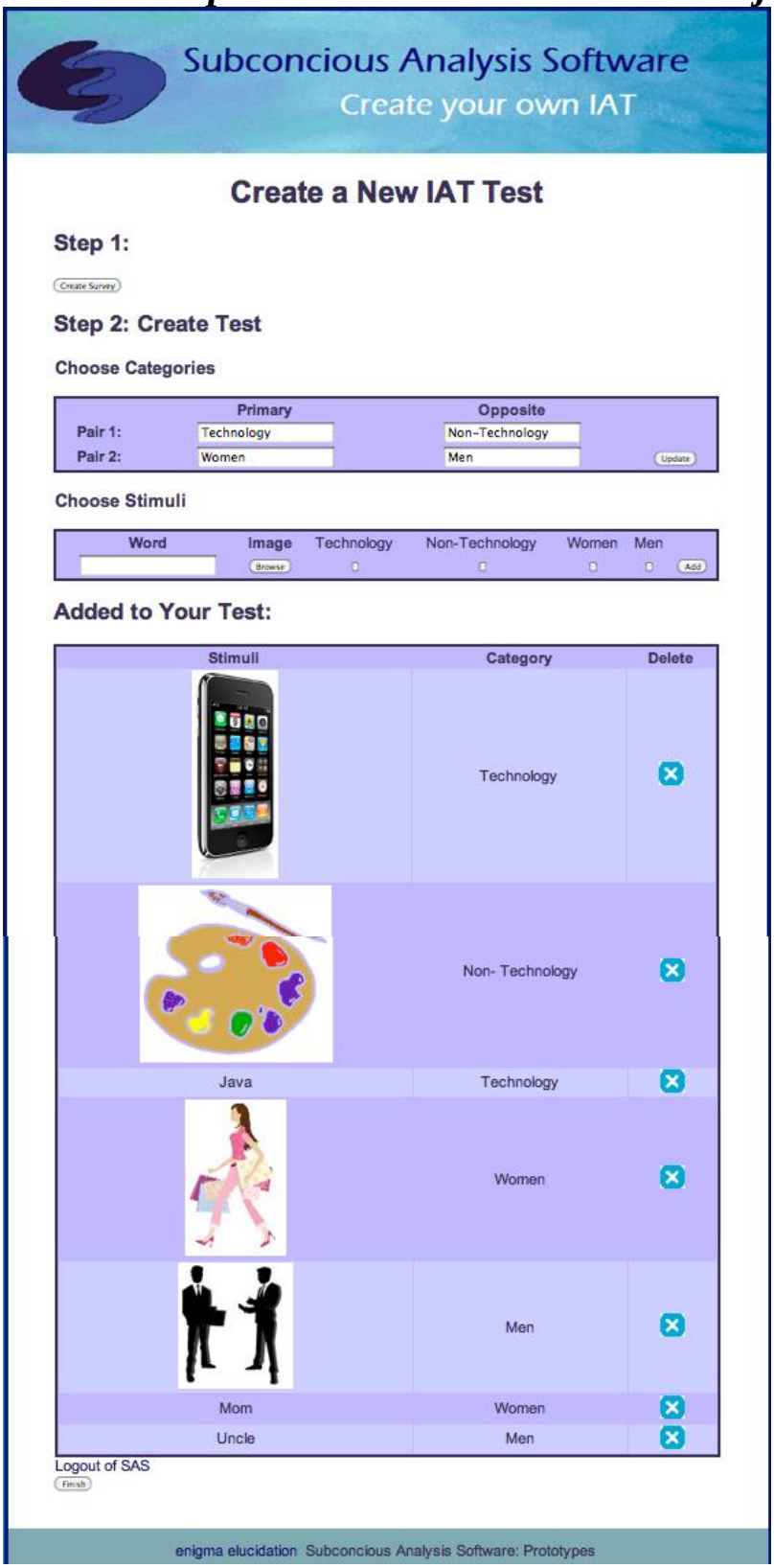
The create survey prototype shows how the administrator will create a survey. This is a screen shot of the creation of a survey using Lime Survey, an open source survey generator that we may implement into SAS.

