



Editing in ArcGIS Engine (.Net)

Mary Harvey and Mike Rudden

Introduction

- **Mary Harvey**



- **Mike Rudden**

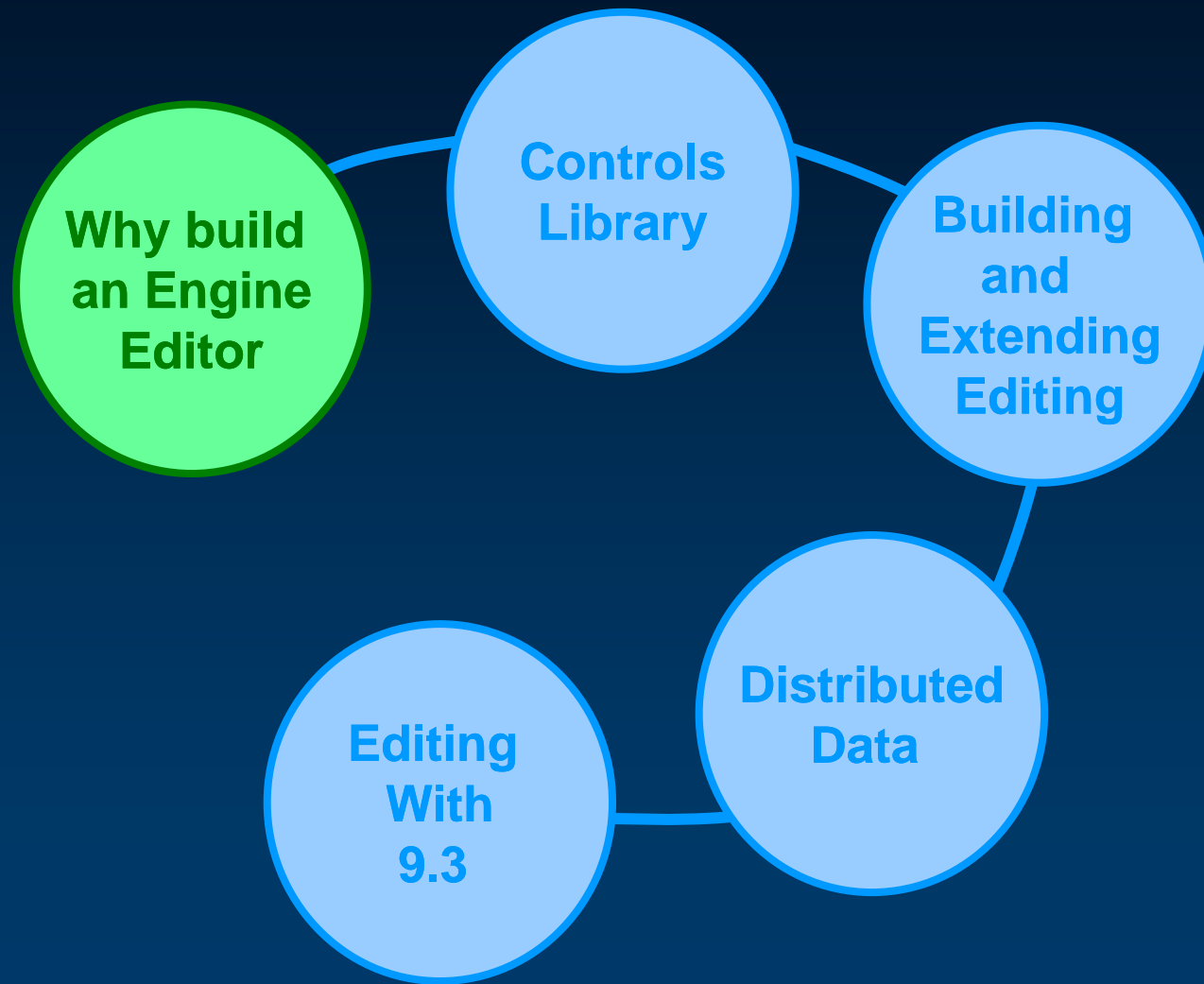


- **Other ESRI staff - Euan Cameron and Rob Elkins**
- **You**
 - **Familiar with Editing in ArcMap?**
 - **Developed an Editing application in ArcMap?**
 - **Developed an Editing application in Engine?**
- **Questions and comments**

