User Manual Enigma Research 0.1

Jan Kampherbeek, April 21, 2023.

Thank you for your interest in Enigma. You are about to learn more about a program that calculates charts and also supports several types of research into astrology.

You can use it for your astrological calculations. Enigma is accurate and calculates fast. It will produce a chart wheel and perform the most important analysis.

The program also supports several types of research: counting aspects, occupied midpoints and more. It also generates control groups so that you can cancel out artifacts.

Several other releases will follow the current release 0.1. Each new release will add more functionality. A road map for the planned functionality in the coming releases is available.

Enigma is free: you do not have to pay for it. I do not have a problem with paid software but I prefer to spend my time programming and not being busy with commercial stuff.
Enigma is open source: I published all code and anybody can download it. Programmers that want to use my code can do so freely, but only if their own software is also open source.

You will need Windows to run Enigma.

I hope you like the program!

Jan Kampherbeek,
Enschede, The Netherlands, April 21, 2023.

Requirements

You need a computer that runs Windows. I have tested Enigma on Windows 11. It probably runs on older versions, but not older than Windows 7. Enigma will probably run in a Windows emulator on Apple hardware, but I did not test that.

The program requires about 150 mb disk space and about 4 GB internal memory.

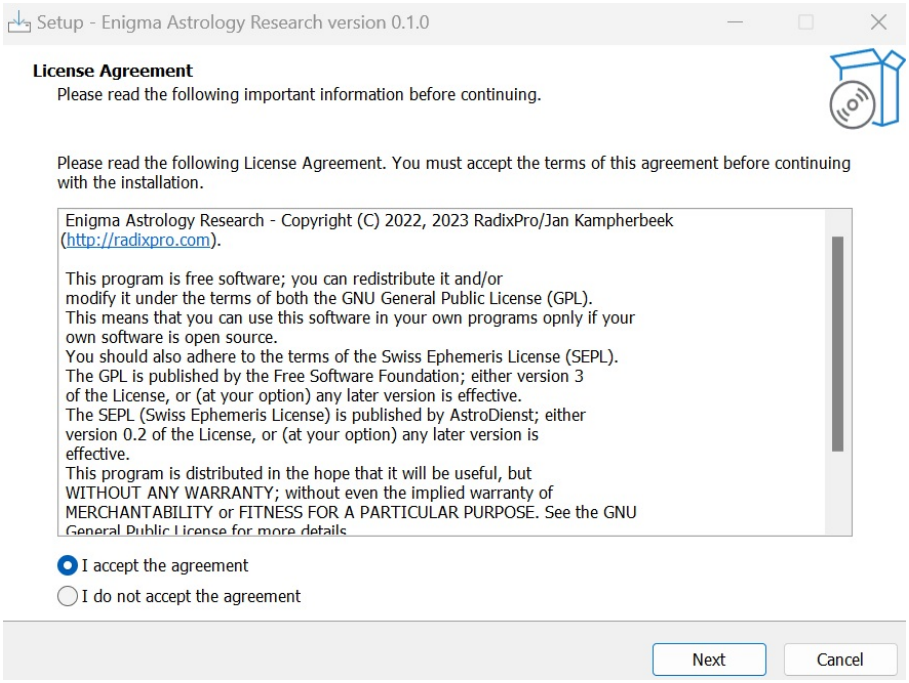
Use a full HD screen or larger.

Installation

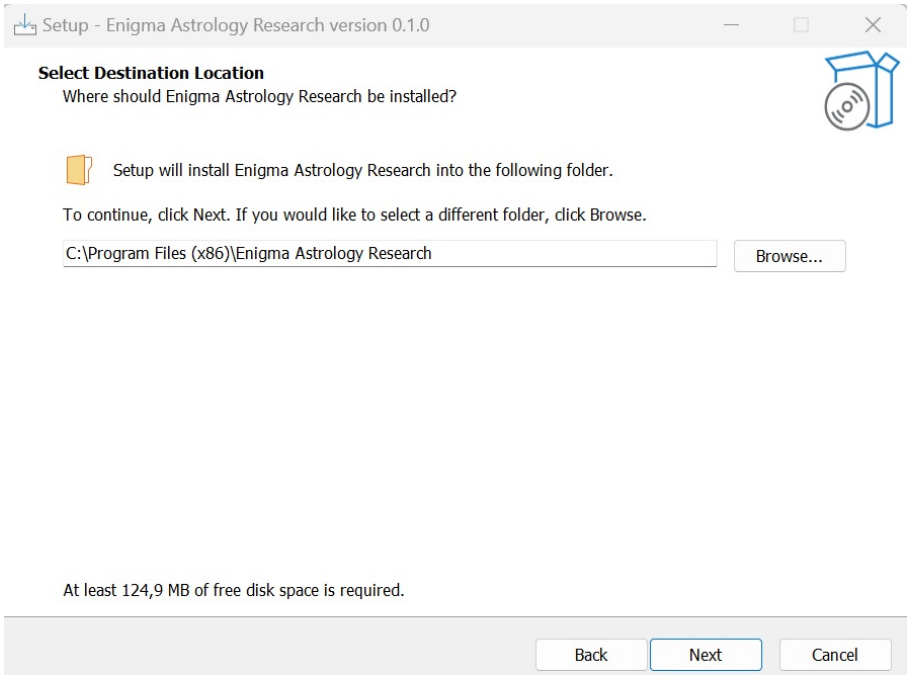
Download the installation program from https://radixpro.com/downloads/enigma. You will receive a file *Enigma AR installation 0.1.0.exe* which you can save anywhere on your computer.

