Agenda Day 1

8:00 Lecture: Introduction

9:00 Hands-on Exercise: Creating and Meshing Basic Geometry

9:30 Break

9:45 Lecture: Geometry (ACIS)

10:30 Hands-on Exercise: Modeling a Mixing Elbow (2D)

11:30 Lecture: Edge and Face Meshing

12:00 Lunch

1:00 Hands-on Exercises: 2D Geometry and Mesh Generation (open-ended)

1:30 Lecture: Volume Meshing

2:15 Hands-on Exercises: 3D Geometry and Mesh Generation (open-ended)

2:45 Lecture: Volume position Examples

3:15 Hands-on Exercise: 3D Combustion Chamber

5:00 Break for the Day

Agenda Day 2

8:00 Hands-on Exercises: Volume position Examples (open-ended)

8:45 Lecture: Face Vertex Types

9:30 Break

9:45 Hands-on Exercises: Vertex Types (open-ended)

10:30 Lecture: Geometry (Virtual)

11:15 Hands-on Exercise: Flow around car body

12:00 Lunch

1:00 Hands-on Exercise: Flow around car body - continued

2:15 Lecture: Miscellaneous Topics

3:00 Hands-on Exercise: choice of 3-pipe intersection, tank flow or your own example

5:00 Break for the Day

Outline

- Introduction
  - What is Gambit?
  - Operation
  - Startup
  - Files
  - GUI
  - Forms
  - Mouse

What is GAMBIT?

- A single, integrated preprocessor for CFD analysis:
  - Geometry construction and import
    - Using ACIS solid modeling capabilities
    - Using IGES import, cleanup, and modification
  - Mesh generation for all Fluent solvers (including FIDAP, POLYFLOW and NEKTON)
    - Structured and Unstructured hexahedral, tetrahedral, pyramid, and prisms.
  - Mesh quality examination
  - Boundary zone assignment

Operation

- General sequence of operations
- Initial setup
- Solver selection, Mesh size, Defaults, etc.
- Geometry Creation (ACIS, IGES or Mesh import)
- Create full geometry
- pose into mesh-able sections
- Meshing
- Local meshing: Edge and Boundary layers
- Global meshing: Face and/or Volume
- Mesh examination
- Zone assignment
- Continuum and Boundary attachment
- Mesh export

Startup

- Start Gambit with “gambit *id”* where *id* is descriptive of your project
- Example “gambit airfoil”

