



Structured Analysis & Structured Design <CFG Generator>



Team 4

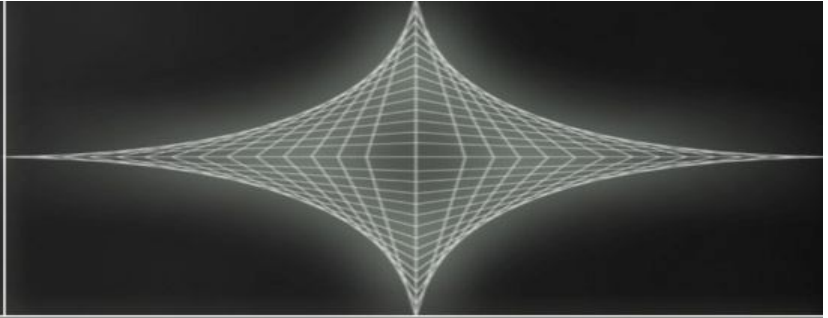
200811416 김영훈

200811441 윤동민

200811452 이희봉

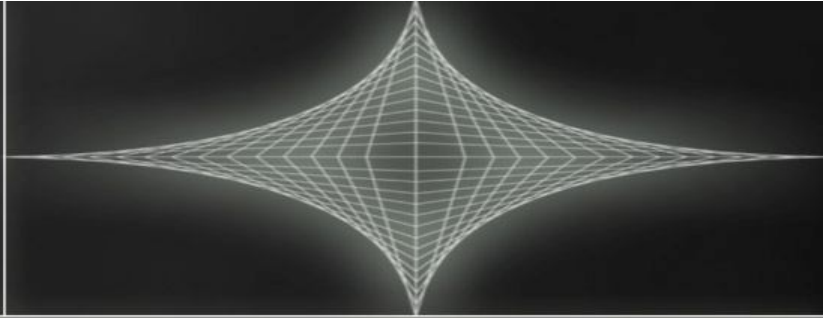
200811458 조원진

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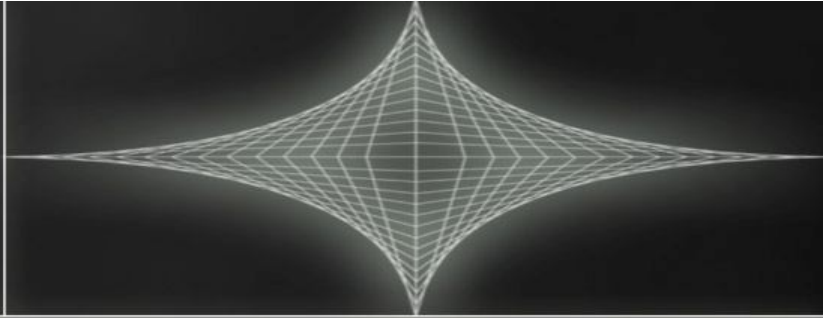
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Statement of Purpose



- ▶ 코드를 입력 받아서 CFG를 출력시키는 프로그램이다.
- ▶ Text File 의 내용은 C소스코드 이외에는 고려 하지 않는다.
- ▶ 잘못된 형태의 명령어를 입력하면 도움말을 출력한다.
- ▶ 변환되어 그려진 CFG를 통해서 코드를 최적화 할 수 있다.

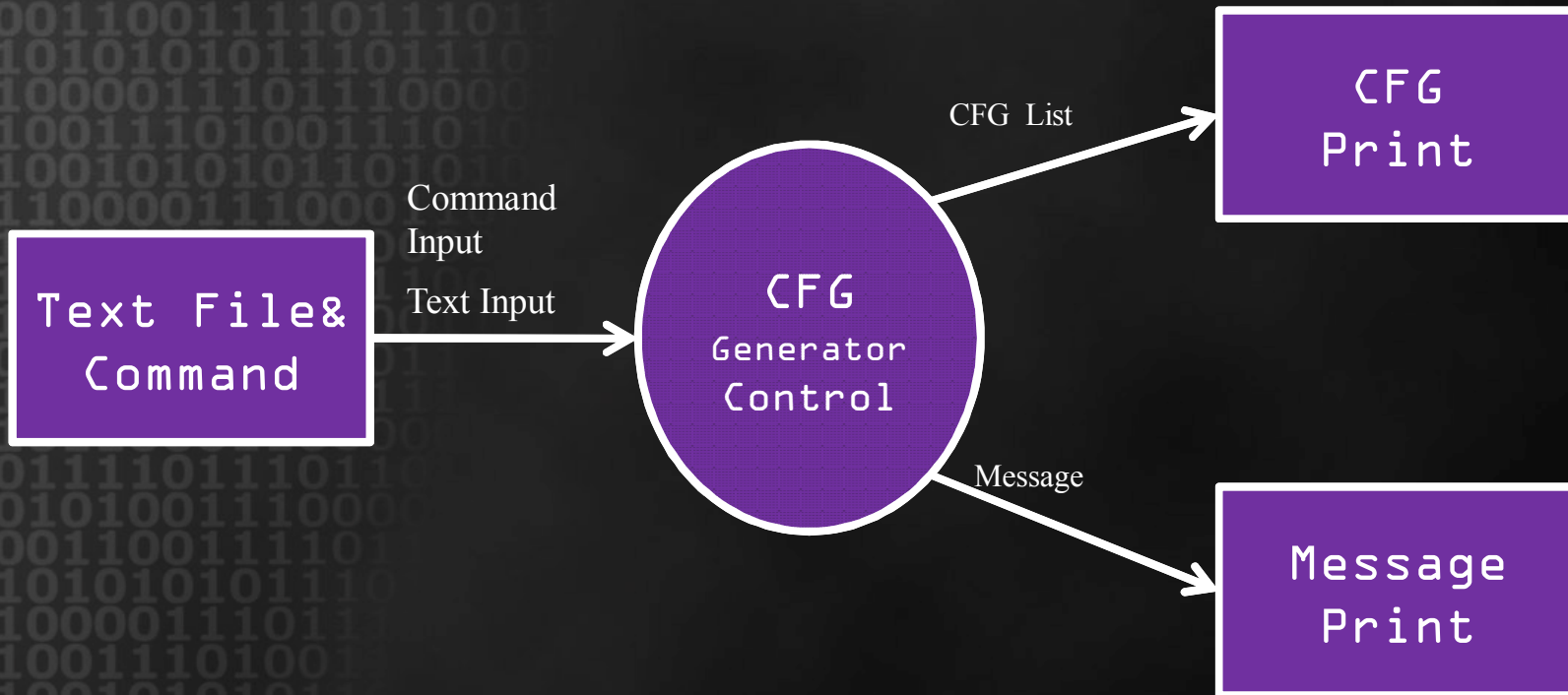
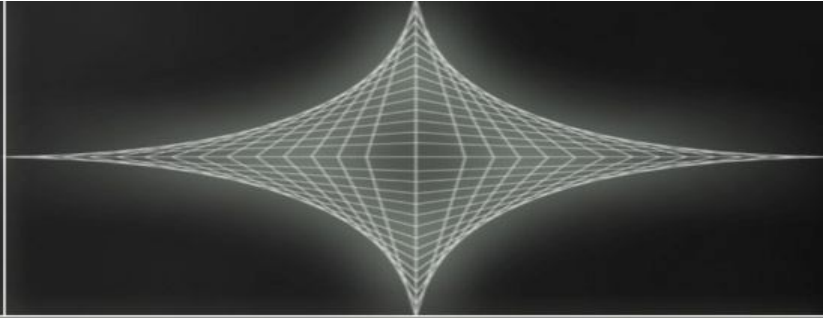
Statement of Purpose(Cont.)