2.6.4.3 Add First Stimuli Object



The add first stimuli object shows how the administrator will choose the first stimuli object, a word or picture. The administrator must choose a category that this first stimuli object is associated with.

2.6.4.4 Option to Delete added Stimuli Objects

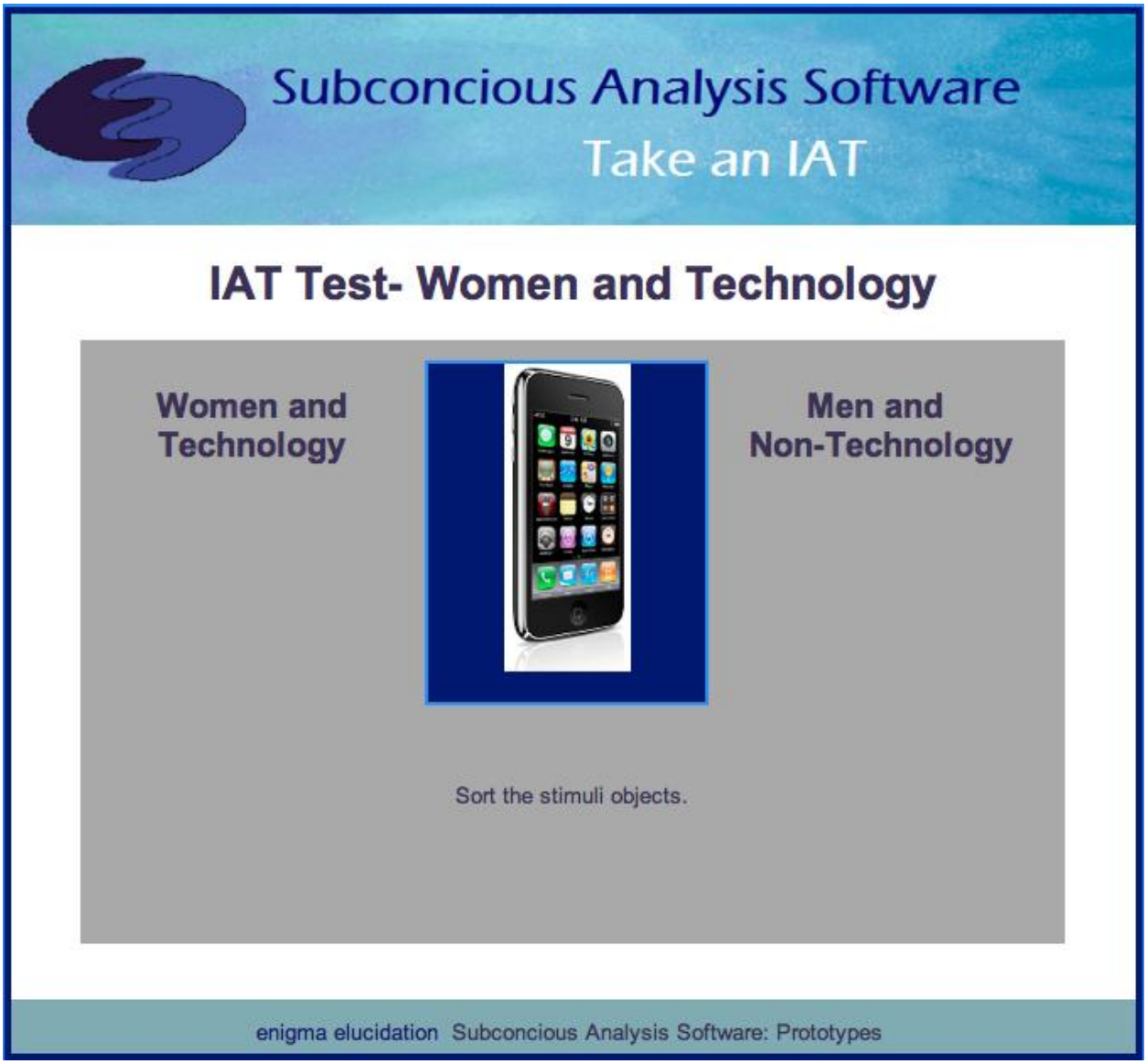


This prototype shows the administrator's option to view and delete stimuli objects already chosen for the IAT test.