Double-click this file to start the installation.

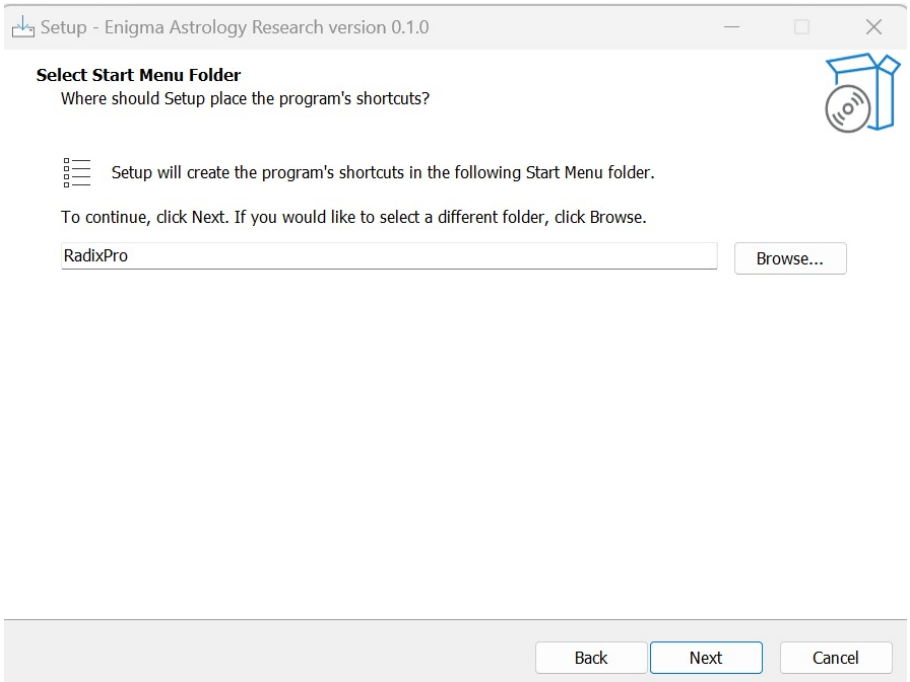
Enigma will ask you about your preferred language, options are Dutch and English. The language selection only applies to the installation process. The current version of Enigma itself is only in English.
Click **OK** to continue.



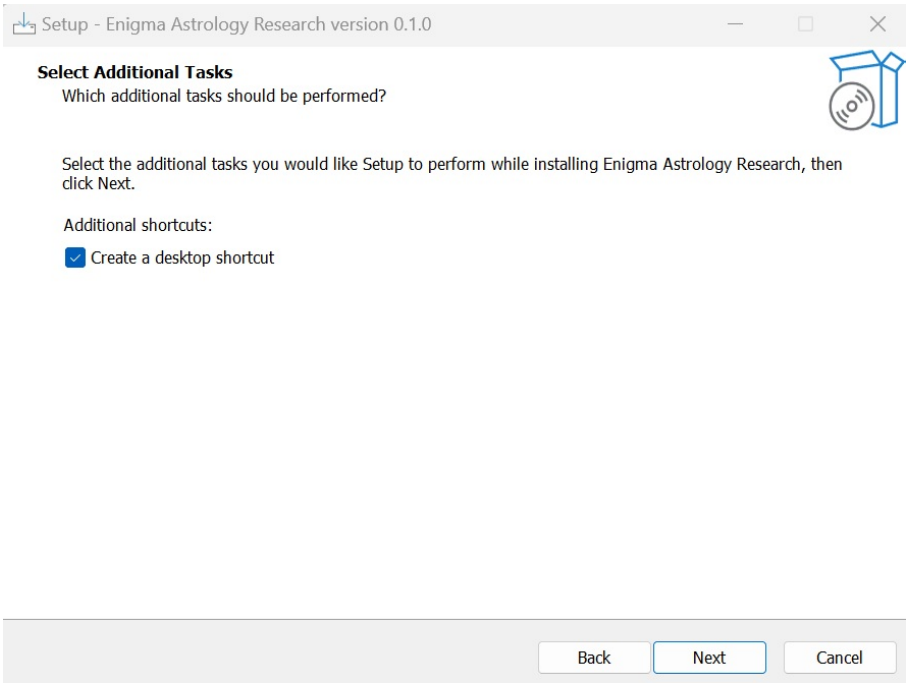
Enigma shows a license which you should accept to continue. Select *I accept the agreement* and click the button **Next**.