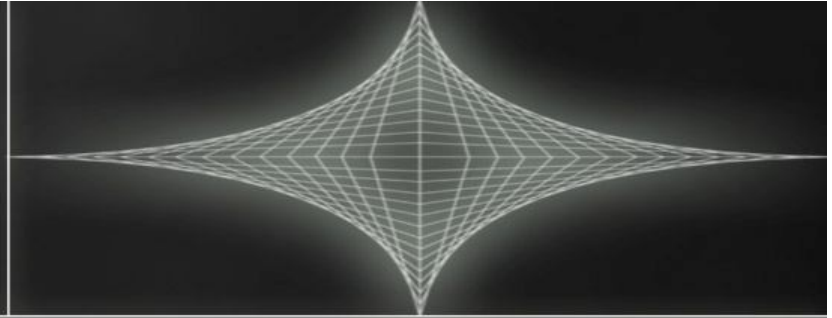
➤ 제약조건

- 입력 받는 코드의 크기는 100~200줄 내외의 프로그램 대상으로 한다.
- Main Function을 포함하는 코드 여야 한다.
- 단일 파일로 되어 있는 코드에 대하여 작동한다.
- 사용자가 정의한 헤더를 사용한 파일에 대해서는 작동하지 않는다.
- 포인터를 사용하지 않는 코드를 대상으로 한다.

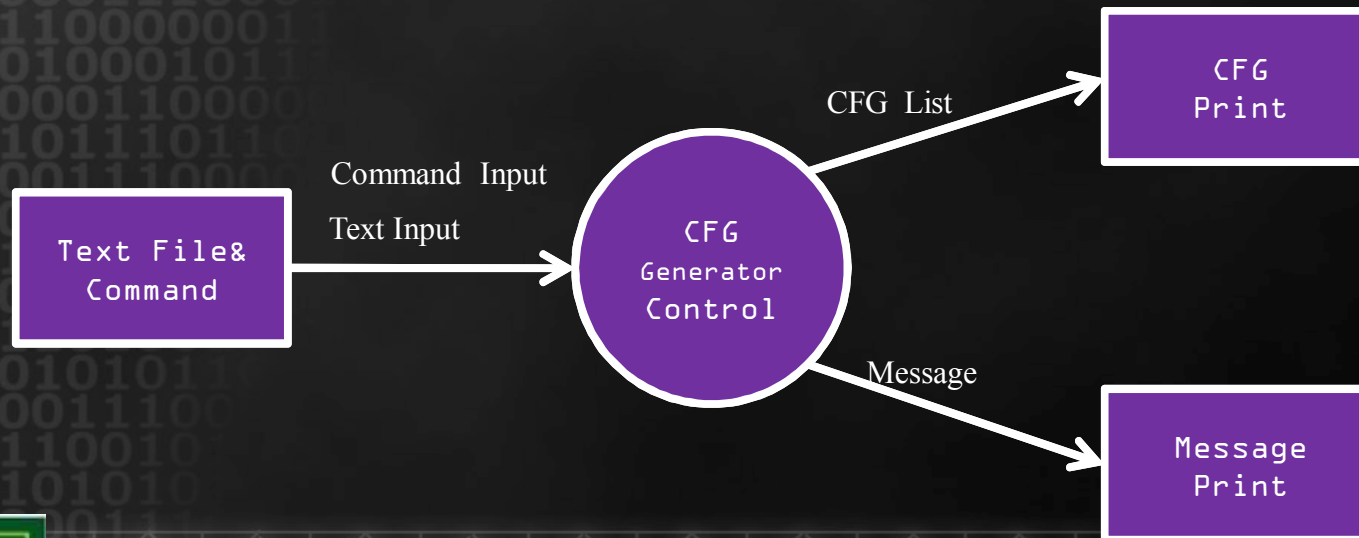
System Context Diagram



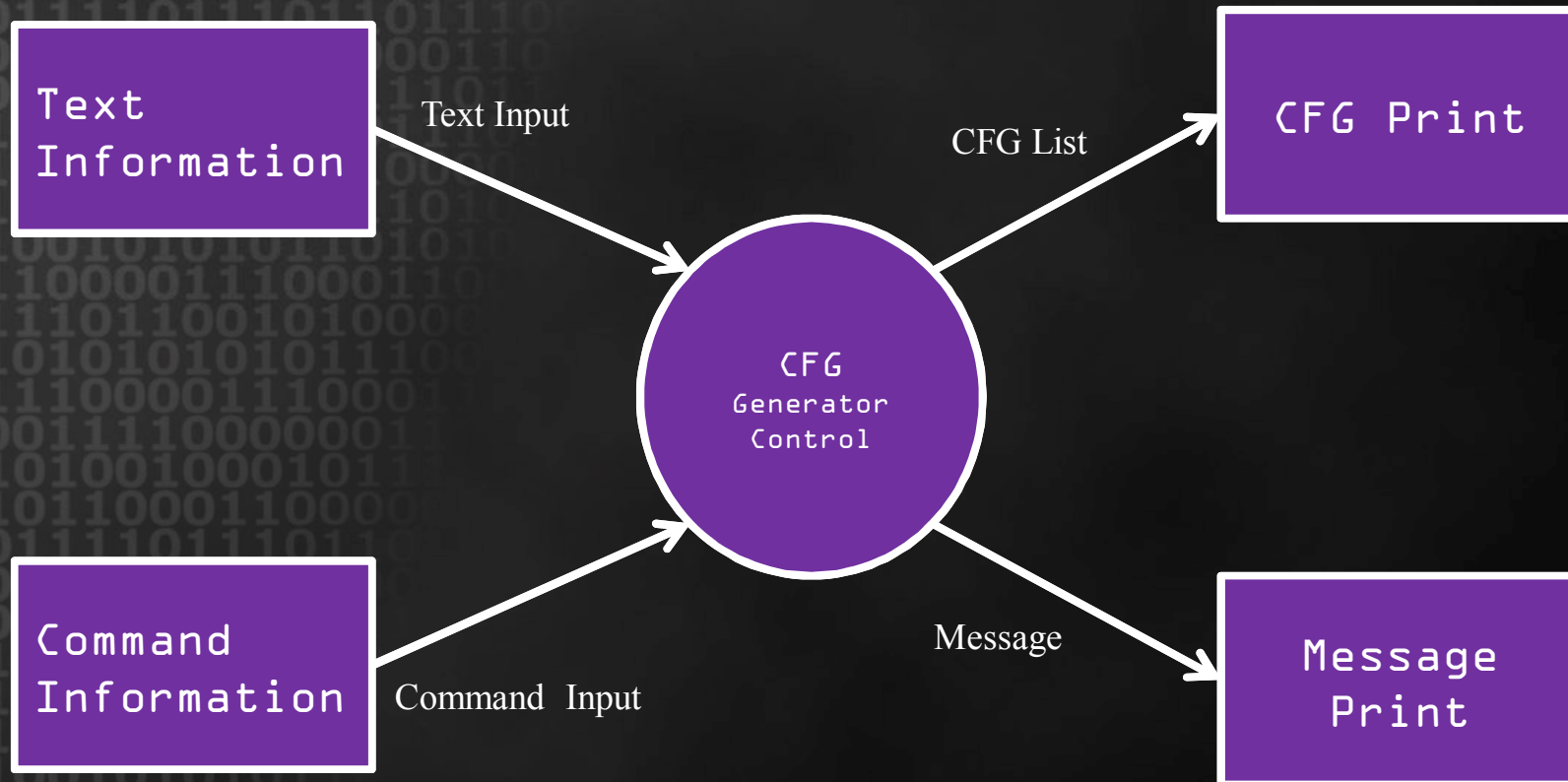
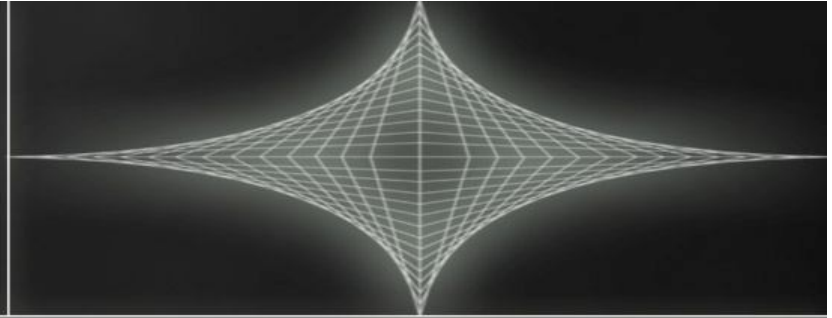
Event List