Presentation Overview

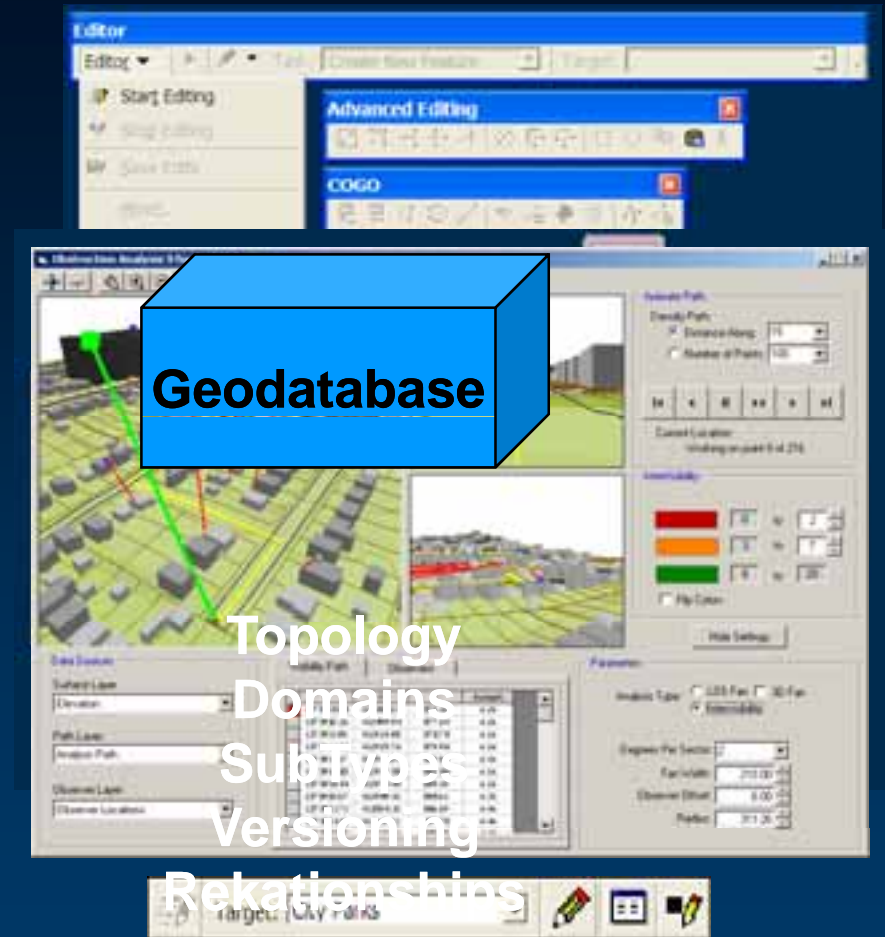


Presentation Overview

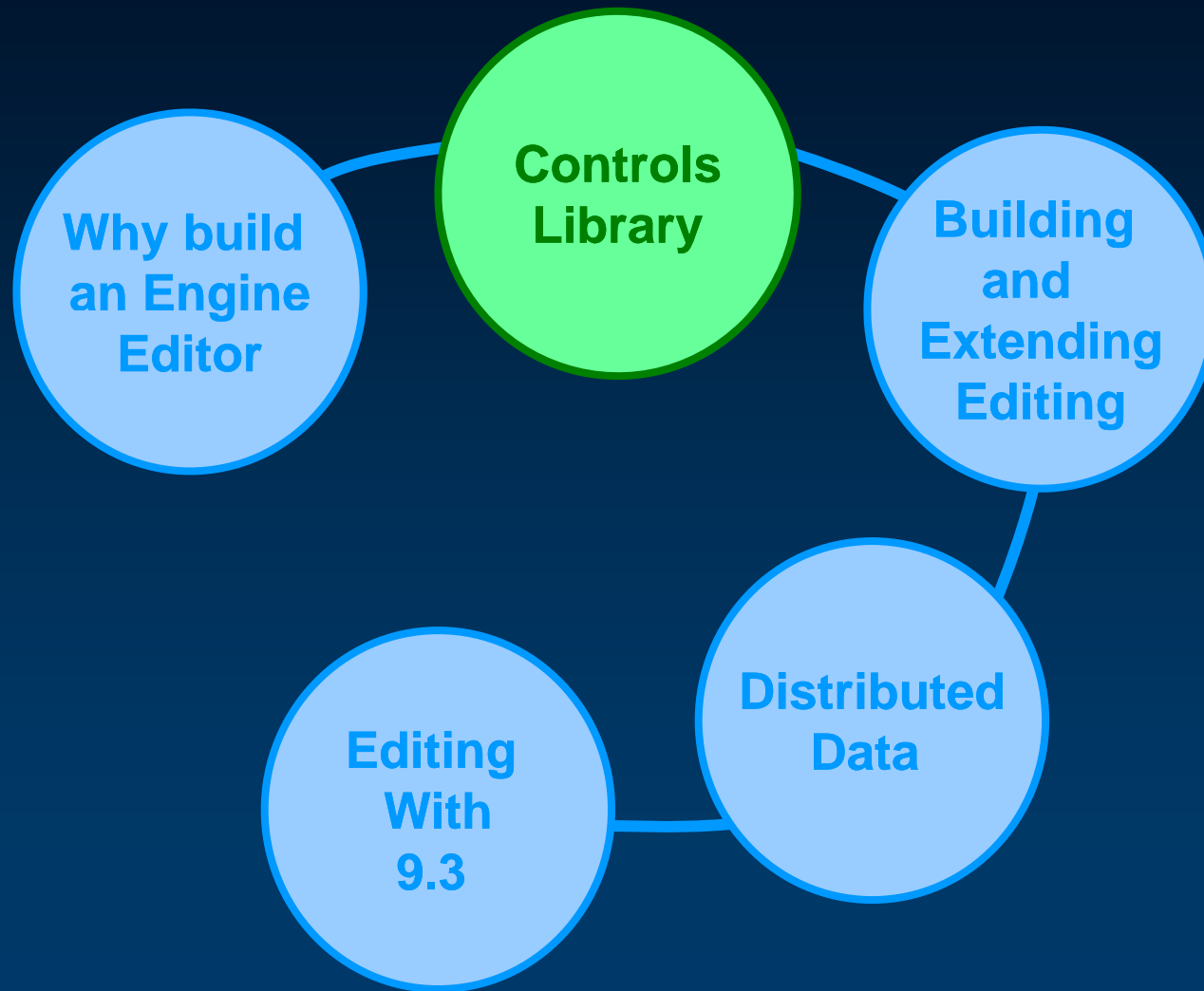


Why build an editing application with ArcGIS Engine

- Focus on required editing
- Integrate editing component into existing business applications
- Geodatabase library to ensure data integrity
- Cost effective licensing
 - Enterprise Geodatabase Update

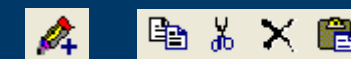
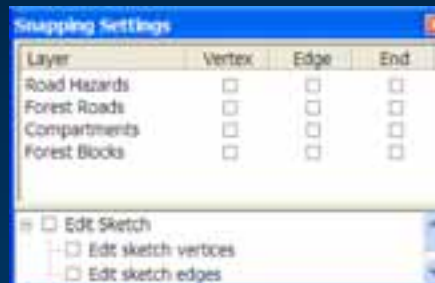
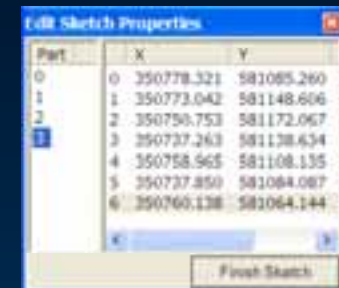
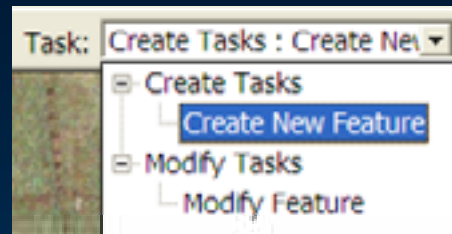
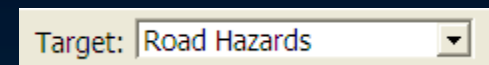
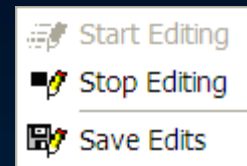


Presentation Overview



Editing commands in ArcGIS Engine 9.2?

- Core Editing Commands
- Edit and Sketch Tools
- Target Layer List
- Task List
- Sketch Properties
- Snapping Options
- Edit Sketch Context Menu
- Attribute Editor
- Add Ink to Sketch
- General Commands



DEMO

Which ArcObjects Libraries could you use?

- **Controls**
- **Geoprocessor**
- **DataManagementTools**
- **GeodatabaseDistributed**
- **Geodatabase**
- **Geometry**

