Instructions for automating the Extract Dose Executable
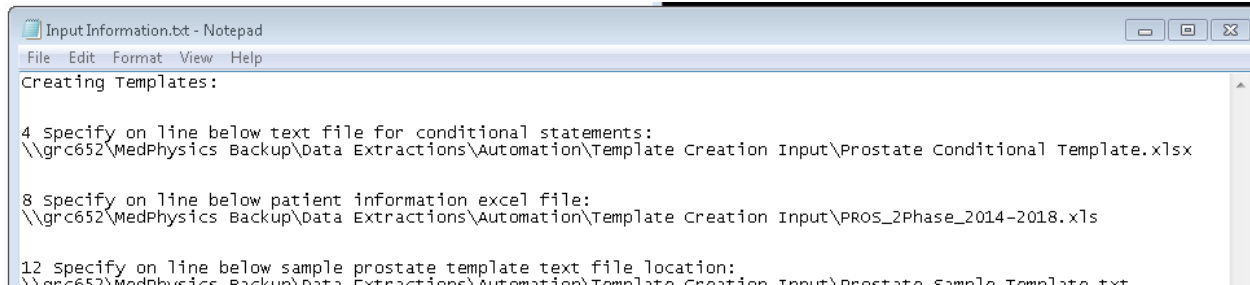
All examples done using prostate patients but can be adapted to other structures.

Setting up folder locations:

1. Go into \\grc652\MedPhysics Backup\Data Extractions\Automation
2. Open the Input Information text file.

3. Edit the directories under each description line if necessary, in order to get templates or extraction information files to where you want them to be.

Creating Patient Templates:

1. Go into \\grc652\MedPhysics Backup\Data Extractions\Automation\Template Creation Input
2. Open the blank conditional template excel file:

	A	B	C	D	E	F
1	Input structures that you want to check nurse input for under "Structure 'n'".					
2	Input true or false (T or F) under each of them making sure every combination is covered.					
3	Input what the output should be given the input conditions of true or false.					
4	This Template can handle up to two structures currently.					
5	Structure 1:	Structure 2:	Outcome:			
6						
7						
8						
9						
10						
11						

3. Fill in the next blank row with basic structures as they should appear somewhere in nurse input within the system.
4. Fill in the structure columns with every combination of T or F (true or false, respectively).
5. Fill in the outcome column with what should be printed into each template given those conditions.

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	A	B	C	D	E	F
1	Input structures that you want to check nurse input for under "Structure 'n'"					
2	Input true or false under each of them making sure every combination is covered.					
3	Input what the output should be given the input conditions of true or false.					
4	This Template can handle up to two structures currently.					
5	Structure 1:	Structure 2:	Outcome:			
6	PROS	PELB				
7	T	T	PELB			
8	T	F	PROS			
9	F	T	PELB			
10						
11						

6. In the same directory as previous open the excel file that Johnson's script extracts information from the database into:

	A	B	C	D	E	F	G	H
1	PatientId	CourseId	Plan_Name	VolumeCode	PrescribedDose	NoFractions	MLCPlanType	Body_Region
2	00039813	2	PROS	PROS	2	16	DynMLCPlan	PROS
3	00039813	1	PELB	PROS	2	23	DynMLCPlan	PROS
4	00056875	1	PROS	PROS	2	22	DynMLCPlan	PROS
5	00056875	2	PROS_BST 66Gy	PROS	2	11	DynMLCPlan	PROS
6	00056875	3	PROS_BST 78Gy	PROS	2	6	DynMLCPlan	PROS
7	00097298	2	PROS	PROS	2	16	DynMLCPlan	PROS
8	00097298	1	PELB/PROS	PROS	2	23	DynMLCPlan	PROS
9	00097298	2	PROSresim	PROS	2	13	DynMLCPlan	PROS

7. Only the columns titled 'PatientId', 'CourseId', and 'Plan_Name' are relevant, **BUT** they must be in the order outlined above and there must be a header in the first row of this file.
8. Do a quick check of Patient IDs to make sure they are all 8-character strings of numbers only.
9. The executable will not run on the very last patient ID if the row following it is blank, so put an 8-character string of 0's in the first column of that row.
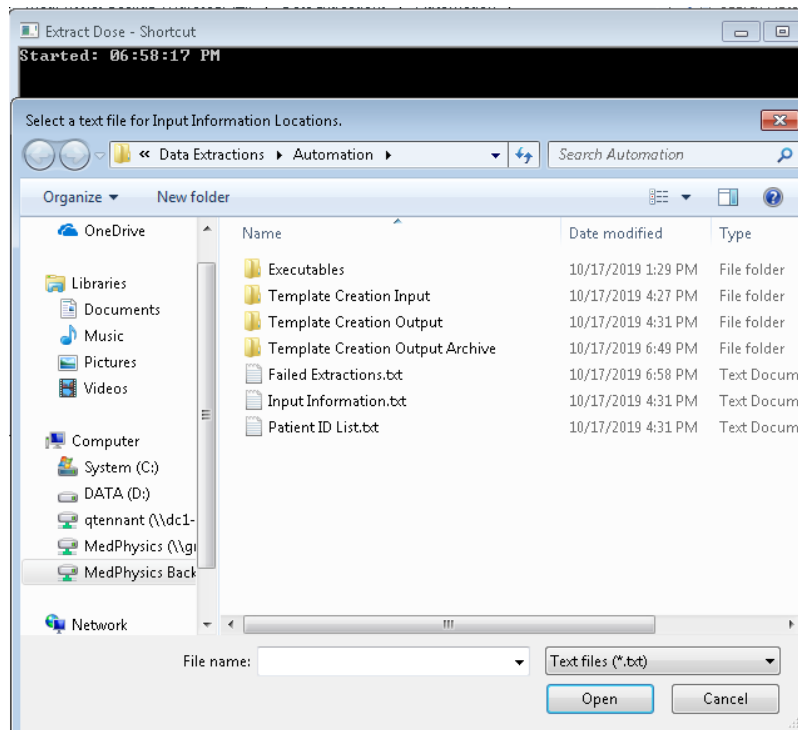
485	00977035	2		PROSBED	PROS	2	10 DynMLCPlan	PROS
486	00980378	1		PELBPROSBED	PROS	2	23 DynMLCPlan	PROS
487	00980378	2		PROSBED	PROS	2	10 DynMLCPlan	PROS
488	00000000							
489								