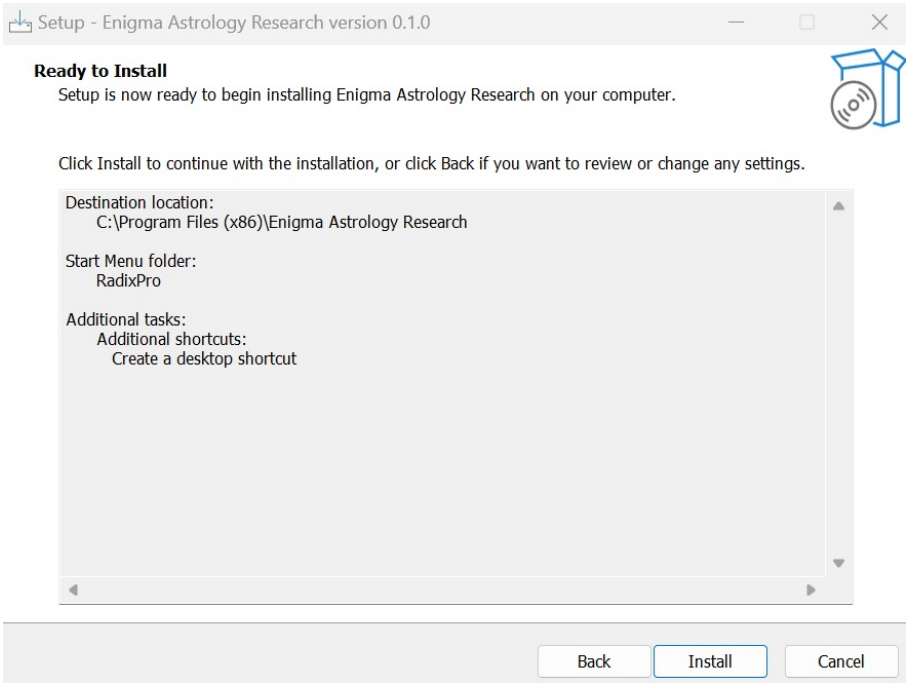
On this screen, you can select the folder where you want to install Enigma. I advise to use the default location.
Click the button **Next**.



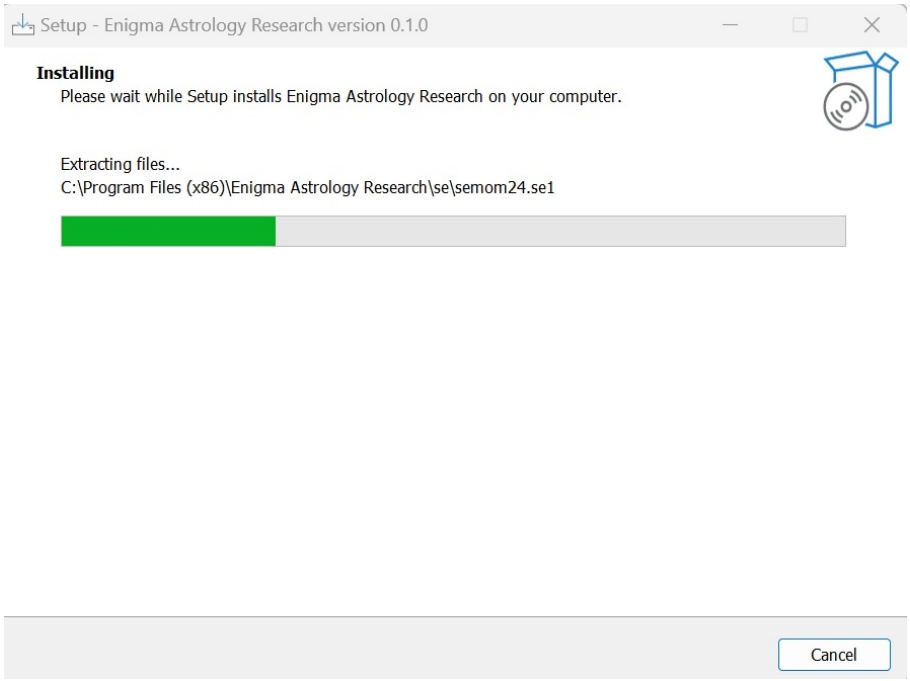
Enigma uses *RadixPro* as the start menu folder, but you can change this if you prefer another folder.
Click the button **Next**.