Coarse Grain

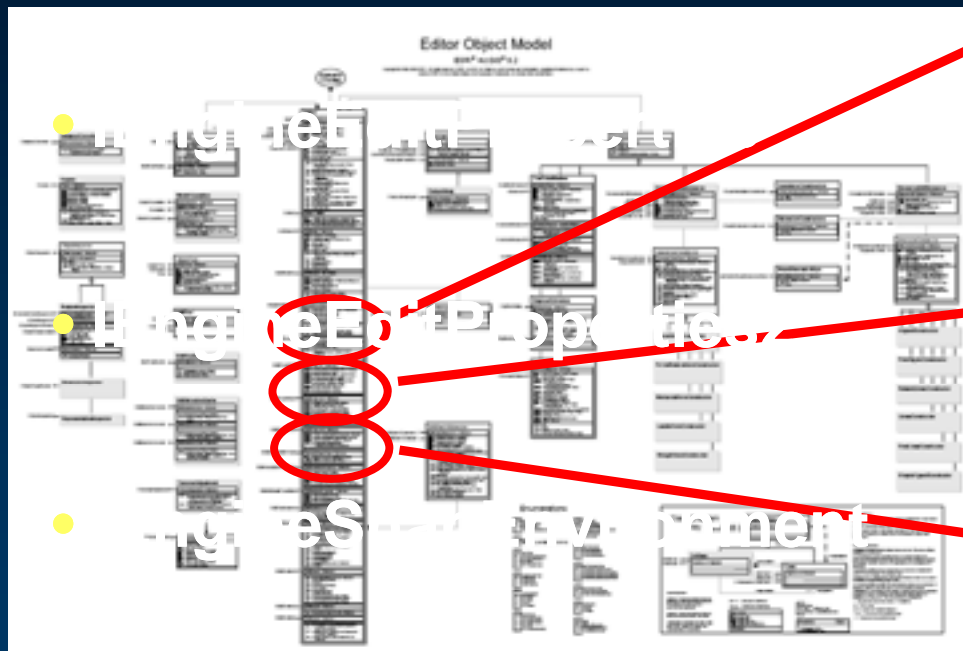


Fine Grain

Which Editing components are in the Controls Library?

Controls Library

• Engine Editor Singleton Editor Library



EngineEditor

IEngineEditProperties : IUnknown

- AutoSaveOnVersionRedefined: Boolean
- ReportPrecision: Long
- SelectedVertexSymbol: IMarkerSymbol
- SketchSymbol: ILineSymbol
- SketchVertexSymbol: IMarkerSymbol
- SnapSymbol: IMarkerSymbol
- StreamGroupingCount: Long
- StreamTolerance: Double
- StretchGeometry: Boolean
- TargetLayer: ILayer

IEngineEditProperties2 : IUnknown

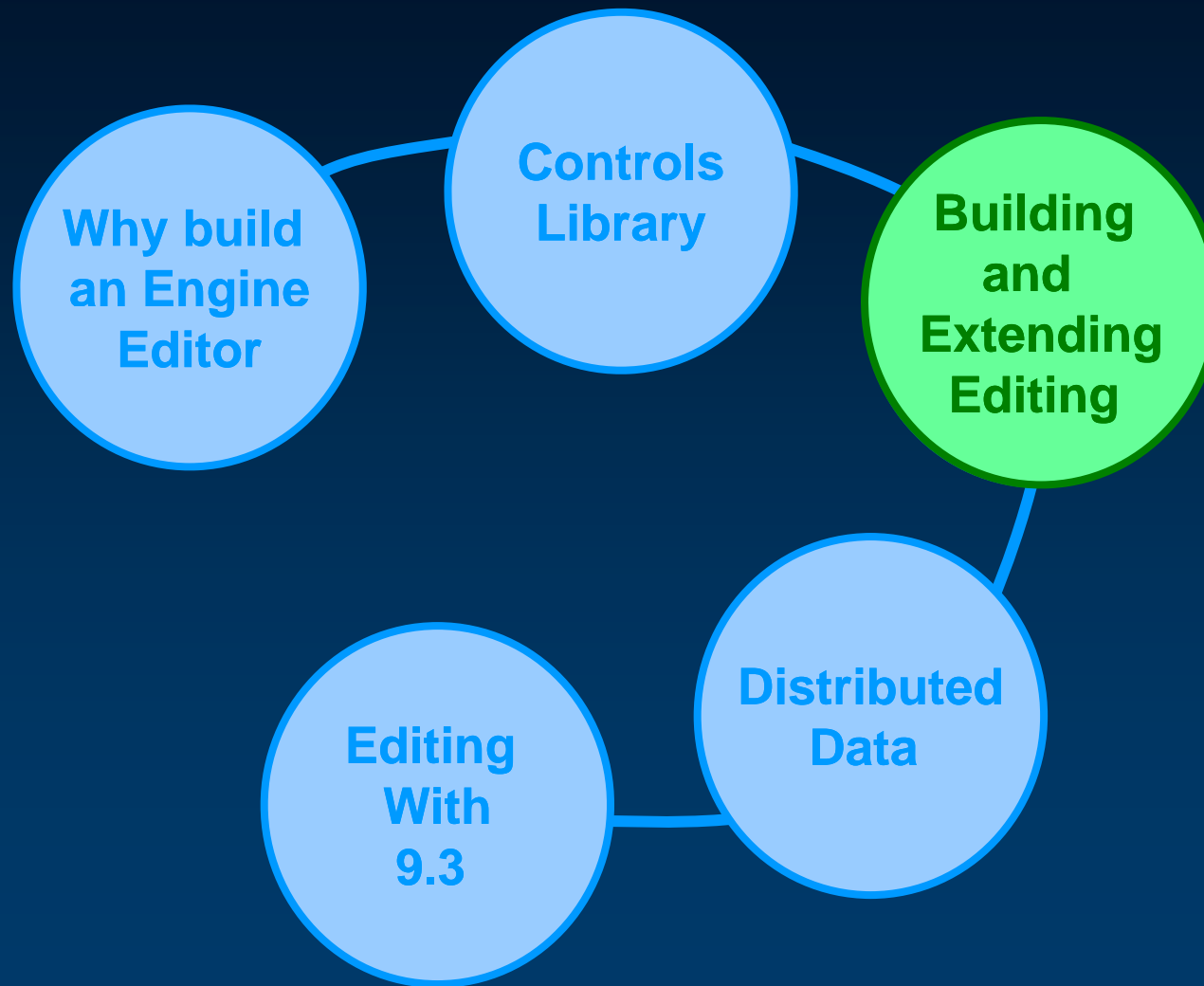
- AngularCorrectionOffset: Double
- AngularUnitPrecision: Long
- DirectionType: esriEngineDirectionType
- DirectionUnits: esriEngineDirectionUnits
- DistanceCorrectionFactor: Double
- SnapTips: Boolean
- StickyMoveTolerance: Long
- UseGroundToGrid: Boolean