2.6.4.5 Finish Creation of IAT Confirmation

This prototype shows the page that asks that the administrator confirm that he would like to finish the creation of the IAT. This screen is essential because it makes sure that the administrator is done inserting desired stimuli objects for this particular IAT.

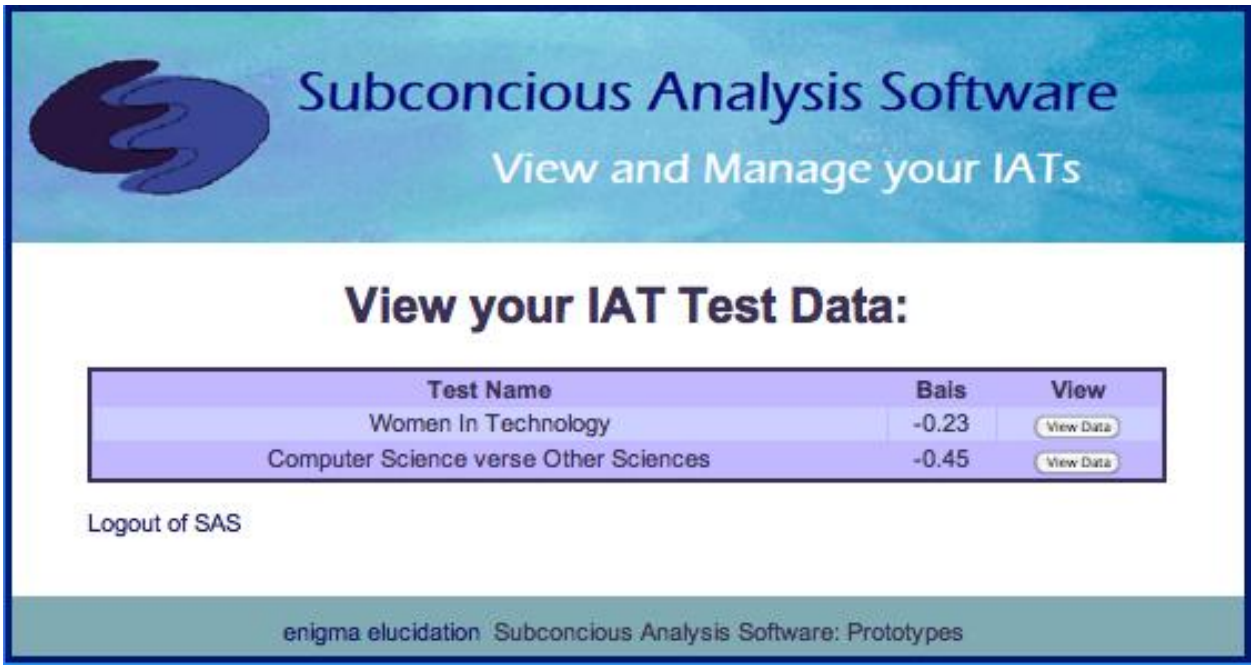
2.6.5 Take IAT



This prototype shows one of the blocks that the participant will see while taking the IAT test.

