Stake Holder requirement

Enhance the User Experience of the MMAT

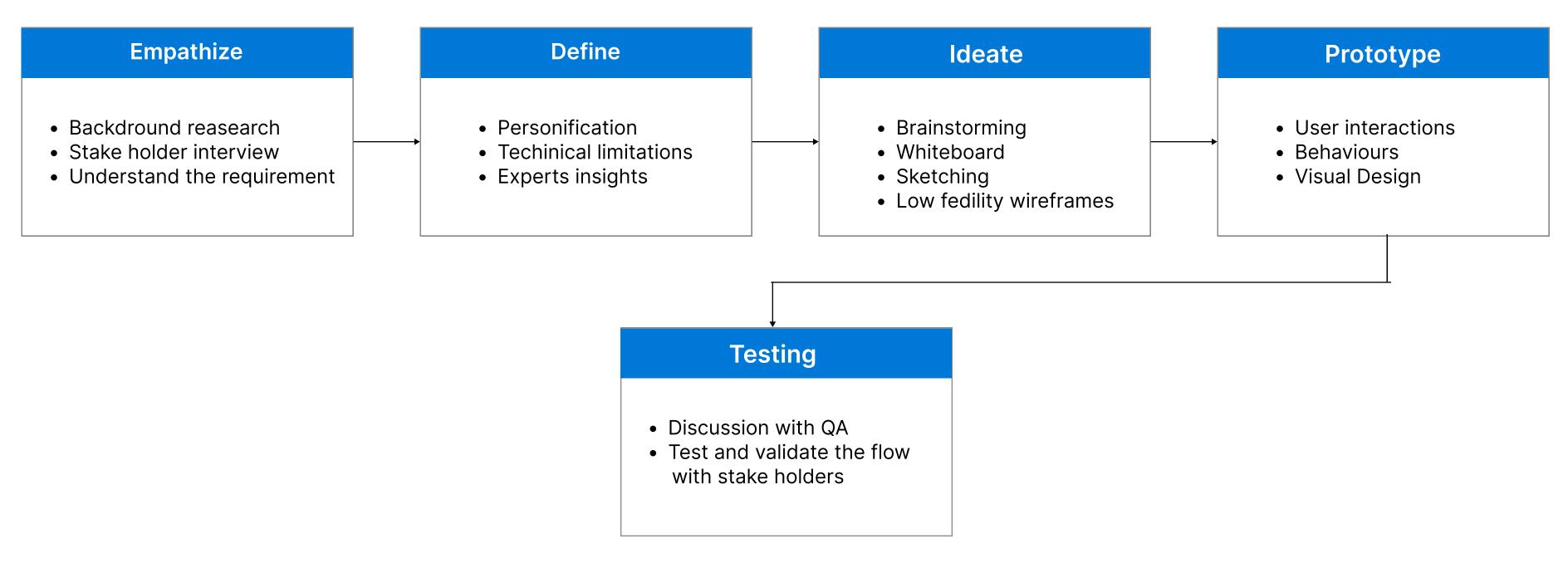
Purpose of the project

Enhance the User Experience and add User interface of the feature and make easily understandable and userfriendly.

Solution

Virtual performance solution

Design Process



Research

What is Modular Material - MMAT

Modular material is to overcome the limitations of packaging material attributes and numerical control parameters in specific material models per element type

Main Objectives of Modular material.

- Increase flexibility of material modeling for new materials by selecting and combining attributes of existing material models (building blocks or modules).
- Reduce maintenance efforts on material databases by sharing the same physical properties for 2D and 3D elements, i.e., shells and solids.
- Simplify model assembly and variants' creation by separating physical material properties (MMAT) and mesh-dependent numerical parameters (NUMPAR).

Who are the customers ?





RENAULT

Who are the Users ? Physist/Automobile Engineer/Scientist

Stake Holder Interview

Having no access to the End user, had to consider QA folks as users, all the questions were framed accordigly *

Key Questionnair

- IF you are new person for MMAT would you be able to use ?What is your end goal as a user ?
- How do you expect to add or delete anything within the tables?
- If you have freedom to change anything in the Dialog what
- woulld it be?