IEngineSnapEnvironment : IUnknown

- SnapAgent (in index: Long): IEngineSnapAgent
- SnapAgentCount: Long
- SnapTolerance: Double
- SnapToleranceUnits: esriEngineSnapToleranceUnits
- ← AddSnapAgent (in SnapAgent: IEngineSnapAgent)
- ← ClearSnapAgents
- ← RemoveSnapAgent (in index: Long)
- ← SnapPoint (in point: IPoint): Boolean

DEMO

Presentation Overview



Why extend ArcGIS Engine editing?

- **Add functionality that is not available in 9.2**
- **Focus editing towards the business process**
- **Control user interaction with the data to ensure quality**

4 Demos and Code Analysis

- **Create an editing command**
- **Build editing tools**
- **Present editing environment on a form**
- **Automate data capture from GPS unit**

1. Develop your own editing command

- **Generalize command**

DEMO

2. Develop your own editing tools

- **Vertex and Reshape tools**

DEMO

3. Present the editing suite business form

- **Share state between an editing form and form containing the MapControl**
- **Interactive table editor – binding a data grid**

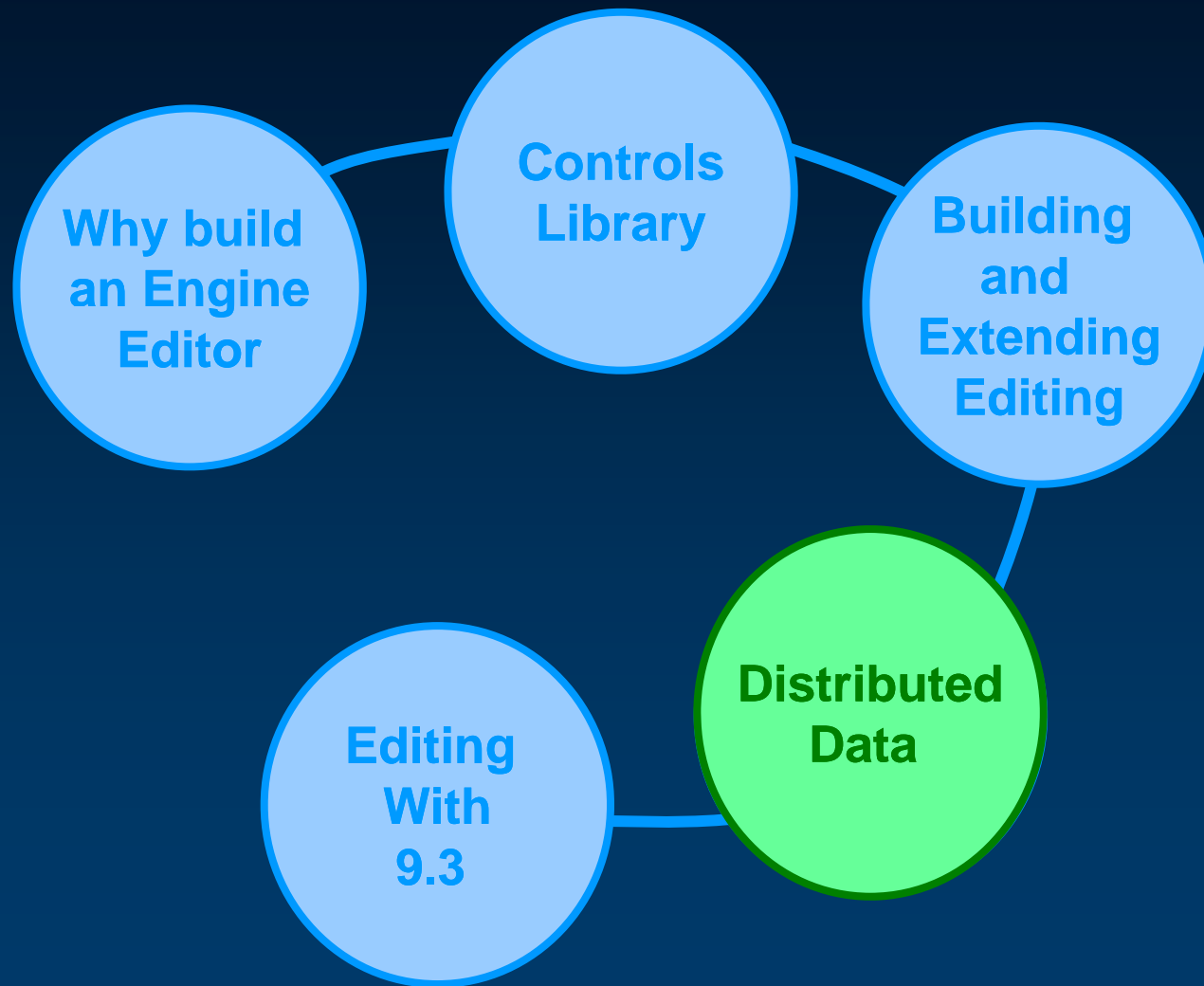
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4. Automate data capture from GPS unit