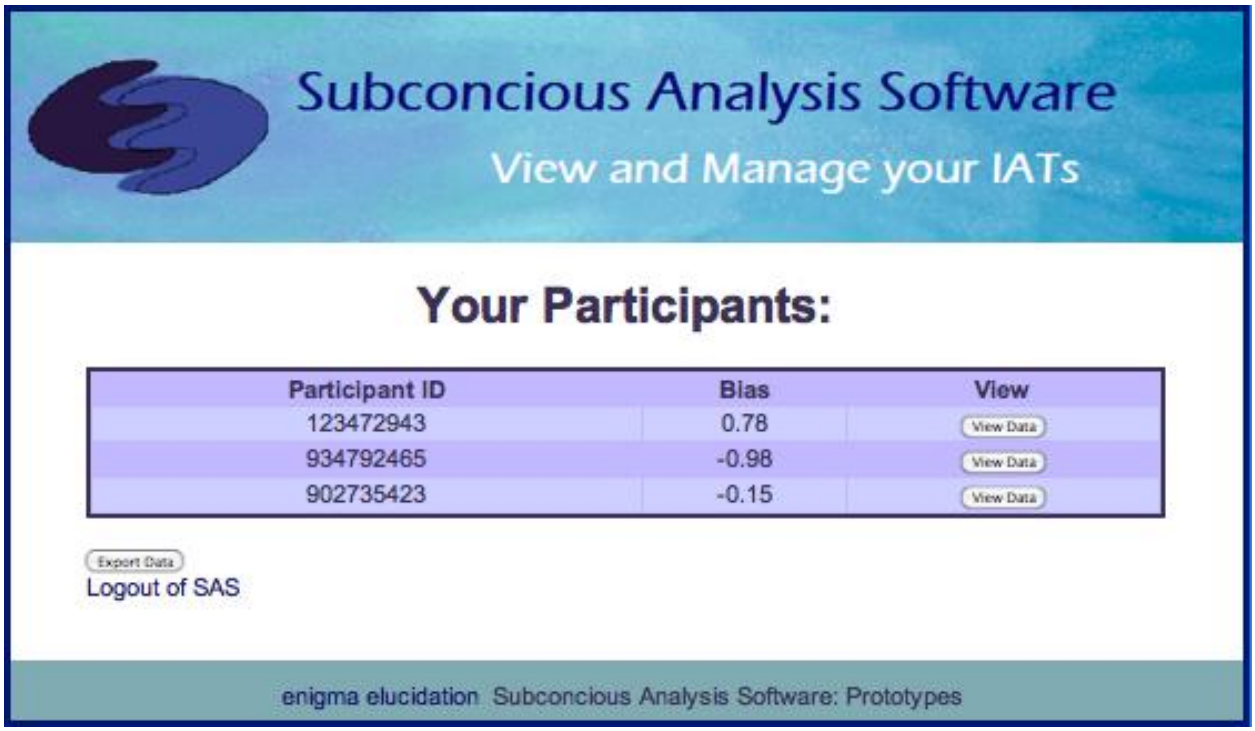
2.6.6 Wrong Answer

2.6.7 View IAT Test Data



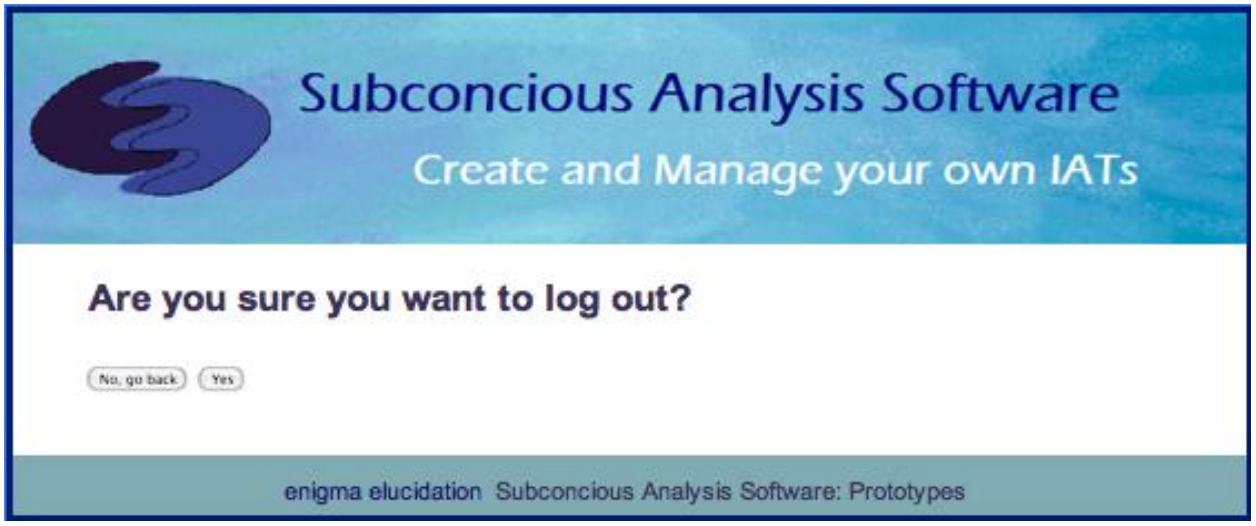
This prototype shows what the administrator will see if he chooses to view existing IAT data. If the administrator wishes to view the data for a specific IAT, he can choose that IAT from this page.

