This is feedback from recent usability testing of the **JPP Compiler** and offers clear suggestions for improving the tool. I have broken the suggestions into easy-to-follow **modules and sub-modules**, and included a visual **mind map** at the end for better understanding.

**Some Common Issues :**

**New users were unsure where to start :** There was no clear explanation or onboarding.

**People didn’t understand how flags work :** Terms were confusing without examples.

**Editor felt too plain :** No syntax highlighting or auto-suggestions made it hard to code.

**No live preview.** Users couldn’t see how their code changes affected the output.

**Suggestions for Improvement (Modules & Sub-modules) :**

### **1.Editor Enhancements**

Make the coding experience smoother and more intuitive.

* Syntax Highlighting  
   Highlight defined flags.
* Auto-complete & Suggestions  
   Help users write directives by suggesting keywords and common flags.
* Error Highlighting  
   Show mistakes (like unmatched) clearly in the editor.
* Theme Options  
   Light/Dark mode toggle for better accessibility.

### **2. Flag Management**

Help users handle flags more easily.

* Toggle UI for Flags Instead of typing – DDEBUG, let users switch flags on/off in the interface.
* Saved Flag Profiles Save commonly used sets of flags (e.g., "Debug", "Production").
* Flag Suggestions  
   Show suggested flags based on previous input or code context.

### **3. Live Output & Preview**

Let users see what’s happening as they type.

* Side-by-Side Code View  
   Show input and processed output side-by-side in real time.
* Auto Refresh Update the output automatically as code is typed.

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### **4. Help & Onboarding**

Help new users get started and understand the tool.

* Interactive Walkthrough  
   A short guide that shows how to use the compiler.
* Inline Tooltips When users hover over buttons or flags, show helpful explanations.
* Built-in Examples Provide a few working examples to explore and test.

### **5. Export & Sharing**

Make it easy to use the results elsewhere.

* Download Output Button Let users download the processed code.
* Copy to Clipboard  
   One-click copy of the preprocessed code.
* Generate Shareable Link Create a unique URL with the code + flags already applied.

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### **6. Advanced Features**

For experienced developers who want more control.

* Custom Directive Support  
   Let users define their own directives like #if MOBILE.
* Nested Flag Validation Warn if a user forgets to close blocks properly.
* Minify Option Provide an option to compress/minify the final code.

**Mind Map of Suggested Improvements :**