- Storing GPSFeed into a editing session

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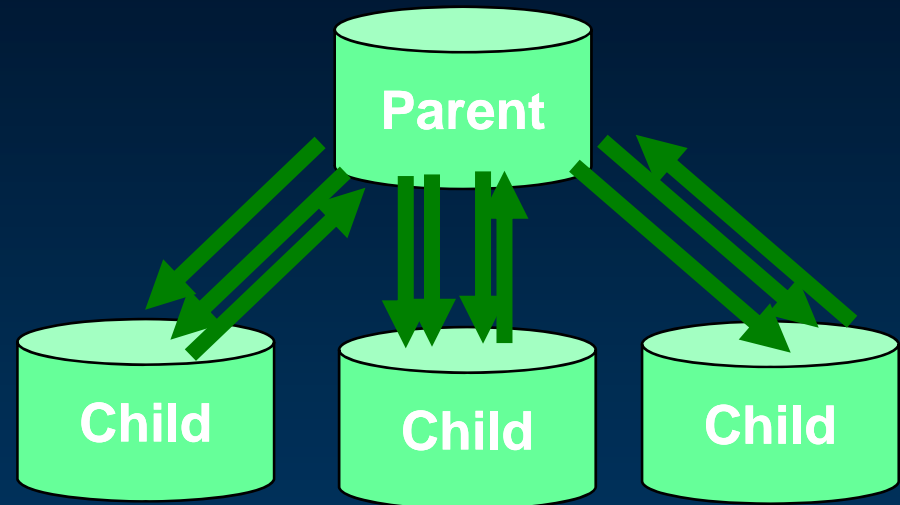
Presentation Overview