2.6.8 View Participants of an IAT



After choosing a specific IAT to view data for, the administrator will encounter a page like this, where he can access a particular participant's data.

2.6.9 Logout Confirmation Page



If the administrator decides to logout of SAS, he will be prompted with this screen so that he can confirm he no longer wishes to use SAS at this time.

2.7 Test Plan

SAS has outlined the functional and non-functional requirements that have been given to us by our client Dr. Breimer and discovered throughout our development process. In order for our product to be successfully completed we will have to meet these requirements in addition to any other requirements we may find or be given. In order to be sure that we produce what our client has envisioned, we have outlined three different unit tests. Once our product has passed each part of these unit tests individually, we will combine all of the different parts and make sure that they pass all tests when put together. Once we feel that we have met all requirements, we will begin acceptance tests which will tell us whether or not our product is satisfactory.

SAS will be tested on both Windows and MAC operating systems. We will also be testing our product in all four major web browsers, Internet Explorer, Safari, Mozilla Firefox, and Google Chrome. The detailed design document will cover in more detail all unit tests and how each unit will be tested. In the acceptance test we will conclude our testing and know whether or not all of our requirements were met.

2.7.1 Directory

System Test **- Test Results for All Unit Tests**

enigma eluucidation
Subconscious Analysis Software
Dr. Eric Breimer

Directory of *Unit Tests*

Pass/Fail Status		Unit Number	Unit Test Name	Date Last Tested	Comments or brief description	Integrated with these units
N/A	0%	1	Create IAT			
N/A	0%	2	Querying the database			
N/A	0%	3	Login			

2.7.2 Login

enigma elucidation

Login Unit Test

This unit test will explore all the variations of username and password combinations that may be inputted.

	Test Cases									
Pass/Fail Status	**Test Number**	**Description**	**Action to perform test (input)**	**Steps to be Executed**	**State Before Test**	**Expected result**	**Observed result**	**Comments**	**Tested By**	**Test Date**
N/A	3.001	Null username field	Leave username field blank	Click the login button	Blank username field	Output "invalid username"				
N/A	3.002	Null password field	Leave password field blank	Click the login button	Blank password field	Output "please enter your password"				
N/A	3.003	Incorrect password for identified username	Insert incorrect password for given usename	Click the login button	Valid username, invalid password	Output "incorrect pasword"				
N/A	3.004	Non existant user name	insert an invalid username	Click the login button	Invalid username	Output "invalid username"				
N/A	3.005	Forgot password	Click on provided link	Click forgot password button	Blank form	Redirect to forgot password screen				
N/A	3.006	Login	Insert valid username and corresponding password	Click the login button	Filled in form	User brought to their homepage				
N/A	**= Unit Summary**			**0% passing**		**0 passed**		**Date of last test =**		
	6 tests					**0 failed**				

2.7.3 Create IAT

enigme elucidation
Create IAT Unit Test
This unit test will cover the creation of IATs including uploading stimuli, selecting categories and sending the information to the database. The test assumes that the user is logged in as an administrator

Pass/Fail Status	Test Cases: Test Number	Test Cases: Description	Action to perform test (input)	Steps to be Executed	State Before Test	Expected result	Observed result	Comments	Tested By	Test Date
N/A	1.001	Naming the IAT	Inputting the name of the test	Check that the name is valid	No IAT with this name	New test created				12/21/08
N/A	1.002	Uploading stimuli image	Inputting a URL or file name of desired image	Check that image is in a valid format	No image	Image is accepted and inputted to the database				
N/A	1.003	Uploading stimuli text	Inputting desired text stimuli	Check that text is text	No text	Text is accepted and inputted to database				
N/A	1.004	Selecting category	Inputting edesired category	Check that the category is valid	No category selected	Valid category is accepted				
N/A	1.005	Invalid name for IAT	Inputting an invalid name for an IAT	Check that the name is valid	Invalid name in corresponding field	Output "Invalid IAT name"				
N/A	1.006	Invalid stimuli input	Inputting invalid stimuli	Check that stimuli is in a valid format	Invalid stimuli input in uploading stimuli field	Output "Invalid stimuli"				
N/A	1.007	Selecting an invalid category	Inputting an invalid category name	Check that category is valid	Invalid category in category field	Output "invalid category"				
N/A	= Unit Summary 7 tests		0% passing			0 passed 0 failed		Date of last test =		12/21/08

2.7.4 Database

enigma elucidation
Database Unit Test
This unit test will describe the querying of the database. This test assumes the user is logged in as an administrator.