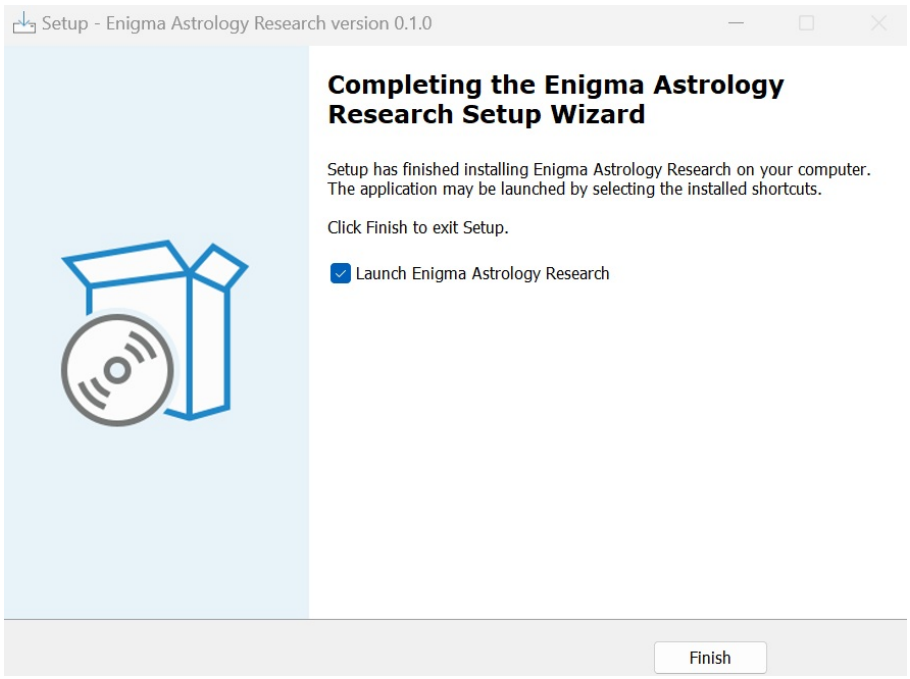
If you select the checkbox *Create a desktop shortcut*, the installer will create an icon on your desktop to start Enigma.
Click the button **Next**.



Review your selections and click the button **Install**.



You will see a progress bar during installation.



If you see this screen, the installer completed its task. Optionally, select the checkbox *Launch Enigma Astrology Research* to start Enigma.
Click the button **Finish**.

The installer made the following changes to your system:

- Installing Enigma in *C:\Program Files (x86)\Enigma Astrology Research*. This folder also contains a sub-folder *se* with the required files from the Swiss Ephemeris.

- Installing the file *User Manual Enigma Research - 0.1.pdf* in the same location.
- Installing the font *EnigmaAstrology*. You can use this font also in other applications. For more information check http://radixpro.com/downloads/font/

Enigma used the folder c:/enigma_ar and its sub-folders. After starting Enigma, these folders are created automatically.

Removing Enigma

It is easy to remove Enigma. In the settings of Windows you cans elect an overview of installed apps. Search for Enigma Astrology Research version 0.1.0 and remove it.

Learn the basics: a quick start

Starting Enigma

- **Start screen**

After starting Enigma you will see a screen *Enigma Astrology Research*.

The screen shows two images indicating a module: Charts and Research.

