

Protégé queries

The screenshot displays the Protégé 3.1.1 application window. The title bar indicates the file path: `rocketScience Protégé 3.1.1 (file:\C:\Program%20Files\Protege_3.1\rocketScience.pprj, Protégé Files (.pont and .pins))`. The menu bar includes File, Edit, Project, Window, Tools, and Help. The toolbar contains icons for file operations and editing. The main interface is divided into several panes:

- Query Editor:** Located at the top left, it shows a query being constructed. The "Class" dropdown is set to "experiment", the "Slot" dropdown is set to "responsible_for", and the "contains" dropdown is selected. A button labeled "List all principal investigators" is visible.
- Search Results (37):** A list of 37 search results is displayed on the right side. Each result is preceded by a diamond icon and followed by "(experiment)". The results include various space-related experiments and missions, such as "Deploy Hubble -- McCandles Bruce II of US Naval Observatory", "ISS Crew Exchange -- (Lopez-Alegria Micheal of , Barry Daniel of Marine Corps)", "Hubble telescope launch -- McCandles Bruce II of US Naval Observatory", "SpaceWalk -- Lopez-Alegria Micheal of", "Materials International Space Station Experiments -- Forrester Patrick of Uni Virginia", "SRL Imaging program -- Jones Thomas of", "Dock with Mir -- Ivans Marsha of NASA", "Treadmill Vibration Isolation and Stabilization System (TVIS) -- Wisoff Peter of NASA", "Spacewalk -- Lu Ed of NASA", "Spacewalk -- Burbank Christopher of Coast Guard", "Replacement of ISS battery modules -- Burbank Christopher of Coast Guard", "iss docking -- Malenchenko Yuri of UUC", "Flight Readiness Review -- Hawley Stephen of UC Santa Cruz", "Biological Research in Canister (BRIC) experiments -- Smith Stephen of NASA", "P1 Truss assembly for IDD -- Lopez-Alegria Micheal of", "Deploy Chandra X-Ray satellite -- Coleman Catherine of Air Force", "Midcourse Space Experiment (MSX) -- Tognini Michel of CNES", "the Shuttle Ionospheric Modification with Pulsed Local Exhaust (SIMPLEX) -- Hawley Stephen of UC Santa Cruz", "Develop new safety procedures -- Thomas Andy of NASA", "Spacewalk -- (Noguchi oichi of JAXA, Robinson Stephen of)", "Spacewalk to replace ICG -- Noguchi oichi of JAXA", "Deploy the orbital microphone sensor -- Charles Camarda of Virginia Polytechnical", "Repair 1 Hubble -- Musgrave Story of NASA", "iss crew exchange -- Barry Daniel of Marine Corps", "Deliver ISS supplies -- Forrester Patrick of Uni Virginia", "Dock with Mir -- (Akers William of NASA, Apt Jay of NASA)", "Mir docking -- Lu Ed of NASA", "Crew Transfer -- Lu Ed of NASA", "CLASSIFIED EXPERIMENT -- Reilly James of NASA", "Crew Exchange with Mir -- Anderson Micheal of NASA", and "Switch from stennis -- Charles Camarda of Virginia Polytechnical".
- Query Library:** A list of queries is shown at the bottom left. The first query, "(1) List the names and affiliations of principal investigators for all experiments", is highlighted. Other queries include "List all principal investigators", "Dates in 1997", "Atlantis missions launched in 1997", "(2) Experiments launched aboard Atlantis in 1997", "Mission that launched Hubble", "(3) List the Crew that launched the Hubble Space telescope", "Objectives to repair Hubble", "(4) Missions to repair Hubble", "Crews involving Terry Wilcutt", "(5) List the missions and launch dates for which Terry Wilcutt was a crew member.", "List female astronauts", "Crews with a female commander", "(6) Missions for which the shuttle commander was female", and "Russian, French, and Japanese astronauts".

The Windows taskbar at the bottom shows the Start button and several open applications: "Introduction to Algorithm...", "Document1 - Microsoft...", "Opportunity rover - Wiki...", "Protege.exe", and "rocketScience Protégé...". The system clock indicates the time is 7:48 PM on 10/19/2005.

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Class	Slot	Value
experiment	associated_mission	contains Atlantis missions launched in...