Painpoint of users

- Difficult to use and learn
- Confuses with interactions
- Add and delete of the properties is hiddenvisual layout feels cluster
- Diffcult to undertsand for the new users

Problem statement

For the new users it is difficult to use and learn because the future is not self explonatory, important actions like **Add** and **Delete** options are hidden (Available only on the right click)

Persona



Jhon Doe

Gender :Male

Age : 42 years

Role : Physist/Engineer/Scientist

Company : Audi Qualification: Master's in Physics

Experience: 20+ Years

Industry : Automobile manufacturing

Goals : Research on the materail properties using Virtual simulation softwares and provide the best material combination for the manufacturing.

Painpoints :

- Have to go throgh lot of material combinations at once.
- Interaction is difficult sometimes, but used to it.
- poor eyesightssometimes it takes lot of time to finish the task becasue of complicated interactions.

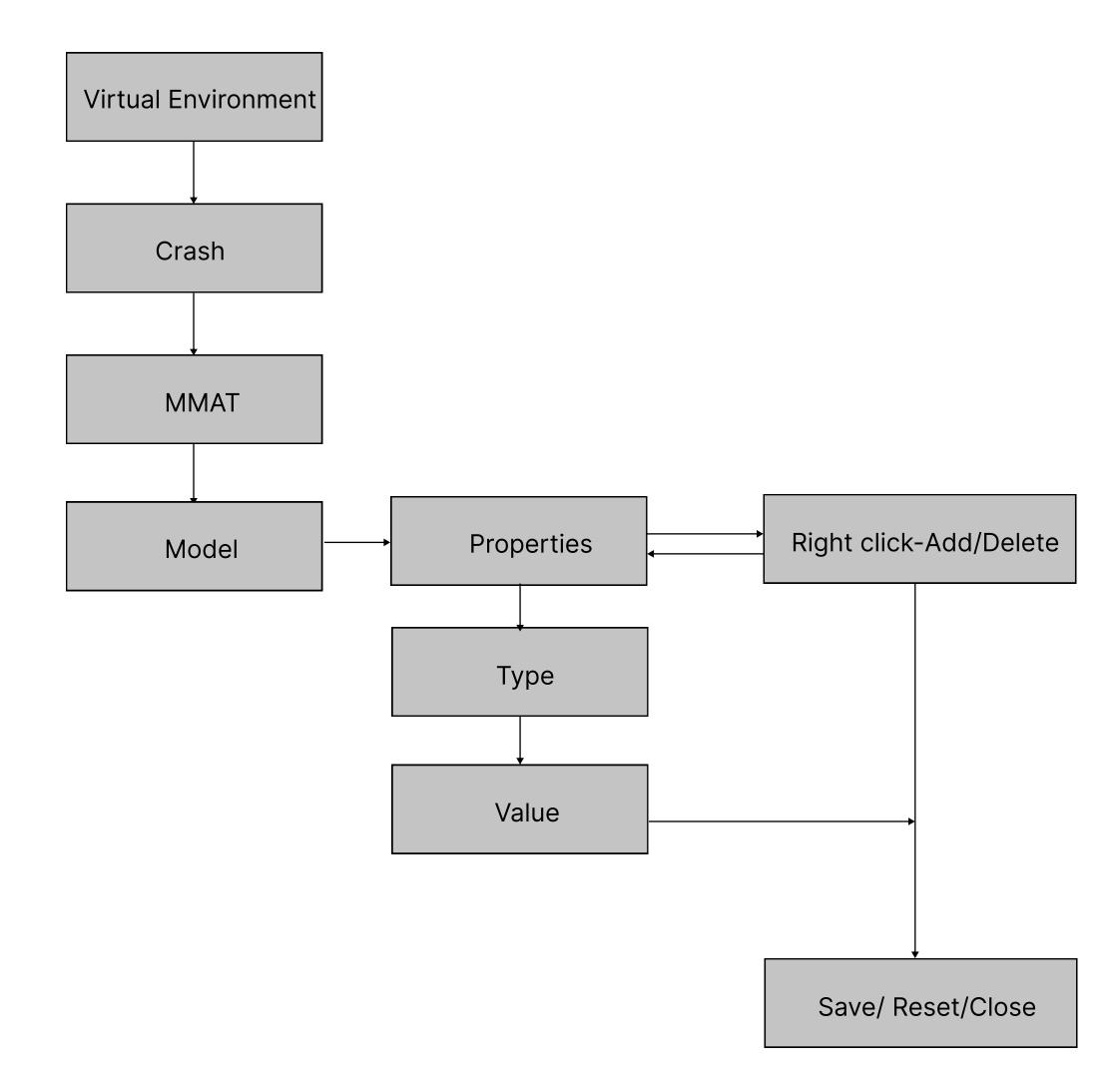
Limitations

- Secure material conversion is not supported.
- Only sigmOPTN=Yield stress/CURVE/POWER/KRUPK options are supported.
- Python variables assigned in MATER/MMAT cards are not supported.