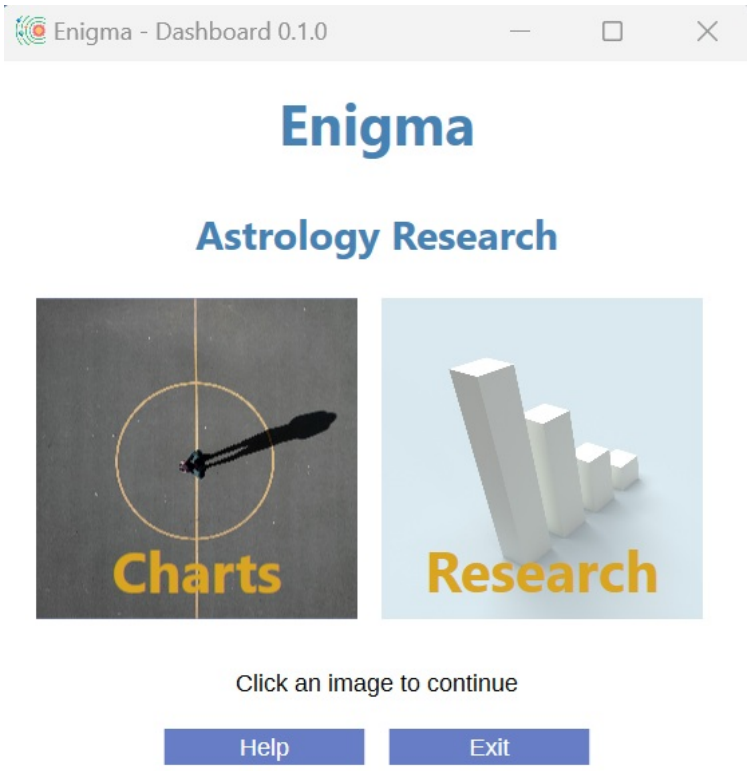
In release 0.5 a module for Calculators will be added, followed by a module for Cycles in release 0.6.

You can start a module by clicking one of the images.

This chapter gives you a quick overview of the Charts Module of Enigma, but it skips some details. You should already have installed Enigma.

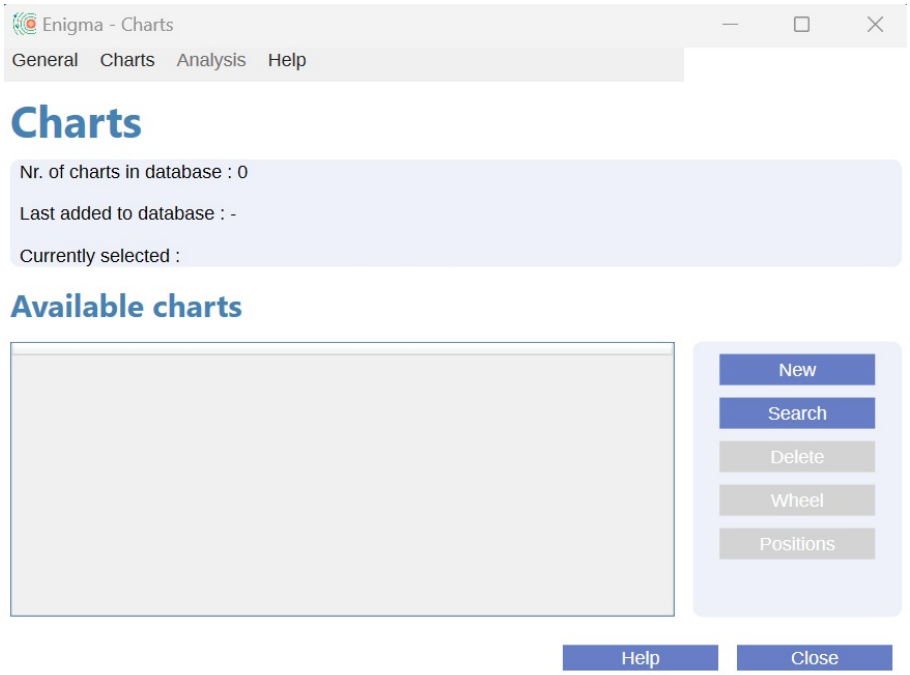
Click the Enigma icon.

A screen with two images appears.



Click the left image with the text *Charts*.