10. From the Executables file run the Patient Template Creation executable.
11. A directory window will prompt for the location of input information text file which was edited earlier. Select the relevant file.
12. The templates will be created in the folder specified in Input Information.txt which can be edited individually if need be.
13. The Template Creation executable will also make a new archive folder within the Template Creation Output Archive each time it is run to have backups in case of emergency. Empty this folder when they are no longer needed. The executable will also create a Patient ID List text file in the Automation folder which patient IDs can be removed from if need be.
14. To empty the Template Creation Output Archive folder run the Clear Templates Archive executable shortcut that is located within the Archive folder.

Instructions for automating the Extract Dose Executable

Running the Dose Extraction Executable:

1. From the executables folder run the Extract Dose executable.
2. A cmd window will pop up with the start time of running the executable along with a directory window to select which text file you want for the input information that was input in a previous section. Select your text file.
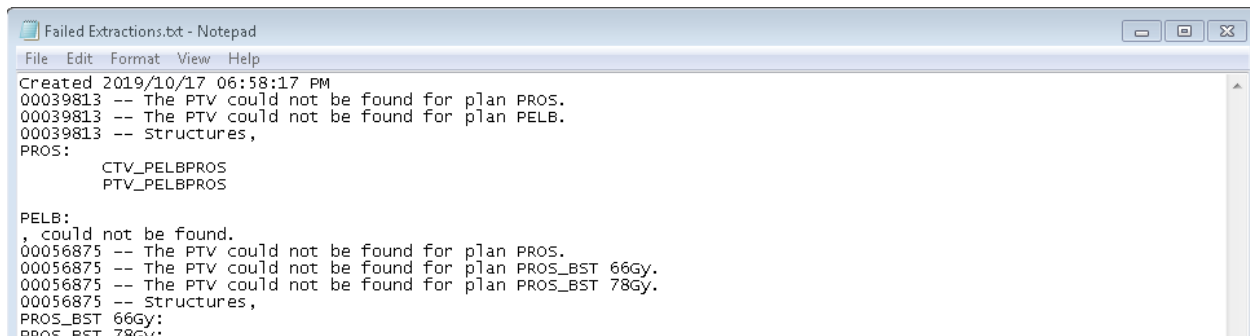

3. The program will begin running and pop up with the selected excel file for Patient Spreadsheet. It will automatically cycle through the Patient ID List.txt file along with selecting the patient specific template.

	A	B	C	D	E	F	G	H	I	J	K	L	
		Study ID	Date of Birth	Age at Date of Plan Creation	Date of Plan Creation	Plan ID	Dose (Gy)/fx	Number of Fractions	Total Dose (Gy)	Number of Fields (Beams)	Plan Type	Energy Mode	SSD 1
3	1	JOH0398	10/3/1943	70	7/16/2014	PROS	2	16	32	2	VMAT	6X	
4	2	LOE0568	4/29/1946	69	5/21/2015	PROS	2	22	44	3	VMAT	6X	
5	3	LOE0568	4/29/1946	69	5/19/2015	ROS_BST 66G	2	11	22	2	VMAT	6X	
6	4	LOE0568	4/29/1946	69	5/26/2015	ROS_BST 78G	2	6	12	2	VMAT	6X	

4. The program will also populate the Failed Extractions.txt file in the Automation folder with any errors for each patient along with a reason why.

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```
Failed Extractions.txt - Notepad
File  Edit  Format  View  Help
Created 2019/10/17 06:58:17 PM
00039813 -- The PTV could not be found for plan PROS.
00039813 -- The PTV could not be found for plan PELB.
00039813 -- Structures,
PROS:
        CTV_PELBPROS
        PTV_PELBPROS

PELB:
, could not be found.
00056875 -- The PTV could not be found for plan PROS.
00056875 -- The PTV could not be found for plan PROS_BST 66Gy.
00056875 -- The PTV could not be found for plan PROS_BST 78Gy.
00056875 -- Structures,
PROS_BST 66Gy:
PROS_BST 78Gy:
```

5. The program takes about 45 minutes to run on ~250 patients with varying numbers of plan IDs.
6. Once it is finished it should pop up with the time that it was completed and prompt for a key press to exit.

Running Both Programs in one:

1. If you wish to run the patient template creation executable, then immediately run the dose extraction on those templates without editing anything then run the All In One executable from the Executables folder in Automation.