Distributed Data Management

- **3 key scenarios**

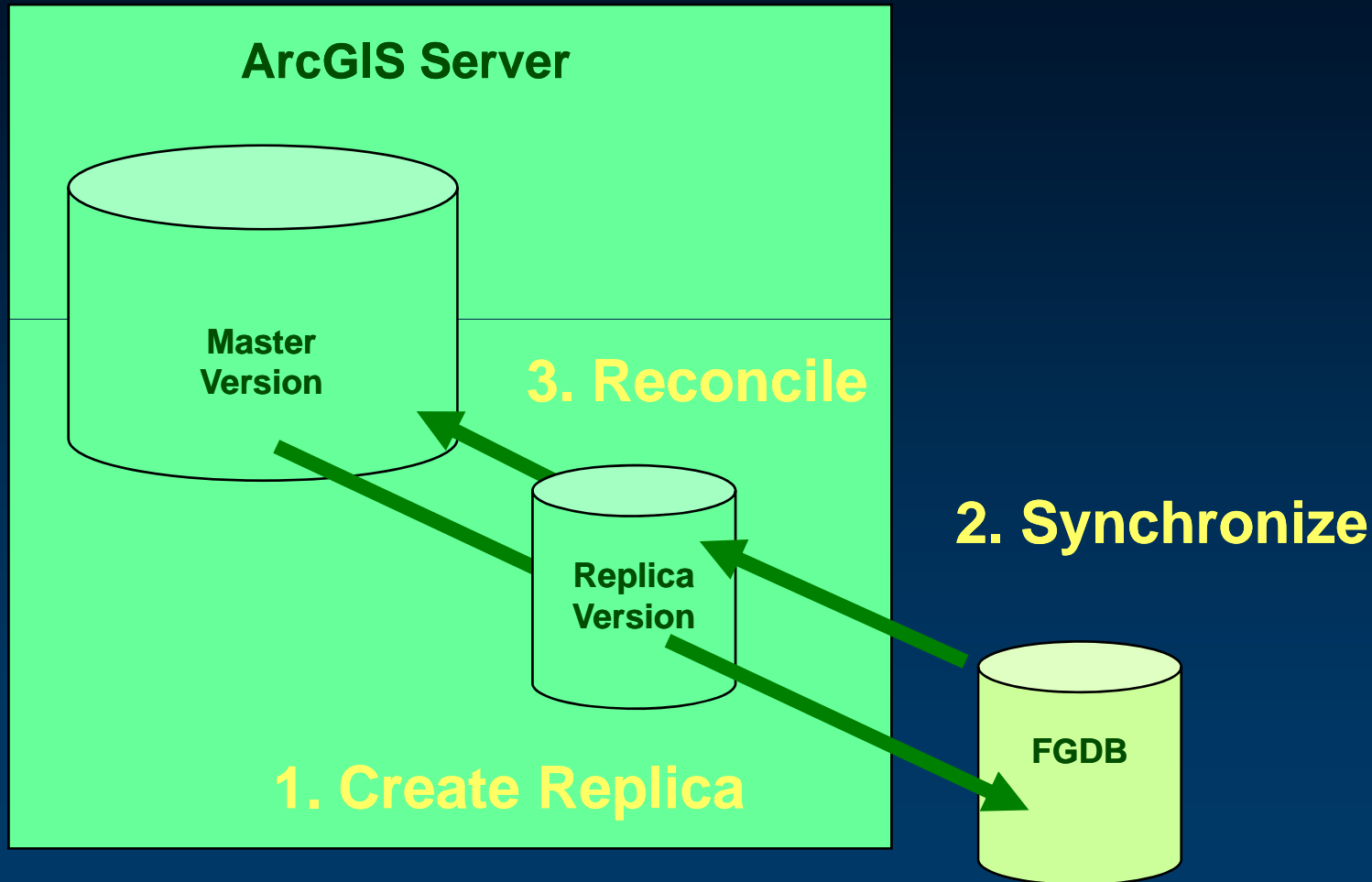
- One way
- Two way
- Check Out / Check In



- **3 must haves:**

- Data must be versioned
- Data must have a GLOBALID field
- Data requires a high level of spatial reference

Mobile Editing – Check Out & Check In



Check Out & Check In Replication

- 3 Options

- Geoprocessing Tools

ReplicationAgent

IReplicationAgent

- ← CreateReplica (in versionName: String, in srcGDS: IGeoDataServer, in destGDS: IGeoDataServer, in ReplicaName: String, in desc: IGPReplicaDescription, in repOptions: IGPReplicaOptions)
- ← ExtractData (in versionName: String, in srcGDS: IGeoDataServer, in destGDS:

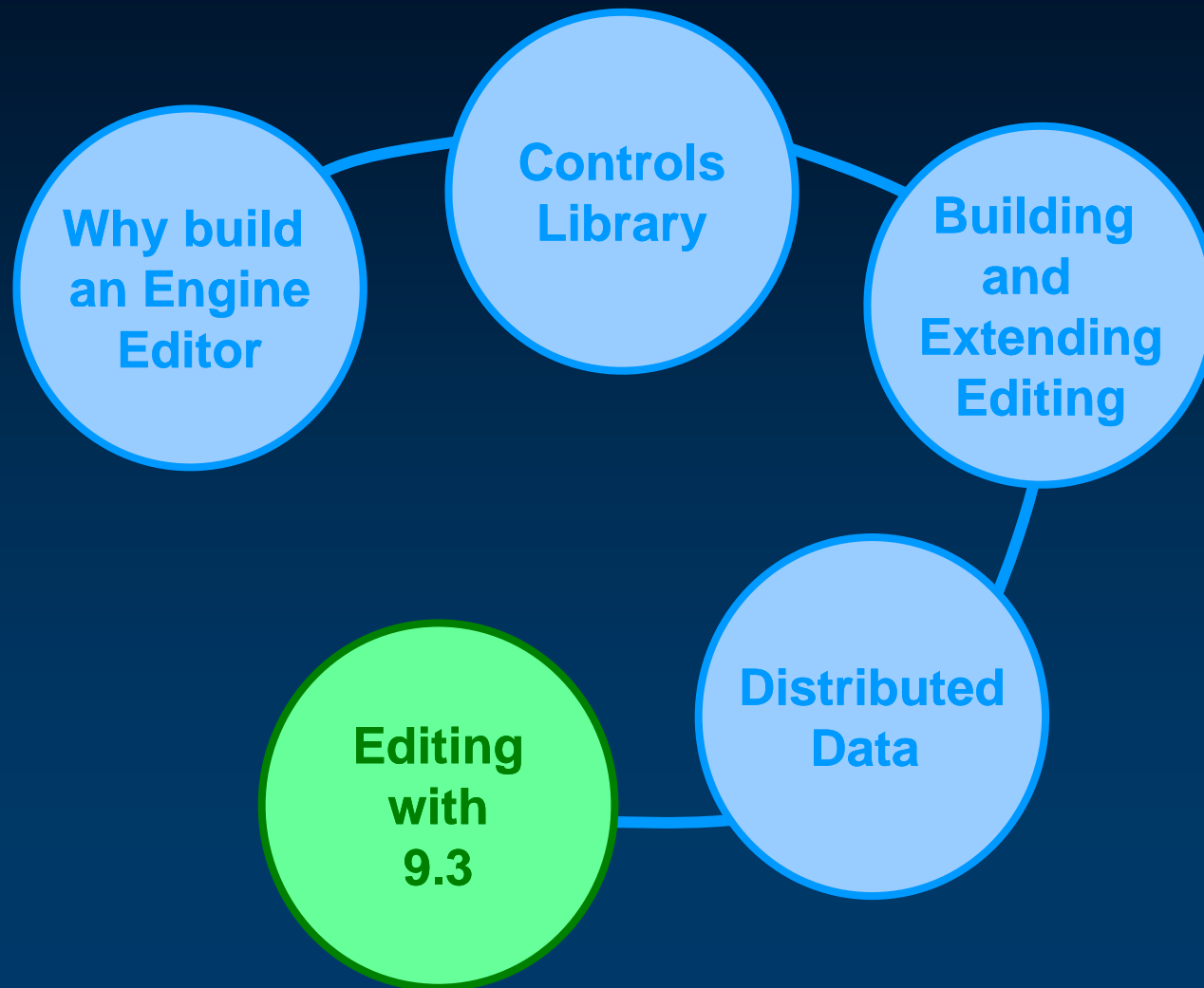
```
using ESRI.ArcGIS.Geoprocessor;
using ESRI.ArcGIS.DataManagementTools;

// Initialize the Geoprocessor and Create Replica Tool
Geoprocessor GP = new Geoprocessor();
CreateReplica CreateReplicaTool = new CreateReplica();

// Set the parameters of the Create Replica Tool
CreateReplicaTool. ...

GP.Execute(CreateReplicaTool, null);
```

Presentation Overview



Improving editing in ArcGIS Engine 9.3

- **Feedback from ESRI ArcGIS Engine Forum**
- **Editing Enhancements to the Controls API**
 - **EngineEditor**
 - **Edit Events**
 - **Edit Tasks**
 - **Edit Sketch**
 - **Target Layer**


Your input into editing with ArcGIS Engine 9.3

- 9.3 Beta Program – email relkins@esri.com

- Submit an enhancement request to esri.support.com

You are here: [Home](#) > Contact ESRI Support

Contact ESRI Support

 This request is only available to maintenance users and paid support subscribers within the United States. International users please contact your local [ESRI Distributor](#).

Requests received after 5:00 PM (PST) are handled the next business day.

Call **1-800-GIS-XPRT** (1-800-447-9778) to inquire about maintenance and other support options.

Who should use this form?

If you need help to accomplish a task, have a question about the software, need an alternative solution for an issue, suspect you are seeing a defect in the software, or would like to submit a software enhancement request, please use this form to contact us.

Questions about your licenses, product registration, or maintenance should be directed to [ESRI Customer Service](#). Questions about the Support Center site should be submitted using the [Give Us Feedback](#) form.

Request Type

Please specify the type of request.

- Request technical assistance
- Report a software defect
- Submit an enhancement request

Presentation Overview





Additional Technical Sessions

ArcGIS Engine and ArcGIS Desktop Panel Discussion

2:45pm Wednesday – Primrose B

Distributed Geodatabases for Developers

Network Analysis in ArcGIS Engine and ArcGIS Desktop

4:30pm Wednesday

Advanced ArcGIS Engine Java

10:15am Thursday

Extra Information

- **Presentation materials on the EDN Website**
- **Demonstation code**
- **Tech Talk Area 4**



Please complete the Survey Form!

Questions?