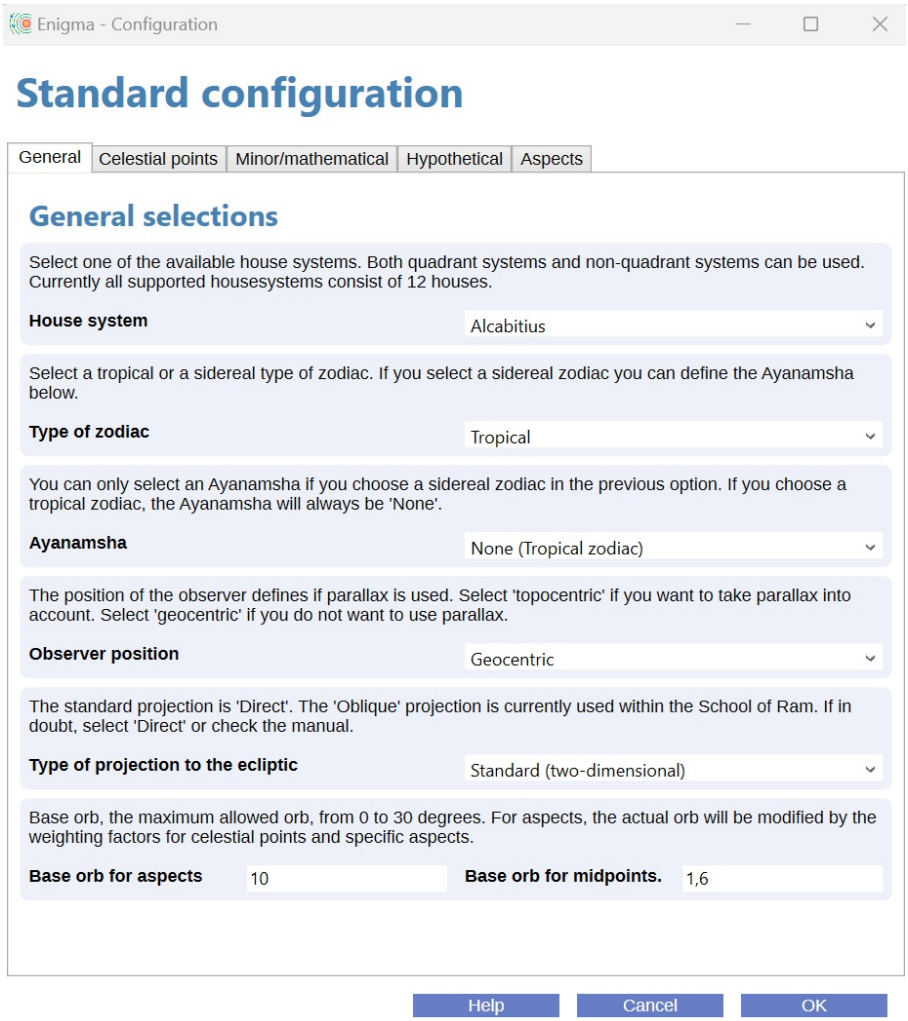
You will see a window with almost no information as you did not yet calculate a chart.



This window has a menu and several buttons. You can use the blue buttons, but Enigma disabled the gray buttons as they depend on a chart being available. Also, menu options that are not yet available have a light gray color.

Before you calculate, check the configuration via the menu option *General - Configuration*.

You will see a form that contains several tabs.



Select the tab *General* if it is not already shown. Choose your favorite house system. If you want a sidereal zodiac, change the type of zodiac into sidereal and select an ayanamsha.
In most cases, you will not need to change other items in this tab.
Select the planets/points that you want to calculate in tabs *Celestial points*, *Minor/mathematical* and *Hypothetical*.
Also, select the aspects that you want to use.
Click OK to save the configuration. You can always change it later.

In the Charts window, click the button New.
Enter the data for the chart that you want to calculate. Most fields are self-explanatory. For longitude and latitude, use the format dd:mm:ss (degrees, minutes, seconds).
For the date, use the format yyyy/mm/dd (year, month, day).
For the time, use hh:mm:ss (hours, minutes, seconds).
Use the button *Help* if you need more details.
Click the button *Calculate*.
If you made an error, or omitted data, Enigma will mark the corresponding

field yellow. Change the erroneous input and again click *Calculate*.
You will see a screen with the calculated chart using the configuration you just defined. You can resize the window and the chart will automatically adapt.
At the bottom of the chart, Enigma shows info about the chart and some configuration items.

Enigma automatically saved the chart in the database and you will see some meta info underneath *Available charts*.

Click the button Positions to see an overview of all astronomical details.

Select the menu option *Analysis - Aspects* to see the aspects of this chart.
The menu option *Analysis - Harmonics* shows an interactive screen where you can calculate harmonic positions.
Via Analysis - Midpoints you see the midpoints for this chart.

You can calculate more charts via the button *New* of the menu *Charts - New Chart*.

If you calculated more charts, you probably also have a range of open windows. Each window shows the name of the chart owner. To open windows for a specific chart, click the name under *Available Charts* and use one of the buttons or menu options.

To do serious research, it makes sense to read the long chapter on research. This chapter gives you a quick overview of the possibilities, but it skips important details.

Enigma supplies a data file to test the research possibilities. It is a small file and only meant for demonstration purposes.