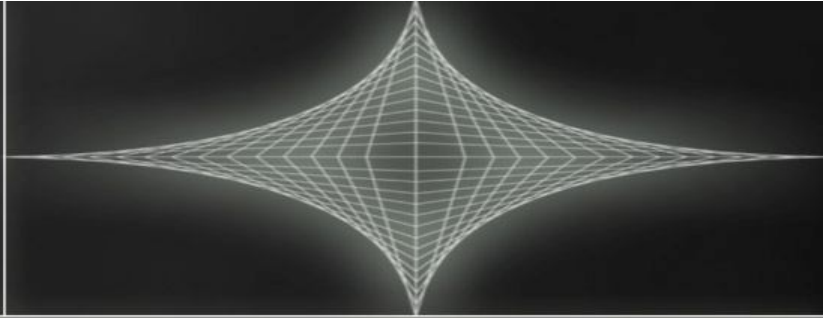
Input / Output Event	Description
Text Input	Check the Text contents
CFG List Output	Print commands to the CFG Print
Command Input	Check the command
Message Output	Print commands to the Message Print



DFD Level 0

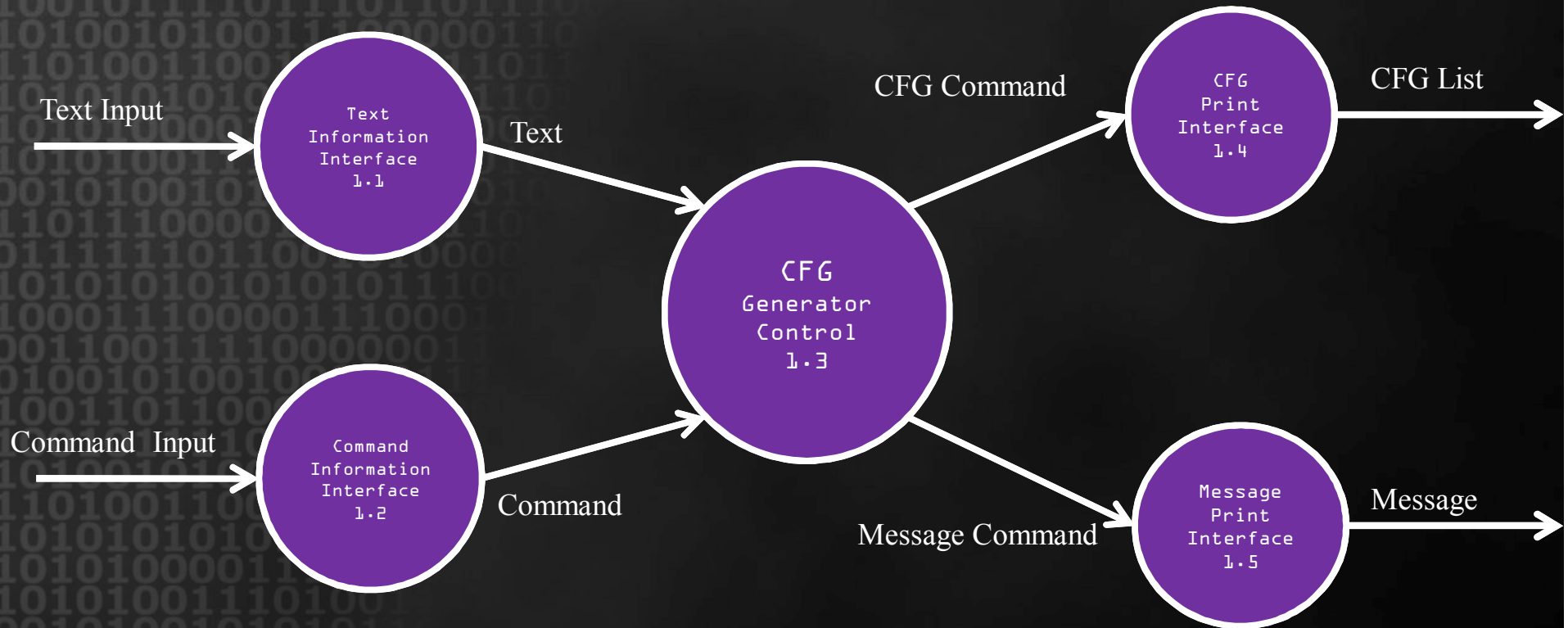
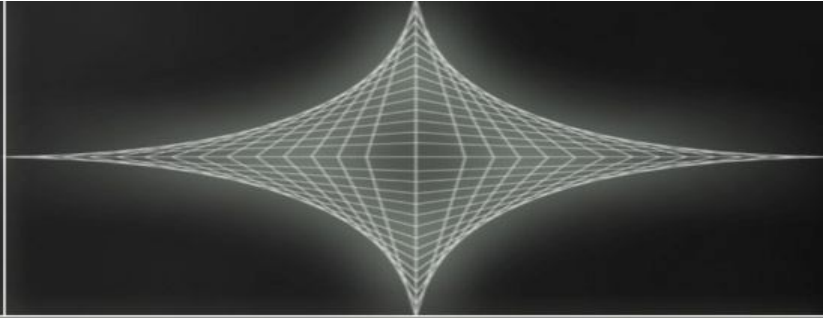


Data Dictionary

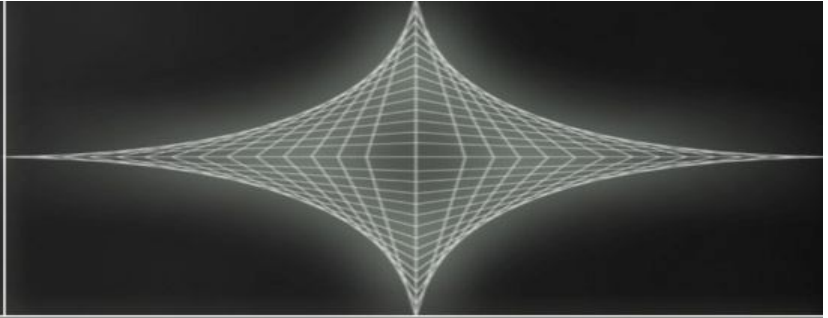


Input / Output	Description	Type
Text Input	CFG to be converted into C code name .txt files with the extension.	.txt
CFG List	Print commands to the CFG Print	Char*
Command Input	Check the command	Char*
Message	The received message is output	Char*