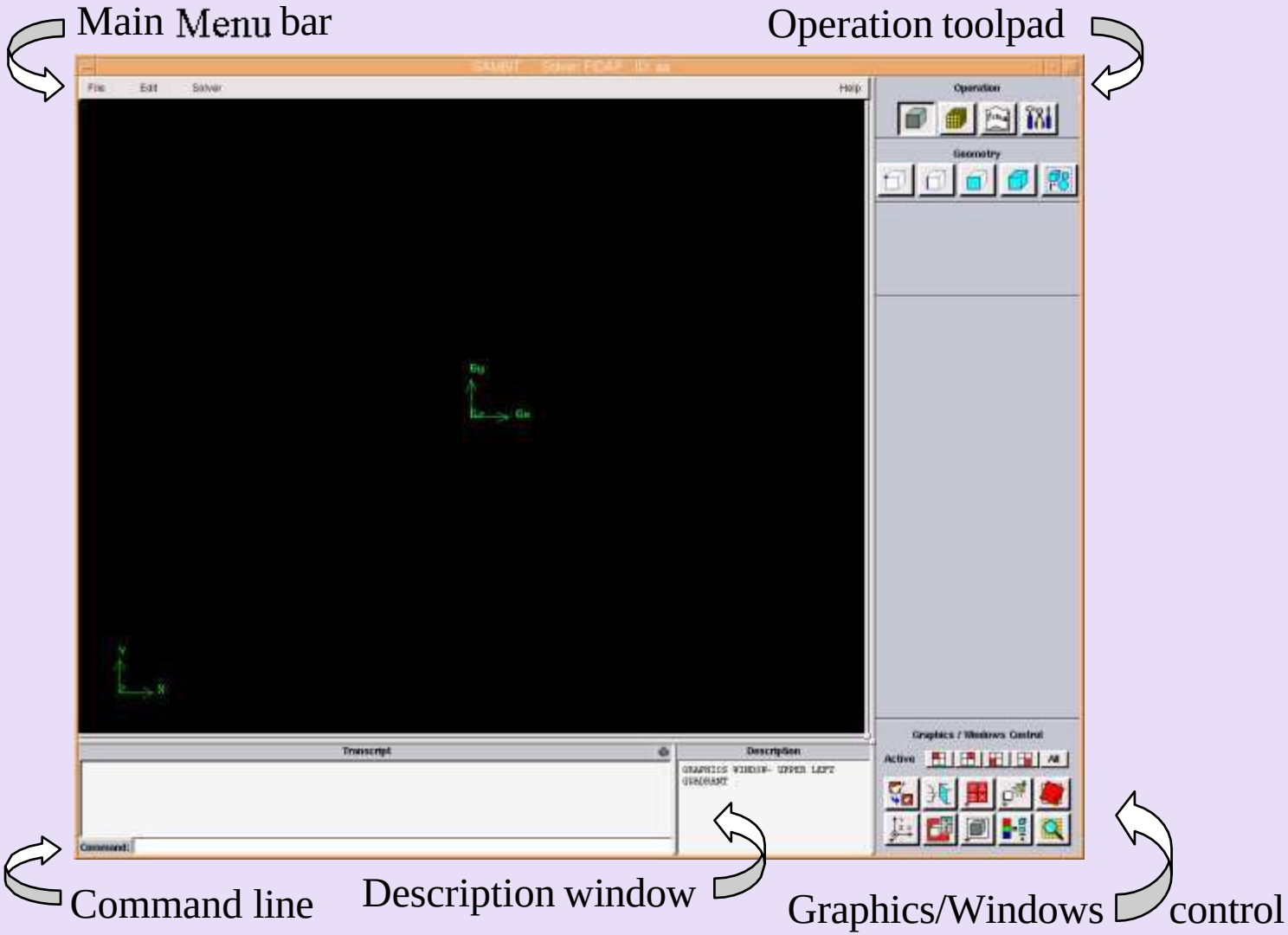
Files (1)

- GAMBIT directory and files
  - When GAMBIT starts up, it creates a directory called **`GAMBIT.#`**
    - **`#`** = the process number
    - It also creates a "lock" file, ***`ident`*`.lok`**, in the working directory
    - ***`ident`*`.lok`** prevents any user from starting up another session using the same identifier in the same directory. If the code crashes, this file needs to be manually removed.
  - Three files are created inside this directory
    - ***`ident`*`.dbs`** = the database. All information will be saved in this file. This file is NOT retrievable upon a crash
    - **`jou`** = the journal file. This file is directly accessible from the Run journal form
    - **`trn`** = the transcript file. Output from GAMBIT