Configuration and settings

Both modules of Enigma use the same configuration and the same settings. The settings define the location of files that Enigma uses. The configuration gives you the opportunity to define how Enigma behaves astrologically: which house system, which planets, aspects, and much more.
In this version, you can not change the values for the settings but you can - and probably should - change the values for the configuration.
You can check the settings but you can not change them.
In the module *Charts* or in the module *Research* select the menu option **General - Settings**. You will see a window with information about the location of the following files:

- **Data files**. This folder contains the data files you imported.
- The location of **Projects**. All projects will have a sub folder with the name of the project. These sub folders contain all data that is generated for this project.
- Enigma does not yet use **Exported files**. In the future, it will contain the results of exporting data.
- Enigma writes remarks to **Log files**. In case of an error, these log files will be helpful.
- The folder **Database** contains data for calculated charts.

You can check and change the configuration from the module *Charts* or from the module *Research* by selecting the menu option General - Configuration.

This will show a screen with a wide range of configurable items. The screen comprises 5 tabs:

- The tab General shows astronomical settings and settings for orbs.
- Celestial points shows the points the most common planets and some other points.
- Minor/mathematical show Plutoids, Planetoids, Centaurs and mathematical points like nodes.
- Hypothetical shows hypothetical planets.
- Aspects show all available aspects.

- ***General selections***

  If you select the tab *General* you can define the following preferences:

  House system. Currently only house systems with 12 houses are supported. Select *None* if you do not want to use a house system.

  Type of zodiac. Select either *sidereal* or *tropical*. If you select tropical, the Ayanamsha will always be None, if you select another Ayanamsha, the setting for Type of zodiac will automatically change into sidereal.

  Ayanamsha. Select one of the available Ayanamshas. The paragraph *Ayanamshas overview* in the user manual gives a short explanation of the different types. See the remarks at the point above: Type of zodiac.

  Observer position. The standard approach is *geocentric*, if you want to take parallax into account select *topocentric*. In future releases the option *heliocentric* will be supported.

  Type of projection to the ecliptic. Select *Standard (two-dimensional)* for most approaches. *Oblique longitude* provides an alternative calculation as supported by the School of Ram. It is also called *True Astrological Longitude Location*.

  Base orbs. You can define orbs for aspects and for midpoints.

  The base orb for aspects will be corrected with the percentages for celestial bodies and aspects. See the paragraph Orbs for Aspects in the User Manual. The value indicates the maximum orb for the most important aspect and the most important celestial body.

  The base orb for midpoints is the effective orb for midpoints.

- ***Celestial points***

  The tab *Celestial points* is the first of three tabs where you can define points for your chart.

  For each point you will find a checkbox. Check this box if you want to take the celestial point into account, deselect it if you do not want to use it.

  There is also a value *Orb perc.* (Orb percentage) that you can change. You can enter a percentage from 0 up to 100, make sure you use only whole numbers. It is possible to define a percentage for a point that is not selected so it is easy to remember a percentage if you later decide to include the point. If you want to use a point but not calculate aspects for that point, enter a percentage of zero.

  In this tab you see four types of points: *Classic*, *Modern*, *Mundane points* and *Arabic Parts*. Please note that you cannot deselect the classic points and also not MC or Ascendant.

  See the paragraph *Celestial Points Overview* in the User Manual for an explanation for each point.

- ***Minor/Mathematical***

The tab *Minor/Mathematical* contains four types of points: Mathematical points (mostly intersections), Centaurs, Plutoids and Planetoids.

Use it the same way as described for the tab *Celestial Points*.

- ***Hypothetical points and planets***

  The tab *Hypothetical* enables selections of different types of hypothetical points/planets.

  Use it the same way as described for the tab *Celestial Points*.

- ***Aspects***

  Aspects is the last tab for the configuration. First you need to select a *method for defining orbs*. You have three possibilities:

  - **Fixed orb**. Use only one orb for all celestial points and all major aspects. For minor aspects and micro aspects you can define a different orb. This is not yet supported in this release.
  - **Weighted orb**. Use percentages for celestial bodies and for aspects to define the actual orb.
  - **Dynamic/historical orb**. Take the historical development of the orb into account. Not yet supported in this release.

  See the paragraph *Orbs for aspects* in the User Manual for more information.

  The aspects are divided into three categories: Major, Minor and Micro. For each aspect you (de)select using the checkbox and define the percentage for the orb.

Charts

Calculating a chart

- ***Input for the calculation of a chart***

  In this sceen you will see three blocks:

  - **General information** is for data that is not required for the calculation but is used to identify a chart.
  - **Location** is for name and coordinates of the location.
  - **Date and time** is for all information about the birth-time or event-time.

- **General information**

  Unique name or id for chart. Enter an identification for this chart. This can be a name, a number or some other identification.

  Description of the source. A short explanation about the source of the data.

  Rodden Rating. Select one of the Rodden Ratings or leave the default value *Unknown*.