DFD Level 1

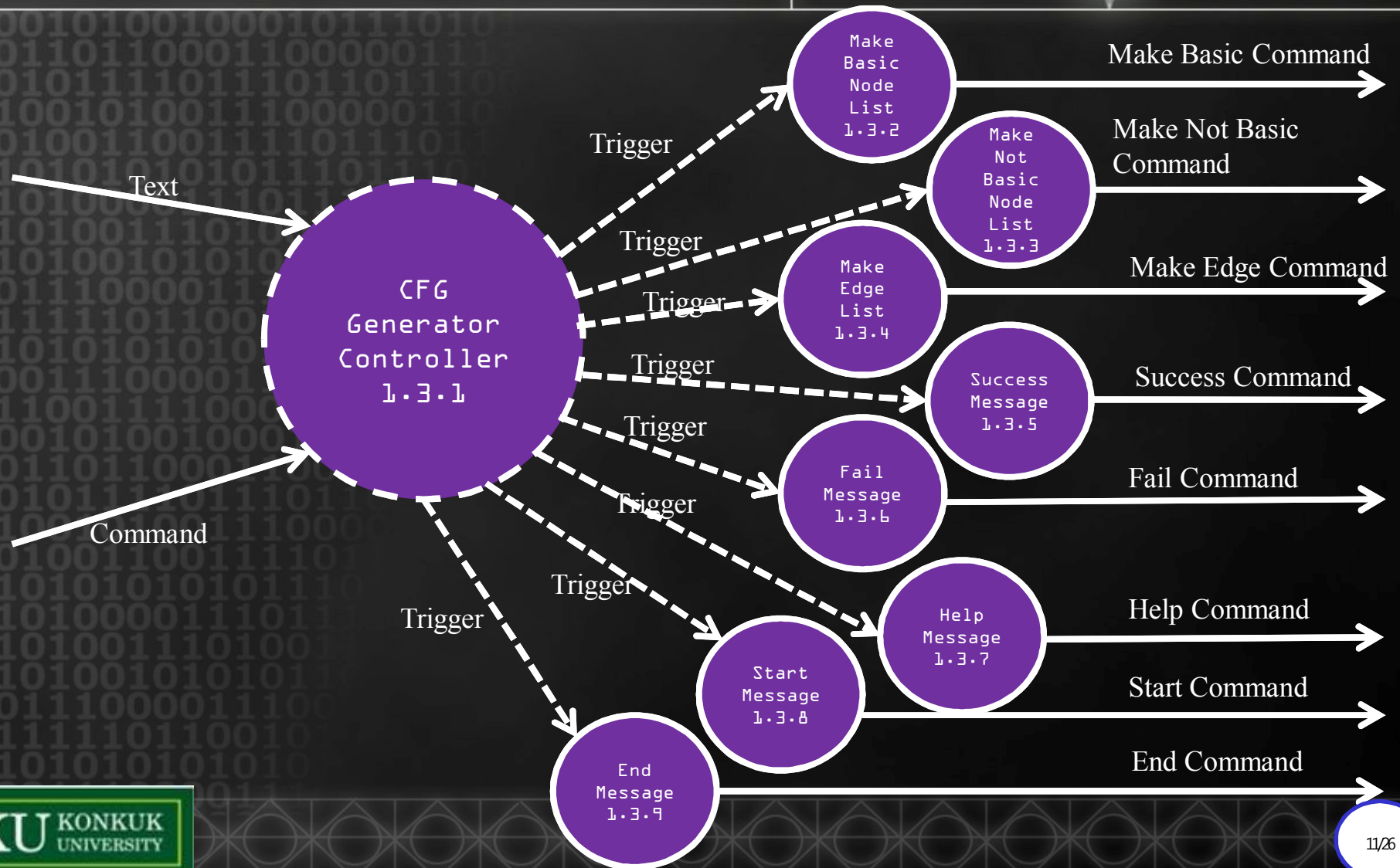


Data Dictionary

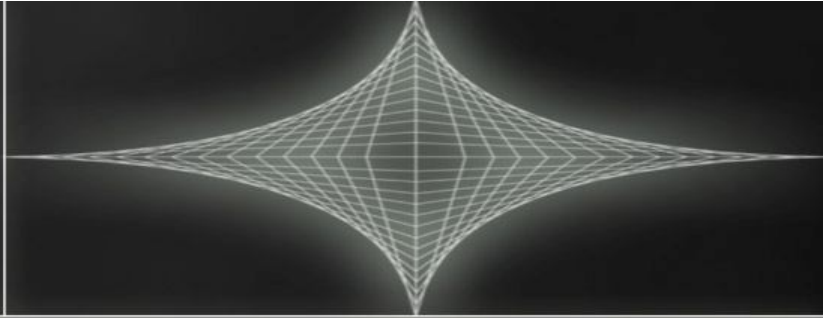


Input / Output	Description	Type
Text	Check the Text contents	Char*
Command	A string containing the command	Char *
CFG Command	Distinct node and edge information is passed	Char[] Char*[]
Message Command	Distinct message to convey information	A(Start Message)/!A(End Message)/C(Success Message)/!C(Fail Message)/Cmd/!Cmd(Help Message)

