What is GammaRay?

Runtime introspection for Qt applications
How do I use GammaRay?

<insert live demo here>
• GammaRay probe must match target Qt ABI
• Usually requires a self-compiled GammaRay
What can I do with GammaRay?

<insert more live demo here>
• Signals not being emitted, or emitted too often
• Non-unique connections
• Monitor signal emissions
• Trigger signal emissions
• Inspect existing connections
Qt Quick 2 Event Handling: Problems

- Events don't reach the desired Item
- Invisible but active Items
• Inspect item hierarchy
• Item picking
• Live property editing
• Unbatched elements
• Batches with unmerged elements
canMerge = (g->drawingMode() == GL_TRIANGLES || g->drawingMode() == [...])
    && b->positionAttribute >= 0
    && g->indexType() == GL_UNSIGNED_SHORT
    && ((flags & (QSGMaterial::CustomCompileStep | QSGMaterial::FullMatrix)) == 0
    && ((flags & QSGMaterial::RequiresFullMatrixExceptTranslate) == 0
        || b->isTranslateOnlyToRoot())
    && b->isSafeToBatch();
• Inspect scene graph
• Live editing of transformations
• Runtime enabling of Qt debug output
Widget Layouting

- Widget picking
- Layout overlay
- Live property editor
• Widget picking
• Per widget paint analysis
• State machine visualization
• Live display of state machine configuration
Qt 3D Geometry

- Buffer inspection
- Geometry visualization
- Control over backface culling
- Normal vector visualization
Where do I get GammaRay?

- http://www.kdab.com/gammaray/
- Dual license: GPL/commercial
- Part of Qt Automotive Suite
Questions?