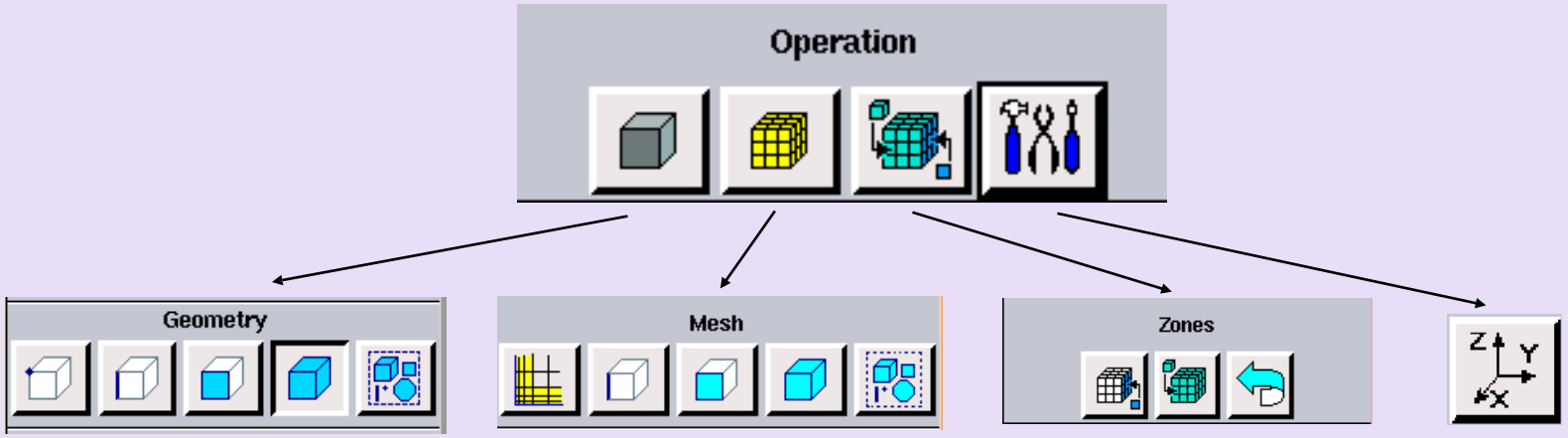
Files (2)

- GAMBIT directory and files
  - GAMBIT permanently saves these files to your working directory as ***ident*.dbs**, ***ident*.jou** and ***ident*.trn** anytime you issue a "Save" option (equivalent to any standard word processor)
    - Upon Save, earlier versions of ***ident*.dbs** and ***ident*.trn** will be overwritten, while new commands are appended to the file ***ident*.jou**
  - Upon successful exit of GAMBIT:
    - The directory **GAMBIT.#** is removed
    - The lock-file ***ident*.lok** is deleted

Graphical User Interface



Operation Tool Pads



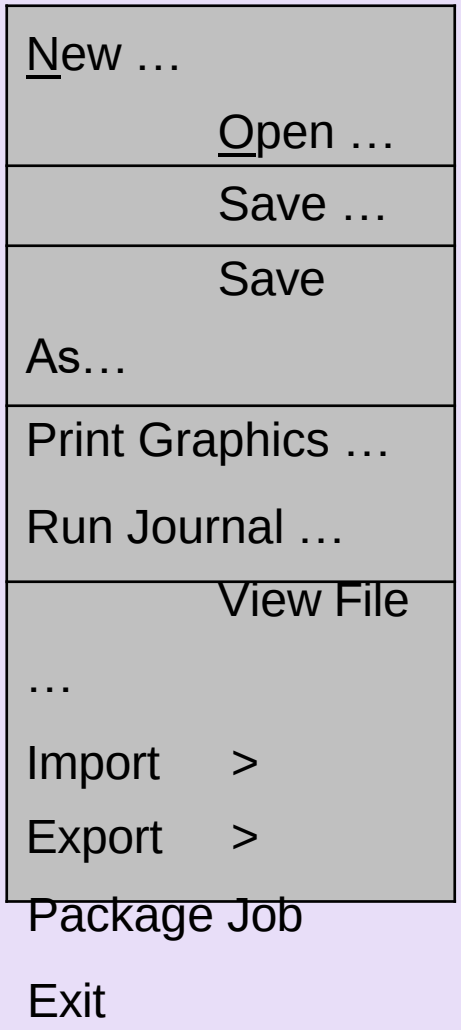
Vertex
Edge
Face
Volume
Group

Boundary -
Layer
Edge
Face
Volume
(Group)

Solver specific
Boundary Types
(Boundary Entity)
Continuum Types
(Continuum Entity)