DFD Level 2

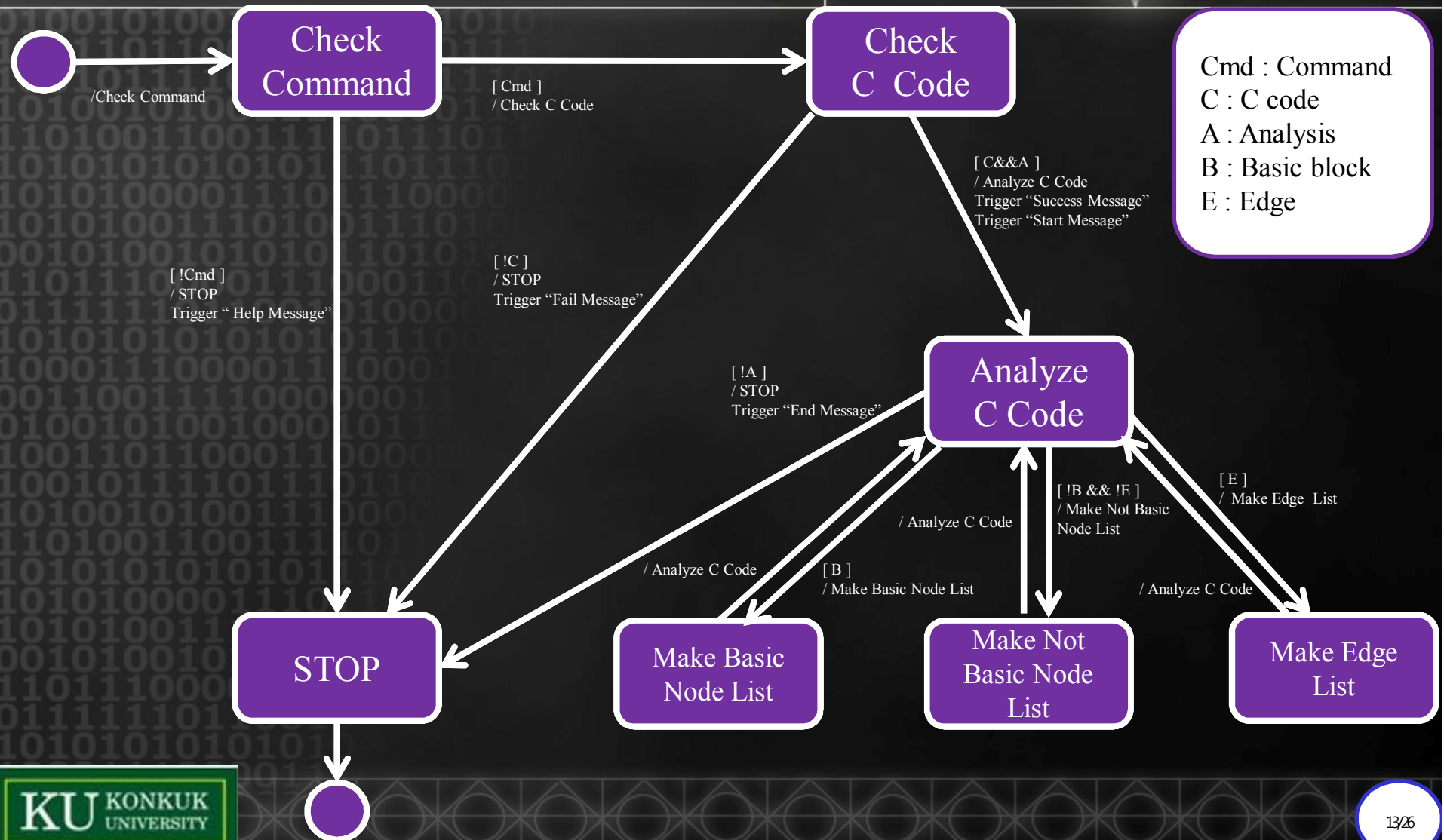


Data Dictionary

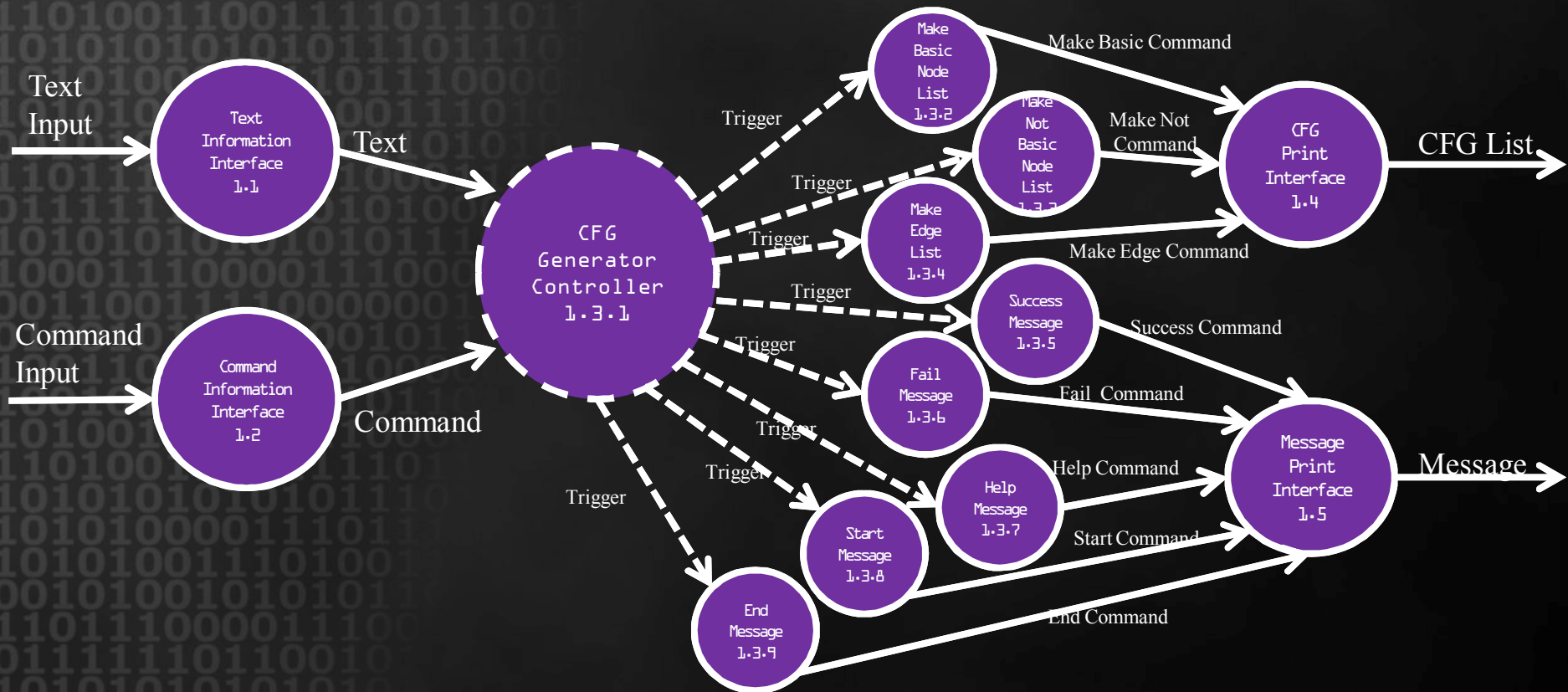
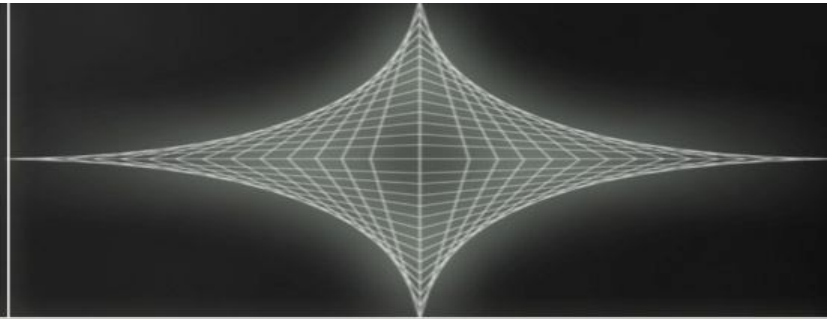


Input / Output	Description	Type
Make Basic Node Command	Basic node is stored in an array	Char[]
Make Not Basic Node Command	Not Basic node is stored in an array	Char[]
Make Edge Command	Edge is stored in an array	Char*[]
Success Command	The success of the command is passed	Char*
Fail Command	Enter the file fails to pass	Char*
Help Command	Deliver help message	Char*
Start Command	Analysis of the program began and it is passed	Char*
End Command	Analysis of the program is over and it is passed	Char*

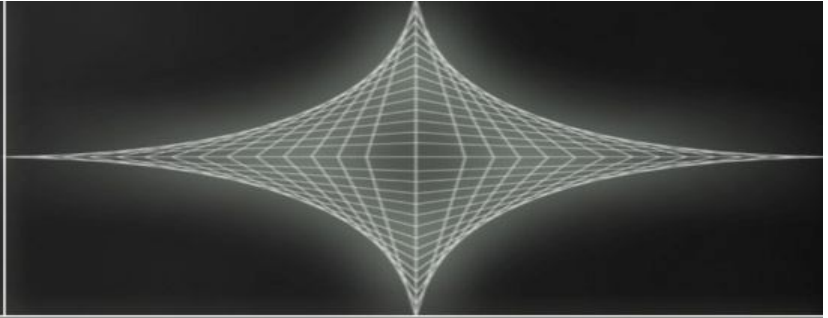
DFD Level 3



DFD - Overall



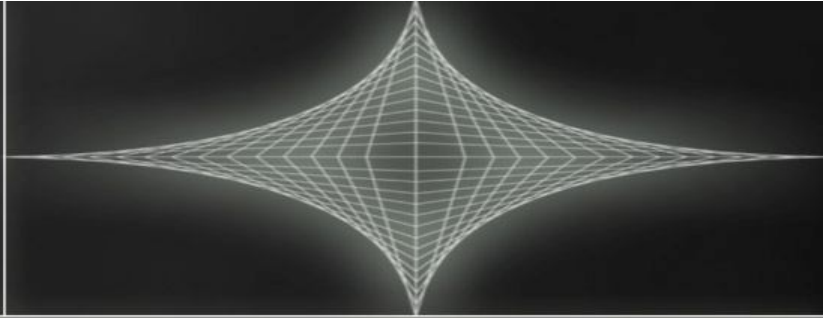
Process Specification



Reference No.	1.1
Name	Text Information Interface
Input	Text Input
Output	Text
Process Description	After receiving Text Input, it sends to CFG generator control

Reference No.	1.2
Name	Command Information Interface
Input	Command Input
Output	Command
Process Description	After receiving Command Input, it sends to CFG generator control

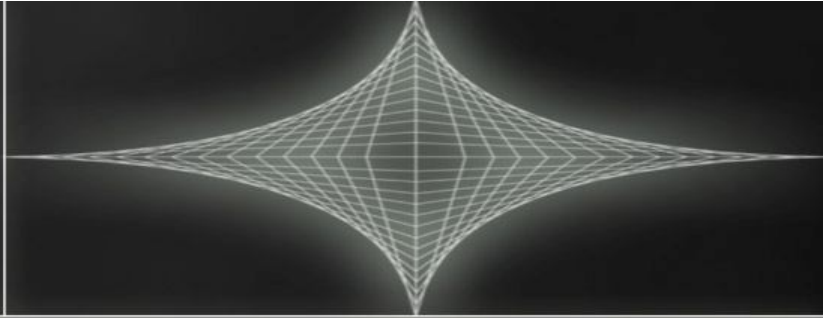
Process Specification



Reference No.	1.3.1
Name	Main Control
Input	Text, Command
Output	Trigger
Process Description	It is main control that Receive basic information then makes Node List, edge List and printed Message.