Existing MMAT

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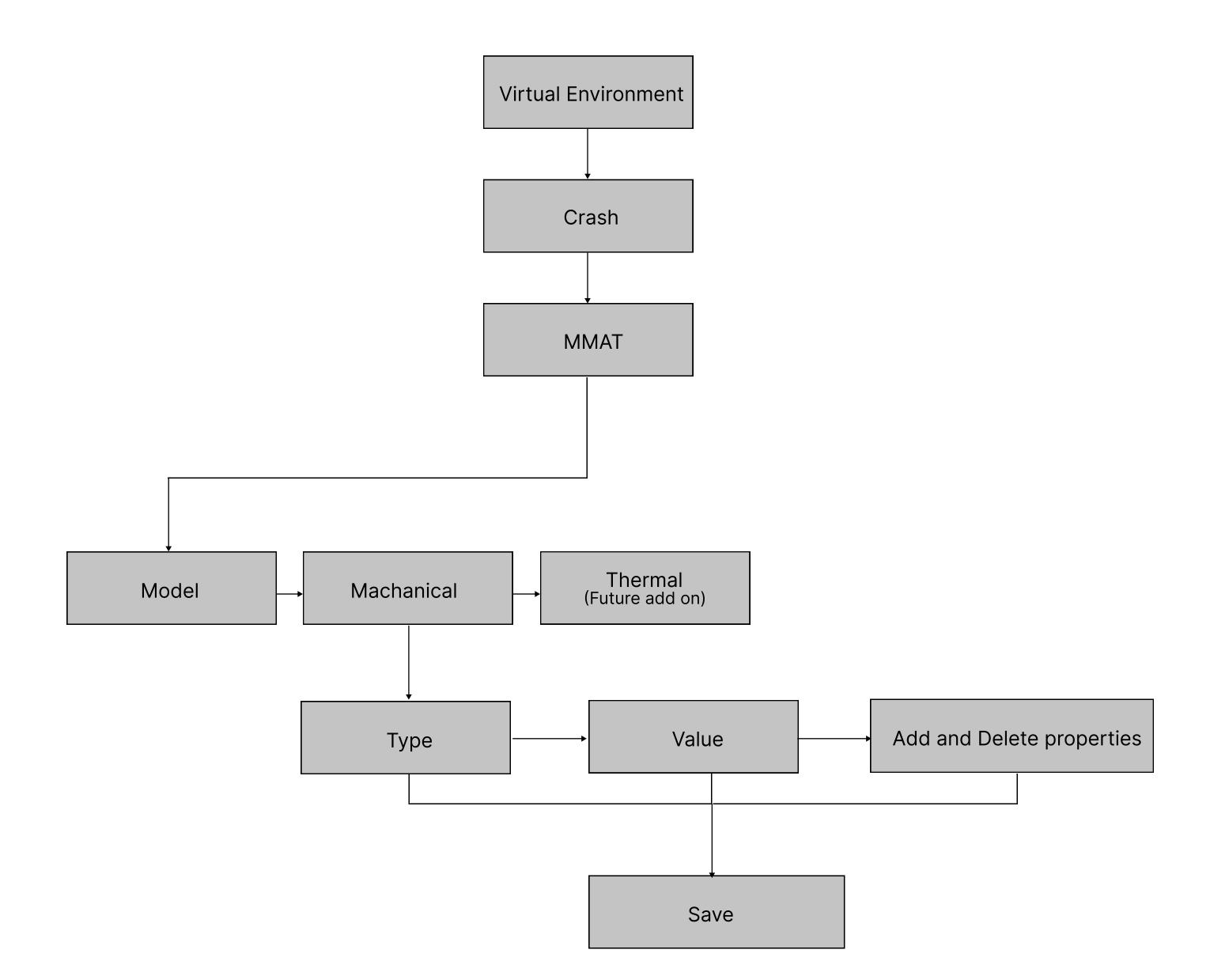
Over view of Existing userflow