Below the query editor are buttons for "More", "Fewer", "Clear", and "Find". There are also radio buttons for "Match All" and "Match Any". The "Query Name" field contains "(2) Experiments launched aboard Atlantis in 1997". The "Query Library" pane on the left lists various queries, with "(2) Experiments launched aboard Atlantis in 1997" selected. The "Search Results (4)" pane on the right displays the following results:

- ◆ Dock with Mir -- Ivans Marsha of NASA (experiment)
- ◆ Treadmill Vibration Isolation and Stabilization System (TVIS) -- Wisooff Peter of NASA (experiment)
- ◆ Mir docking -- Lu Ed of NASA (experiment)
- ◆ Crew Transfer -- Lu Ed of NASA (experiment)

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- Classes, Slots, Forms, Instances, Queries:** A tabbed interface at the top of the main workspace.
- Query Editor:** The central pane for defining queries. It shows a query with the class `mission_crew` and the slot `crew_of` connected by a `contains` relationship. Below the editor are buttons for `More`, `Fewer`, `Clear`, and `Find`, along with radio buttons for `Match All` and `Match Any`.
- Query Name:** A text field containing the query name: `(3) List the Crew that launched the Hubble Space telescope`. A button `Add to Query Library` is next to it.
- Query Library:** A list of saved queries. The selected query is: `(3) List the Crew that launched the Hubble Space telescope`. Other queries in the library include: `List all principal investigators`, `(1) List the names and affiliations of principal investigators for all experiments`, `Dates in 1997`, `Atlantis missions launched in 1997`, `(2) Experiments launched aboard Atlantis in 1997`, `Mission that launched Hubble`, `Objectives to repair Hubble`, `(4) Missions to repair Hubble`, `Crews involving Terry Wilcutt`, `(5) List the missions and launch dates for which Terry Wilcutt was a crew member.`, `List female astronauts`, `Crews with a female commander`, `(6) Missions for which the shuttle commander was female`, and `Russian, French, and Japanese astronauts`.
- Search Results (1):** A pane on the right showing the results of a search. It displays a single result: `C:Altman, Scott P:Bolden, Charles MS:{Hawley Stephen of UC Santa Cruz, Sullivan Kathryn of , McCandles Bruce II of US Naval Observatory} O: (mission_c`.

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- Classes, Slots, Forms, Instances, Queries:** A tabbed interface at the top of the main workspace.
- Query Editor:** The central pane showing a query. The **Class** is `mission`, the **Slot** is `mission_experiments_and_ot...`, and the **contains** dropdown is set to `Objectives to repair Hubble`. Below the query, there are buttons for **More**, **Fewer**, **Clear**, **Match All**, **Match Any**, and **Find**.
- Search Results (2):** A pane on the right showing two results:
 - ◆ STS-61 12/2/1993 (Endeavour) 1st repair of hubble (repair_mission)
 - ◆ STS-82 2/11/1997 (Discovery) 2nd hubble repair mission (repair_mission)
- Query Library:** A pane at the bottom left listing various queries, with **(4) Missions to repair Hubble** selected.

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- Query Editor:** Shows a query with the following structure:
 - Class: mission
 - Slot: crew
 - Relationship: contains
 - Result: Crews involving Terry Wilcutt
- Search Results (4):** Lists four search results:
 - ◆ STS-68 9/30/1994 (Endeavour) SRL-2 radar images of the Earth's surface for Earth system sciences (satellite)
 - ◆ STS-89 1/22/1998 (Endeavour) Mir resupply and joint spacewalk with Russians (resupply_mission)
 - ◆ STS-106 9/8/2000 (Atlantis) ISS initial supply, preparation for first inhabitants (resupply_mission)
 - ◆ STS-79 9/16/1996 (Atlantis) Mir docking mission (resupply_mission)
- Query Name:** (5) List the missions and launch dates for which Terry Wilcutt was a crew member.
- Query Library:** A list of saved queries, including:
 - ▲ List all principal investigators
 - ▲ (1) List the names and affiliations of principal investigators for all experiments
 - ▲ Dates in 1997
 - ▲ Atlantis missions launched in 1997
 - ▲ (2) Experiments launched aboard Atlantis in 1997
 - ▲ Mission that launched Hubble
 - ▲ (3) List the Crew that launched the Hubble Space telescope
 - ▲ Objectives to repair Hubble
 - ▲ (4) Missions to repair Hubble
 - ▲ Crews involving Terry Wilcutt
 - ▲ (5) List the missions and launch dates for which Terry Wilcutt was a crew member.
 - ▲ List female astronauts
 - ▲ Crews with a female commander
 - ▲ (6) Missions for which the shuttle commander was female
 - ▲ Russian, French, and Japanese astronauts