Reference No.	1.3.2
Name	Make Basic Node List
Input	Trigger
Output	CFG Command
Process Description	Create a list of Basic Node.

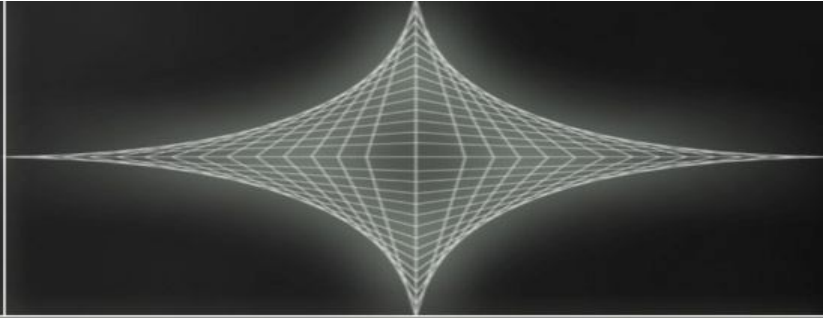
Process Specification



Reference No.	1.3.3
Name	Make Not Basic Node List
Input	Trigger
Output	CFG Command
Process Description	Create a list of Not Basic Node.

Reference No.	1.3.4
Name	Make Edge List
Input	Trigger
Output	CFG Command
Process Description	Create a list of edges.

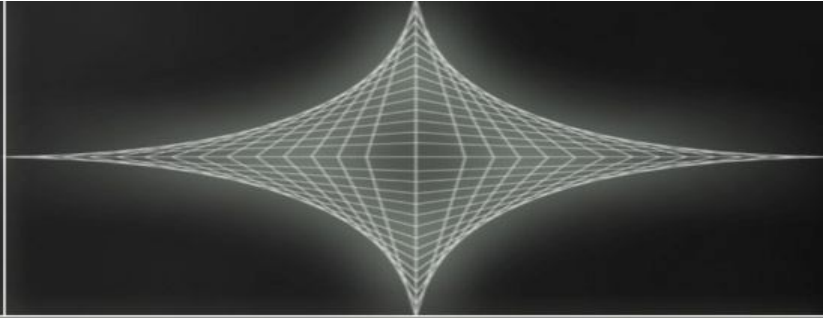
Process Specification



Reference No.	1.3.5
Name	Success Message
Input	Trigger
Output	Message Command
Process Description	After successful input, the success message is printed.

Reference No.	1.3.6
Name	Fail Message
Input	Trigger
Output	Message Command
Process Description	After not successful input, the fail message is printed.

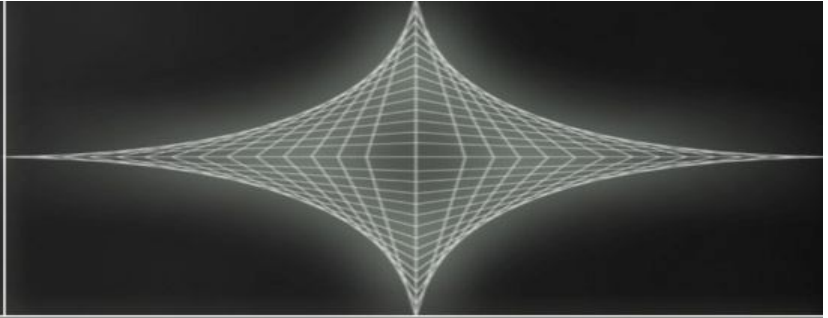
Process Specification



Reference No.	1.3.7
Name	Help Message
Input	Trigger
Output	Message Command
Process Description	The statement has been entered incorrectly, help is printed.

Reference No.	1.3.8
Name	Start Message
Input	Trigger
Output	Message Command
Process Description	Conversion is started.

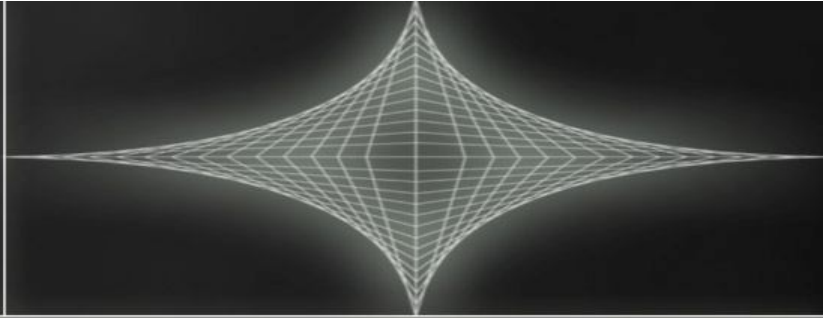
Process Specification



Reference No.	1.3.9
Name	End Message
Input	Trigger
Output	Message Command
Process Description	After create the report, the file name will be printed.