	Test Cases									
Pass/Fail Status	**Test Number**	**Description**	**Action to perform test (input)**	**Steps to be Executed**	**State Before Test**	**Expected result**	**Observed result**	**Comments**	**Tested By**	**Test Date**
N/A	2.001	Check if table exists	Enter table name into name field	Runs a query using that table name	Table exists	Table appear with their data				4/1/20
N/A	2.002	Insert data into table	Input data into corresponding fields	Runs a query updating the table to contain the new data	Table exists	The table's data will be updated				
N/A	2.003	Delete data from table	Enter table name and data to be deleted	Runs a query deleting the data from the sepcified table	Table and data exist	The specified data is deleted				
N/A	2.004	Query database	Enter table name and data to be displayed	Runs a query returning desired data from specified table	Table and data exist	The specified data is displayed				
N/A	2.005	Check for non-existant table	Enter table name	Run query looking for specified table	Table does not exist	Output "table does not exist"				
N/A	2.006	Insert invalid data into table	Enter table name and data into corresponding field	Run query inserting new data in table	Table exists but inputted data is not in the right format or invalid	Output "Invalid data"				
N/A	2.007	Delete nonexistant data from database	Enter table name and data to be deleted	Run query to delete data from table	Table exists but data does not	Output "Data does not exist in table"				
N/A	2.008	Query database for nonexistant data	Enter table name and desired data	Run query to return desired data	Table exists but data does not	Output "Nonexistant data"				
N/A	**= Unit Summary**			**0% passing**		**0 passed**		**Date of last test =**		**4/1/20**
	8 tests					**0 failed**				

2.8 Development and Production Environments

For the development of SAS, enigma elucidation will be using the Windows and Macintosh computers provided by Siena College in the Software Engineering lab located on the 3rd floor of Roger Bacon room 348.

Server:

Operating System:	CentOS (Linux) Release 5.2(Final)
Server Name:	oraserv.cs.siena.edu
CPU Type:	Intel Xeon X86_64 2.66 GHz
Web Server:	Apache version 2.2.9
Programming Language:	PHP version 5.2.6
Database:	MySQL version 5.0.45

Windows Computer:

Operating System:	Windows Vista Enterprise (6.0, Build 6002)
Model:	Dell OptiPlex 760
Processor:	Intel Core 2 Duo
Speed:	2.93 GHz
Memory:	4 GB

Available Software:

- Mozilla Firefox
- Google Chrome
- Internet Explorer
- FileZilla
- Notepad++
- Microsoft Office

Macintosh Computer:

Operating System:	Mac OS X 10.6.4
Model:	iMac 5,1
Processor:	Intel Core 2 Duo
Speed:	2 GHz
Memory:	1 GB

Available Software:

- Safari

Appendices

Appendix A: Glossary of Terms

AJAX (Asynchronous JavaScript and XML) - is a free group of interrelated web development methods used for quickly creating efficient and interactive Web applications.

Apache – an open source HTTP (hypertext transfer protocol) Server that hosts many of the Internet's websites.

Chrome -Web browser designed by Google

CSS (Cascading Style Sheets) – A style sheet language used to style webpages written in HTML and XHTML

Data Flow Diagram (DFD) **–** a graphical representation of the flow of data through a software system

Database – An organized collection of data designed for efficient and quick retrieval and storing of data.

Firefox - Internet browser designed by Mozilla

Functional Requirements Inventory – Defines what the system will be able to do that is testable

Gantt Chart – Gantt charts illustrate a project schedule specifying the start and finish dates of the terminal elements and summary elements of a project

HTML (HyperText Markup Language) – language for creating web pages

IAT (Implicit Association Test) – a psychology test that determines a participant's bias based on how a person categorizes stimuli and how fast they categorize it

Internet Explorer (IE)- Internet browser designed by Microsoft

JavaScript – a free scripting language that works on all major browsers usually embedded directly into HTML pages to add interactivity

MySQL – a open source relational database management system

Non-Functional Requirements Inventory - defines what the system will be that is not testable.