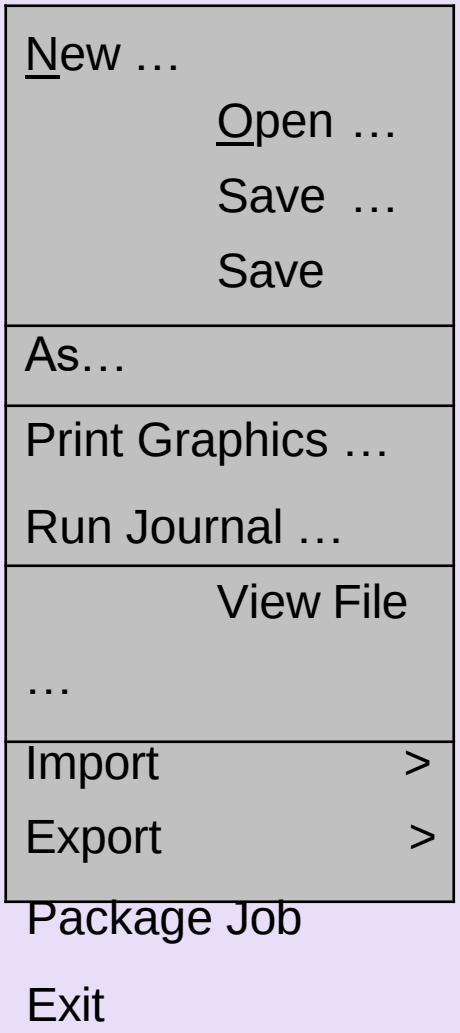
Coordinate
systems

File Menu (1)



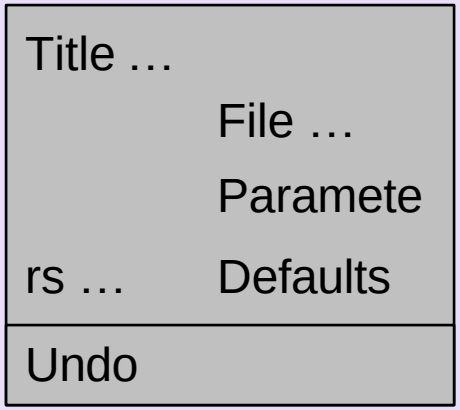
- New, Open, Save, Save As and Exit
- Standard form of database operations
- Print Graphics
- Prints graphics to printer or to file
- PostScript, BMP, TIF, GIF, etc.
- Run Journal
- Screen mand processor for journal files
- Command processing:
- Partial or global selection/de-selection
- Automatic or stepwise processing
- Ability to load the current journal
- File browser

File Menu (2)



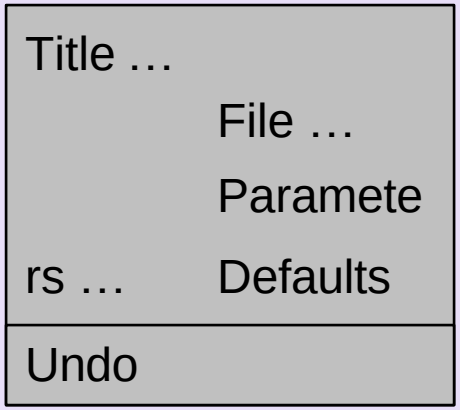
- View File
  - View of the current output, ***ident*.trn**, the transcript file
  - Ability to view other files as well
- Import
  - ACIS - Geometry in binary (**.sab**) or ASCII (**.sat**)
  - IGES - Information and a scaling function
  - Different vendors' mesh files
  - STL
- Export
  - ACIS
  - Mesh - file based on the solver selection

Edit Menu (1)



- Edit Title
  - Title will be included on any printed graphics
- Edit File
  - Ability to launch an editor within GAMBIT
- Edit Parameters
  - Ability to define, modify and list parameters
    - parameters: $numeric = 10,
    - arrays: $array(3,4) = 5
  - Parameters and arrays can also be directly defined in the journal file using an editor (preferred option)

Edit Menu (2)



- Edit Defaults
  - Modify a large range of defaults in
    - graphics
    - geometry
    - meshing
    - etc.
  - Ability to load, modify and save a new set of defaults in **`$HOME/GAMBIT.ini`** which is loaded automatically at startup
- Undo
  - Ten levels of undo (default)

Solver Menu



- The Solver selection will have an impact on the following forms
  - Available meshing algorithms
  - Available element types
  - Continuum types
  - Boundary types
  - Export mesh file

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：https://d.book118.com/208130131013006023