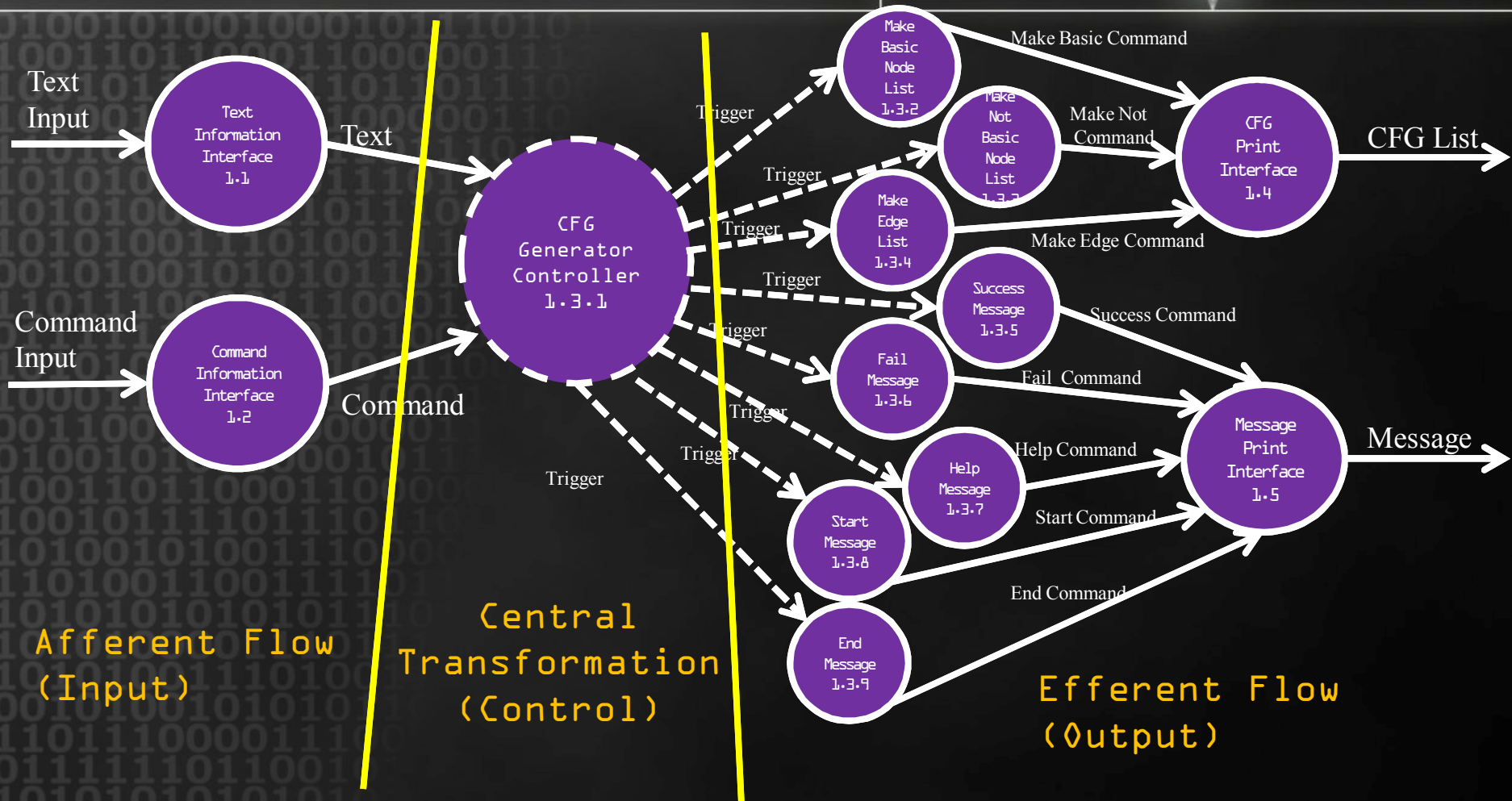
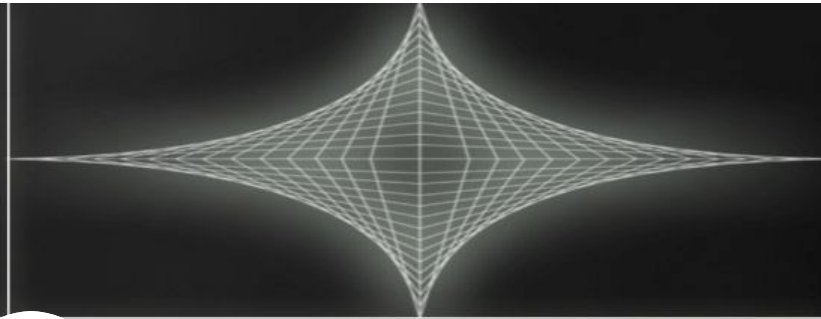
Reference No.	1.4
Name	CFG Print Interface
Input	CFG Command
Output	CFG List
Process Description	After receiving CFG Command, it sends CFG List to CFG Print in order to print CFG List

Process Specification

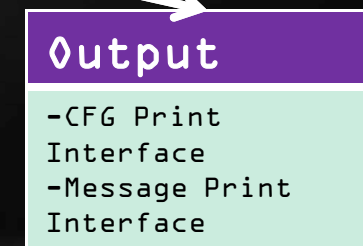
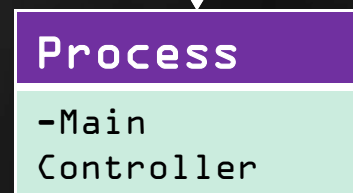
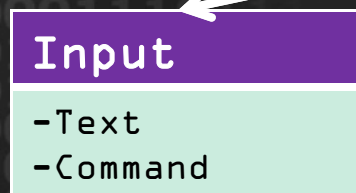
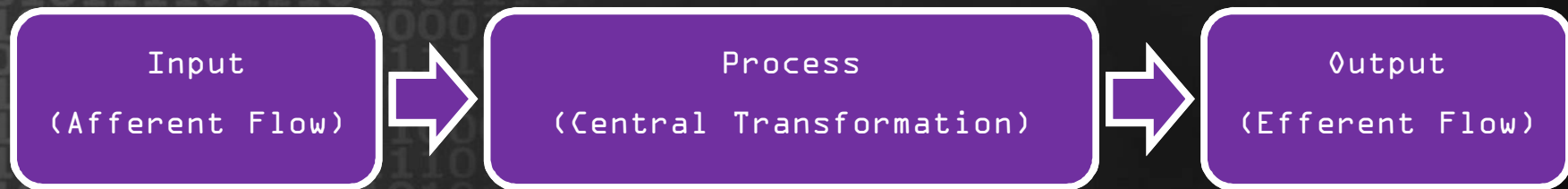
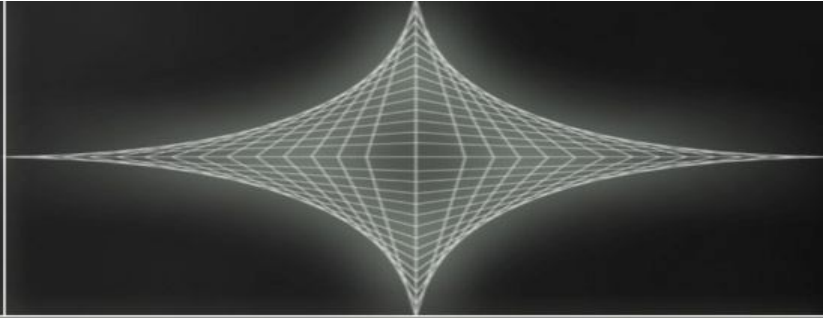


Reference No.	1.5
Name	Message Print Interface
Input	Message Command
Output	Message
Process Description	After receiving Message Command, it sends Message to Message Print in order to print Message

