

# THE POWER OF FILEMAKER (ADVANCED)

2017 [locations/dates to be confirmed]

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## **SESSION FORMAT:**

The class will take place over three days and will comprise six substantive and wide-ranging topics aimed at advanced FileMaker users and developers.

Each session will have a practical focus, while allowing ample opportunity for discussion of the underlying reasoning and thinking behind the techniques being explored. There will also be plenty of time for questions and interaction, and practical exercises that take a workshop format to explore and apply key ideas throughout the course.

Examples and demo files will be available to participants, and participants will also create and keep their own initial example files during the classes, illustrating the techniques learned.

Interaction between participants is encouraged as part of a mutual learning and exploration process.

## **Summary/Overview of Topics:**

### **Day 1:**

#### **1. Introduction**

- Introduction of presenter and participants
- Overview of the schedule
- Logistics and orientation
- Framework, purposes and objectives of the class

#### **2. Advanced Interface Design and User Interaction Modelling**

- The nature of an intuitive user experience and how to create it
- Harnessing existing user skills and understanding
- Creating visual cues that work and avoiding visual clutter
- User fatigue and the visual dimension – contrast, depth and uses of colour
- Hierarchical principles in the organisation of space and information
- Building menu/navigation systems using FileMaker interface tools
- Introducing dynamism and multiple-use layouts
- Setting up objects to render dynamically (including layout variables, conditional formatting and calculated visibility)
- Using opacity, translucency and transparency in the FileMaker design surface
- Ways to add depth and dimensionality cues using native object attributes
- Extended interface options and techniques using plug-ins and web technologies

#### **3. Advanced Techniques for FileMaker Development**

- Modularisation of code and DRY/SSOT implementations in FileMaker
- Indirection and the use of abstract code approaches and structures
- Dynamically declared variables – manipulation, scope and uses
- Building custom “back-button” functionality within a FileMaker app
- Alternative uses and implementations of portals in FileMaker
- Custom formatting and display of web viewer content
- Advanced uses of sub-summary capabilities and complex report design
- Indexing optimisation – application, considerations and impacts
- The operation of join caching in FileMaker and why it matters
- APIs and integration of FileMaker with external systems and code

### **Day 2:**

#### **4. Calculation Skills for Advanced FileMaker Developers**

- Review of the role and scope of calculation code in the FileMaker platform
- Exploring the FileMaker dependency tree, its implications and effects
- A deeper look at cascading dependencies, their implications and effects
- Optimal calculation syntax and a review of nested calc expressions
- Data type and data casting considerations and hidden implications
- Techniques for using aggregate data in calculations and summaries
- Uses of trigger fields and techniques for adding or removing dependency

- Techniques for working with Global calculations
- The use of legacy feature sets such as lookups and conventional calcs
- FileMaker custom functions and dependency considerations
- Custom functions and recursion – concepts and techniques
- Interoperability and staged processing syntax in custom functions

## 5. FileMaker Scripting for Advanced Developers

- Review of script architectures and procedural models
- Scripting execution efficiency considerations, including view mode/state
- Processing in place vs traditional interface dependent scripting
- Scripting and the use of the Commit Records and Copy commands
- Scripting and screen interaction – freeze, implicit freeze and refresh
- Uses of ExecuteSQL and indirection in scripting
- Management of multi-value script parameters in FileMaker
- Scripting dynamic Find operations with the use of variables
- Dynamic file paths and file management operations via script
- Script manipulation of container data and container contents
- Dynamic creation and manipulation of images via script
- Accessing the power of Shell code from within FileMaker scripts
- Using the power of external script environments – AppleScript, VBScript
- Native script animations and their applications
- Advanced window controls and scripting in FileMaker

### Day 3:

## 4. System Integrity, Security and Stability

- Documentation of code and structure – purposes and best practices
- System diagnostics and analysis for advanced developers
- Using the DDR and third party tools to help maintain system integrity
- Backup strategies for development and deployment
- Fault tolerance and frameworks for error handling in FileMaker
- User interaction considerations and management of user-related risk factors
- A review of access and privilege options and practices
- Uses of encryption, encoding and cyphers in FileMaker systems
- File Recovery actions, options and implications for the advanced developer
- Guidelines and techniques for building and deploying custom menu sets
- Interaction between menu sets and screen controls
- Use of a default logout state and managed user login process
- Creation of locked and managed interfaces for a controlled user experience

## 7. Strategies for Advanced FileMaker Developers

- Development considerations for multi-environment deployment
- Distributed and offline systems and mechanisms for distributing files to users
- Creation and management of FileMaker Runtime applications
- Creation and distribution of native iOS apps and the iOS App SDK
- User documentation and user support options and strategies
- Best practices for file handling throughout the FileMaker platform
- Specialisation and the creation of an area or locus of special expertise
- Collaborative and team development strategies for FileMaker developers
- Working with clients and approaches to expectations management
- Choosing optimal tools and when to integrate with other environments
- Building relationships for QA and exchange of ideas
- Evolving skills and adapting to changing environments

## 8. Conclusion

- Review, Q&A, Discussion
- Feedback, Evaluations and Follow-Up
- Closure