- Add and Delete properties option should be provided upfront
- User should be individually select materials and add and delete properties
- The behaviour of add and delete interaction should be witnessable
- Refine the User experience
- Irrespective of any data visual appearence should be neat and clean
- Flow should be self explanatory

Design Solution

Overview of Redesigned User flow



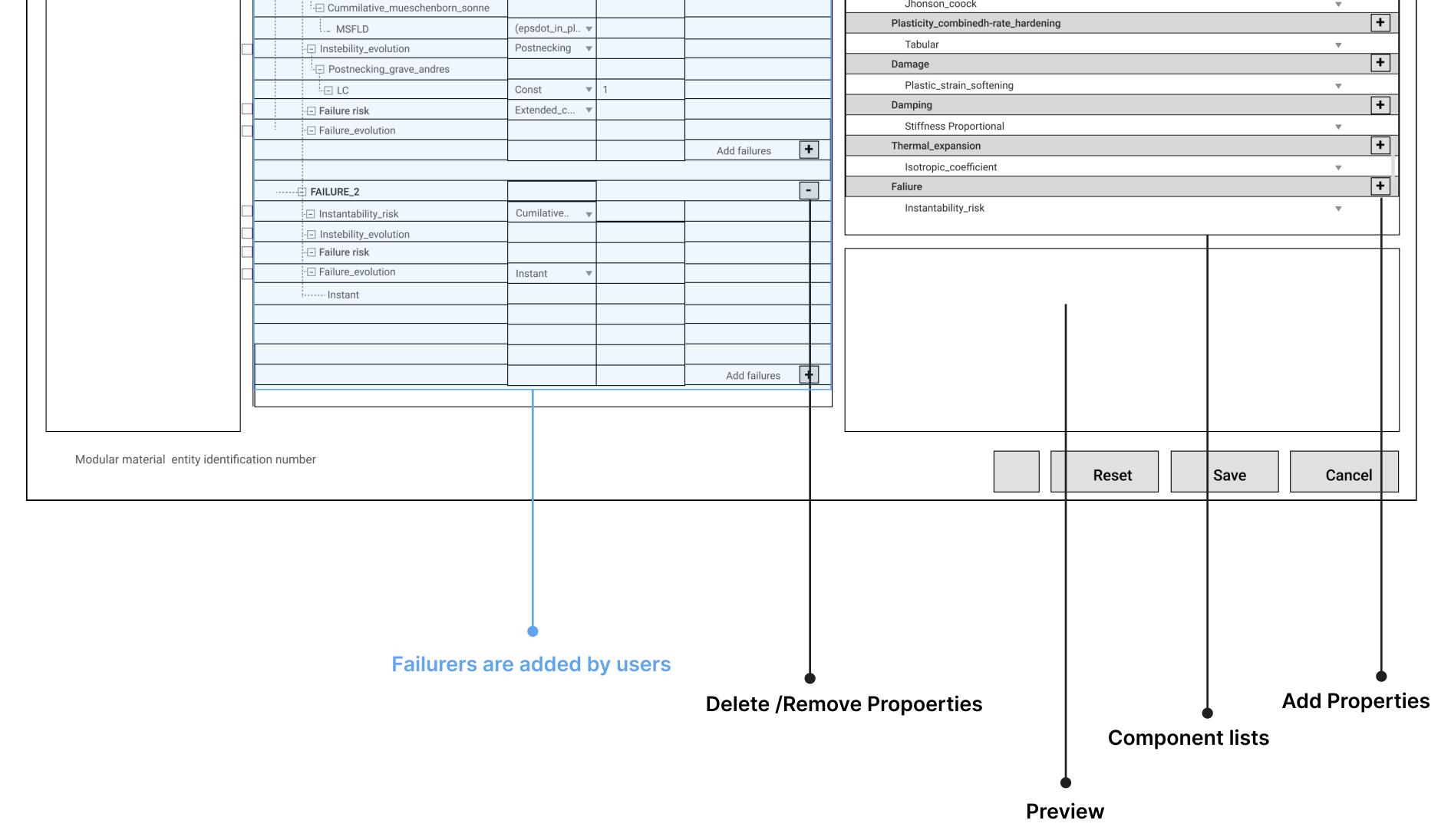
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Section of standard properties of the material



Final Design Proposal

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