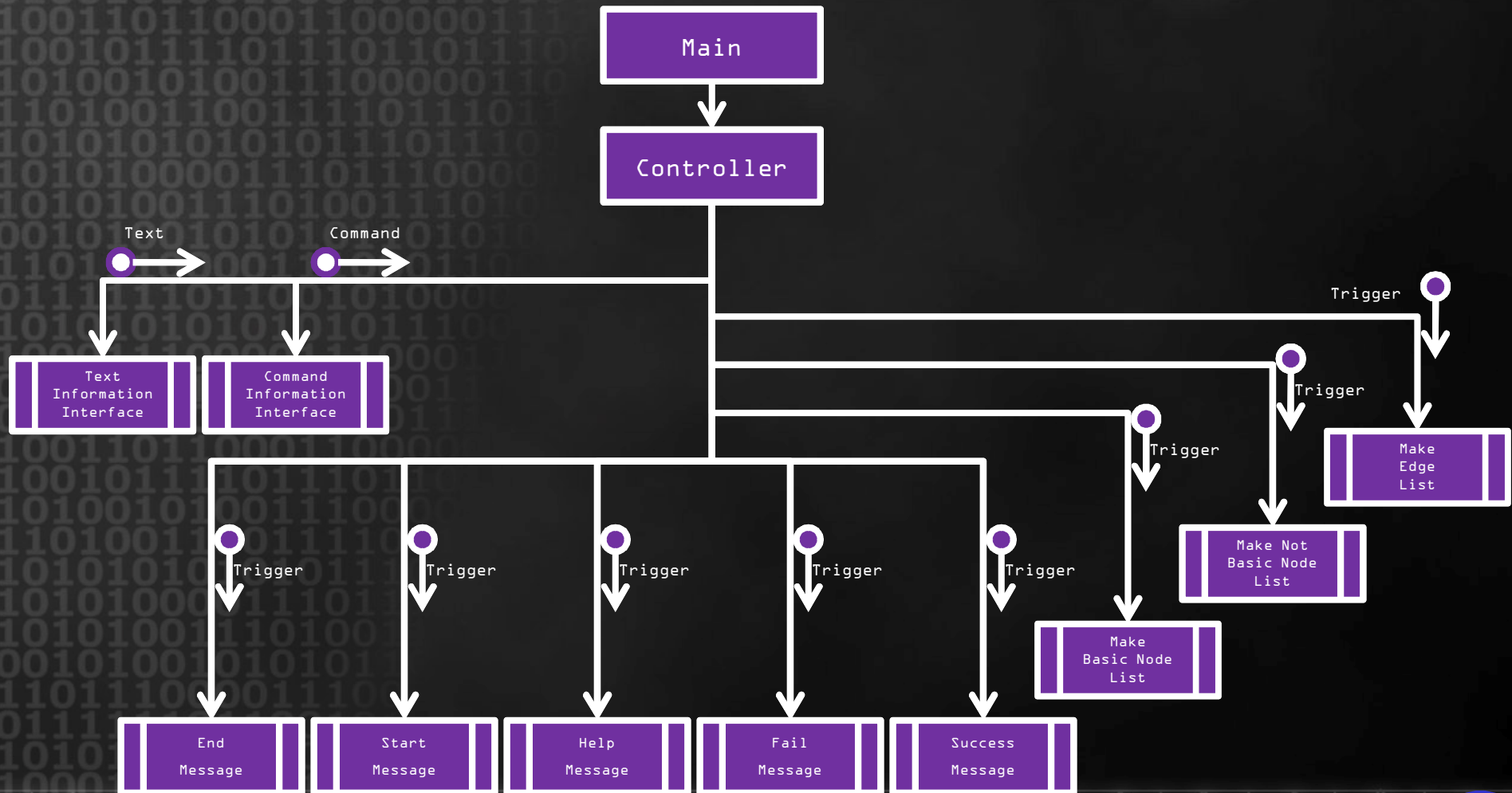
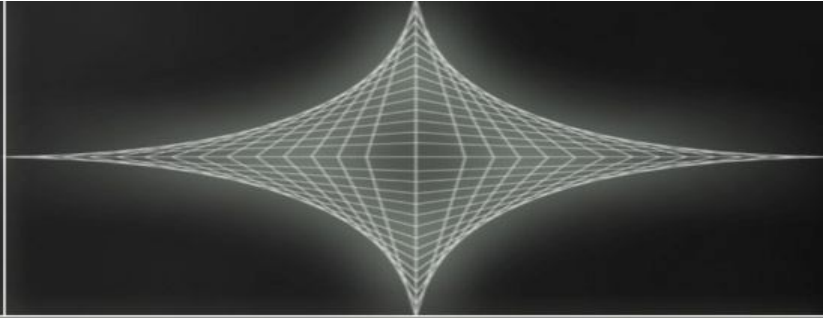
Structured Chart-Transform Analysis



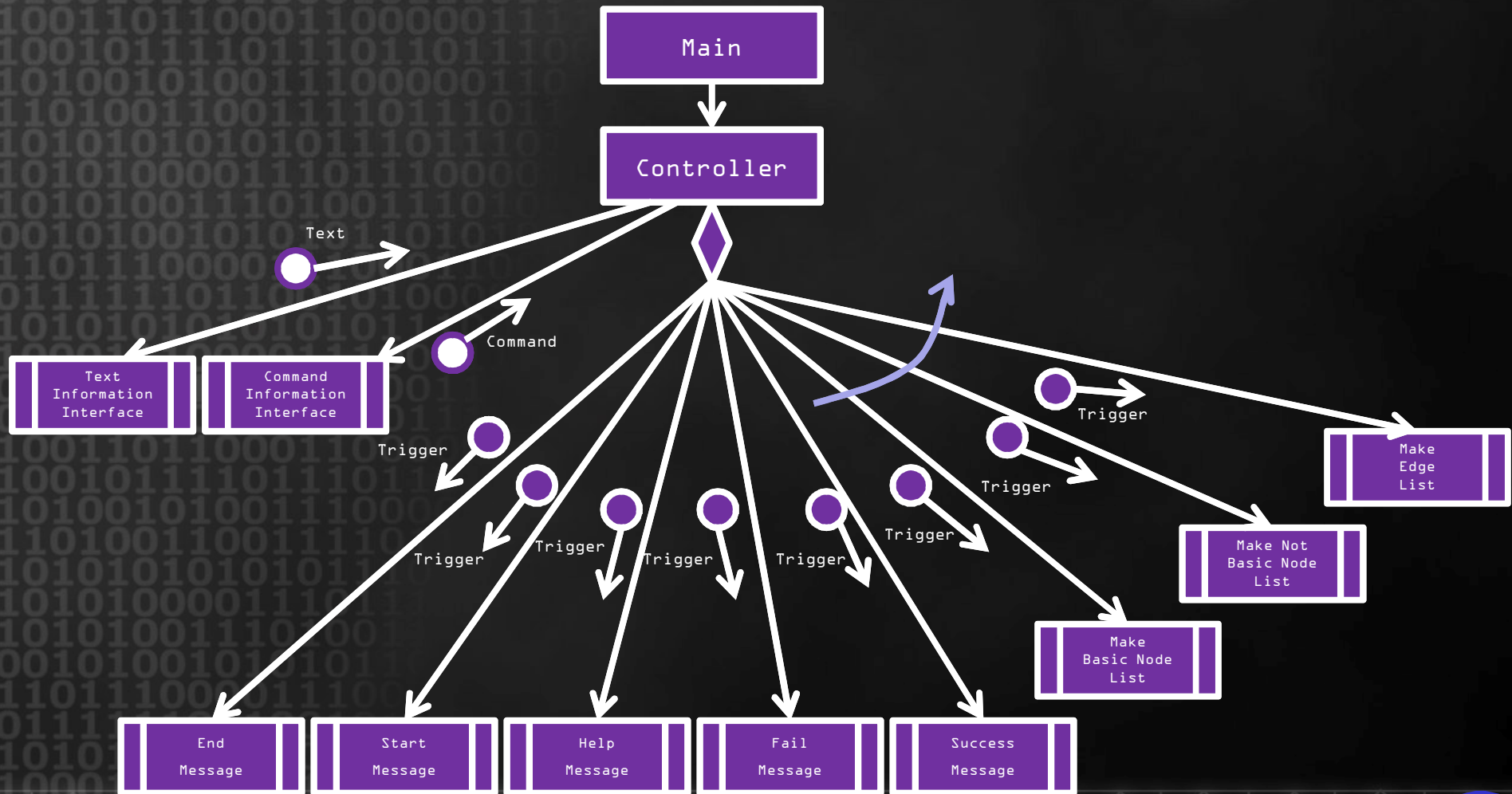
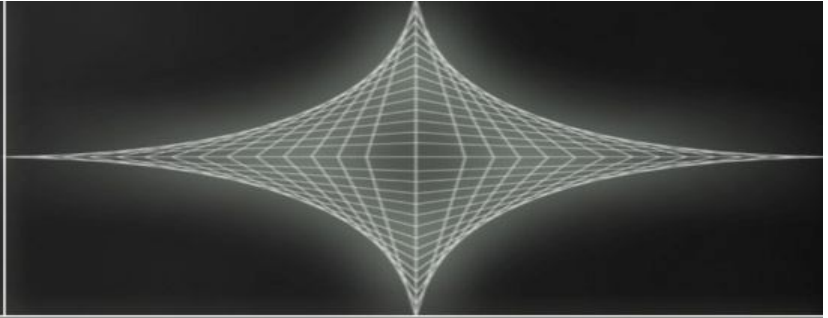
Structured Chart- Transform Analysis



Structured Charts - (FG Generator(Basic))



Structured Charts - CFG Generator (Advanced)



The End
Thank you