PHP (PHP Hypertext Preprocessor) – server side HTML scripting language

Prototype – A rudimentary depiction of the design of the final product

Safari – Web browser designed by Apple

SAS – Subconscious Analysis Software, enigma elucidation the software system.

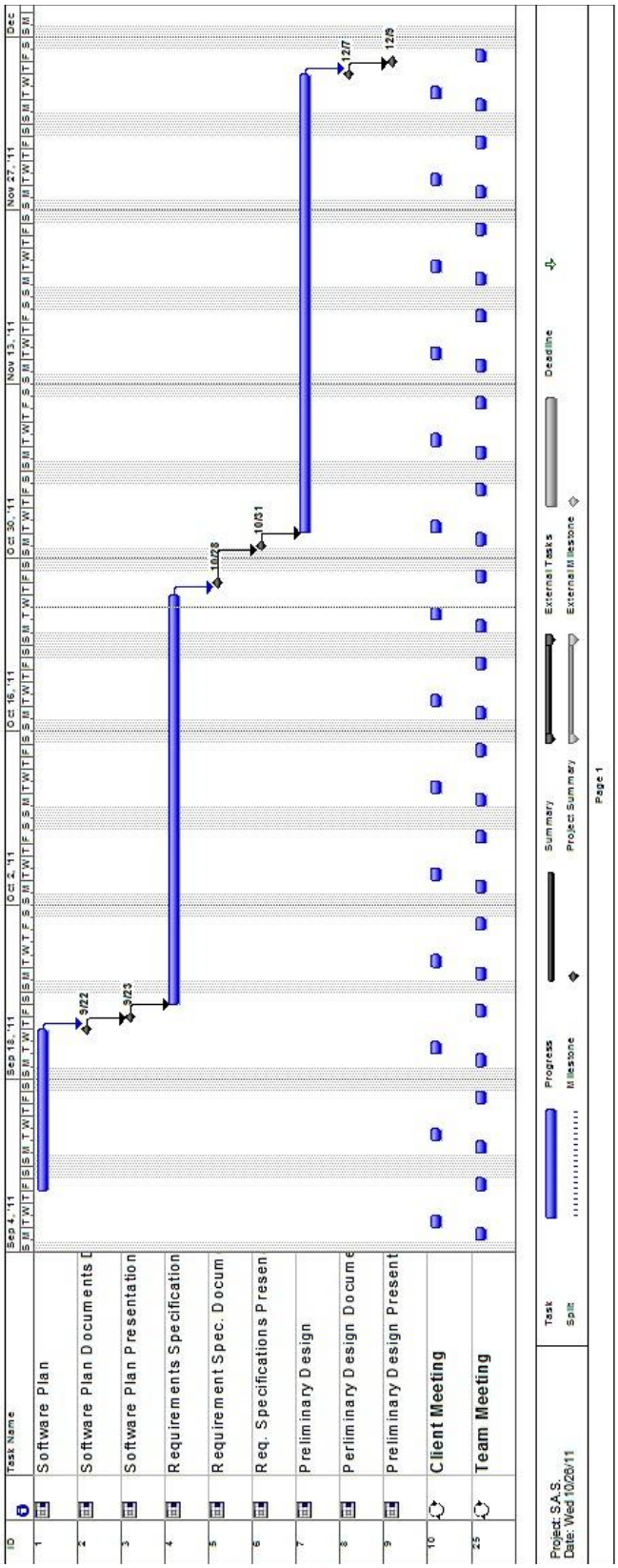
UML (Unified Modeling Language) **–** a specification language used in software engineering

UML Use Case Diagram – a behavioral diagram used to identify the requirements of a system

XHTML (eXtensible HyperText Markup Language) – a stricter and cleaner version of HTML (HyperText Markup Language)

XML (Extensible Markup Language) - A markup language designed to store and transport data; different from HTML which is designed to display data.

Appendix B: Timeline Fall 2011 Semester



Appendix C: Timeline Spring 2012 Semester