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- Classes, Slots, Forms, Instances, Queries:** A tabbed interface with the 'Queries' tab selected.
- Query Editor:** A pane for creating and editing queries. It shows a query with the class 'mission' and slot 'crew' connected by a 'contains' relationship. The query name is '(6) Missions for which the shuttle commander was female'. Buttons for 'More', 'Fewer', 'Clear', 'Match All', 'Match Any', and 'Find' are present.
- Search Results (2):** A pane showing the results of a search. It lists two results:
 - ◆ STS-93 7/23/1999 (Columbia) First female Shuttle Commander. Launch of Chandra X-ray Observatory. (satellit
 - ◆ STS-114 7/26/2005 (Discovery) Discovery return to flight, International Space Station supplies delivery, new s
- Query Library:** A pane listing various queries stored in the library. The query '(6) Missions for which the shuttle commander was female' is highlighted. Other queries include:
 - ▲ List all principal investigators
 - ▲ (1) List the names and affiliations of principal investigators for all experiments
 - ▲ Dates in 1997
 - ▲ Atlantis missions launched in 1997
 - ▲ (2) Experiments launched aboard Atlantis in 1997
 - ▲ Mission that launched Hubble
 - ▲ (3) List the Crew that launched the Hubble Space telescope
 - ▲ Objectives to repair Hubble
 - ▲ (4) Missions to repair Hubble
 - ▲ Crews involving Terry Wilcutt
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 - ▲ List female astronauts
 - ▲ Crews with a female commander
 - ▲ Russian, French, and Japanese astronauts

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- Query Editor:** Shows a query with Class `mission` and Slot `crew` connected by the relation `contains`. The query name is "(7) List shuttle missions involving Russian, Japanese, French astronauts".
- Search Results (8):** Lists 8 results, including STS-93, STS-113, STS-61, STS-89, STS-106, STS-84, STS-114, and STS-105.
- Query Library:** Lists 10 queries, with the selected query "(7) List shuttle missions involving Russian, Japanese, French astronauts" highlighted.

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- ◆ STS-113 11/24/2002 (Endeavour) Assembly of P1 Truss. ISS Crew Exchange (repair_mission)
- ◆ STS-106 9/8/2000 (Atlantis) ISS initial supply, preparation for first inhabitants (resupply_mission)
- ◆ STS-105 8/10/2005 (Discovery) International Space Station crew and supplies delivery (resupply_mission)

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Class	Slot	Relationship	Instance
mission_crew	crew_of	contains	STS-114

Below the query editor, there are buttons for "More", "Fewer", "Clear", and "Find". The "Query Name" field contains "(9) List the crew of STS-114", and there is an "Add to Query Library" button. The "Query Library" pane on the left lists various queries, with "(9) List the crew of STS-114" selected. The "Search Results (1)" pane on the right shows the result: "C:Collins, Eileen P:Kelley, James MS:Noguchi oichi of JAXA, Thomas Andy of NASA, Robinson Stephen of , Lawrence Wendy of , Char". The Windows taskbar at the bottom shows the Start button and several open applications: Introduction to Algorithm..., Document1 - Microsoft..., Opportunity rover - Wiki..., Protege.exe, and rocketScience Protégé... The system clock indicates 7:51 PM on 10/19/2005.

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- Query Editor:** Shows a query with Class `mission` and Slot `launch_date` connected by the relation `contains`. Below the editor are buttons for `More`, `Fewer`, `Clear`, and `Find`, along with radio buttons for `Match All` and `Match Any`.
- Query Name:** A text field containing the query description: `(10) List the names and launch dates for shuttle launches in 2002-2003`. An `Add to Query Library` button is next to it.
- Query Library:** A list of saved queries, including:
 - ▲ (4) Missions to repair Hubble
 - ▲ Crews involving Terry Wilcutt
 - ▲ (5) List the missions and launch dates for which Terry Wilcutt was a crew member.
 - ▲ List female astronauts
 - ▲ Crews with a female commander
 - ▲ (6) Missions for which the shuttle commander was female
 - ▲ Russian, French, and Japanese astronauts
 - ▲ Crews containing Russian, French, Japanese
 - ▲ (7) List shuttle missions involving Russian, Japanese, French astronauts
 - ▲ Experiments and objectives involving ISS
 - ▲ (8) Shuttle missions involved in the ISS
 - ▲ STS-114
 - ▲ (9) List the crew of STS-114
 - ▲ Dates in 2002, 2003
 - ▲ (10) List the names and launch dates for shuttle launches in 2002-2003
- Search Results (1):** Displays the result of the query: `STS-113 11/24/2002 (Endeavour) Assembly of P1 Truss. ISS Crew Exchange (repair_mission)`.

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