  Category. Indicate the subject for which the chart is calculated or leave the default value *Unknown*.

- **Location**

  Description of the location. A cityname, address or other identification for the location. This field is optional.

  Longitude. Geographic longitude in the format *ddd:mm:ss*. For *123°45'30"* you need to enter *123:45:30*. You can skip the seconds, they will default to 0 seconds. So *145:15* is a valid indication for *145°15'00"*.

  Use the scroll-downbox to select either **E** *(East)* or **W** *(West)*.

  Latitude. Geographic latitude in the format *dd:mm:ss*. For *52°13'30"* you need to enter *52:13:30*. You can skip the seconds, they will default to 0 seconds. So *45:15* is a valid indication for *45°15'00"*.

  Use the scroll-downbox to select either **N** *(North)* or **S** *(South)*.

- **Date and time**

  Date. Enter the date in the format *yyyy:mm:dd*, so June 16, 2022 would be entered as

2022/06/16. Historical dates before the year 0 should have a negative year if you select the Astronomical yearcount. Otherwise, all years will be positive.

Cal. (Calendar). The calendar that is applicable, select either **G** *(Gregorian)* or **J** *(Julian)*. For recent dates you will always need the Gregorian calendar.

Yearcount. There is a difference between a historical and an astronomical yearcount. Historical dates do not recognize the year 0. So the historical year 1 CE is preced by the year 1 BCE. The astronomical years would be +1 for 1 CE, and 0 for 1 BCE, preceded by -1 for 2 BCE.

For years after the year 0, astronomical and historical dates are the same.

Select one of the following values:

- **CE**: Common Era (historical). Previously: AD.
- **BCE**: Before Common Era (historical). Previously BC.
- **Astronomical**: Positive and negative years.

Time. Enter the time in the format *hh:mm:ss*, using 24 hour notation. 2h38m30s PM would be *14:38:30*.

DST. Check the box DST if Daylight Saving Time is applicable.

TimeZone. Select one of the available timezones. The list contains the offset from UT (Greenwich Time) and the name of the timezone. If the time does not fit into one of the available timezones, select *LMT: Local Mean Time*. You will get the possibility to define another offset from UT for the time used.

LMT: difference with UT. This field becomes available if you selected LMT as timezone. Here you can define the offset from UT (Greenwich) in hours, minutes, and seconds, using the format hh:mm:ss in the same way as for entering the clock-time. Also select either **E** *(East)* or **W** *(West)* to indicate the direction for the offset.

- **Start the calculation**

  Click the button **Calculate** to perform the calculation. If you made any errors, the fields that contain an error will return yellow. Correct the input and try again.

  Click the button **Close** if you do not want to continue.

• Analysis of radix charts

- ***Aspects***

- ***Midpoints***

After calculating a chart of reading a chart from the database, you will see the window **Charts**.

This window shows a menu. Select *Analysis - Midpoints* to show the window for midpoints.

In this window you will see two tables. The left table contains a list of all midpoints, regardless if they are occupied or not. The table to the right shows occupied midpoints for a specific dial.

Both tables will contain only celestial points that you selected in the configuration.

For the occupied midpoints you will also see the actual orb and a percentage for the exactness of the midpoint. The higher the percentage, the smaller the orb.

Default a dial of 360 degrees is used. You can change the dial with the radio buttons to the right of the two tables. Currently, the dials for 360 degrees, 90 degrees and 45 degrees are supported. The orb for all dials is the same.

After changing the selection of the dial, the content of the table with Occupied midpoints will automatically update.

- ***Harmonics***

In the window **Charts** you will see a menu. Select *Analysis - Harmonics* to show the window for harmonics.

The table contains both the radix positions and the harmonic positions for all celestial points that you selected in the configuration, and additionally for the MC and the Ascendant.

Initially, the harmonics are calculated for the 2nd harmonic. You can change the harmonic by entering a number underneath *Enter number for new harmonic* and clicking the button **Calculate**.

After clicking this button, the content of the table with harmonics will automatically update.

Enigma also supports fractional harmonics: harmonics for non-integer numbers. You can enter a fractional number the same way as an integer number. Use the decimal separator (dot or comma) that you normally use on your computer.

The effective harmonic is shown above the table with positions.

Research

Research

Data import

Enigma imports data. In the future it will support multiple formats for data but currently only one standard format is supported.

Definition of standard format for data import

The standard format is in csv (Comma Separated Values).

The data should use the following items:

- **Id** Unique identifier, can be a number or any text.
- **Name** A descriptive name, this can be empty but make sure not to skip the comma.
- **Longitude** A text defining the geographic longitude. Format is `ddd:mm:ss:dir` where *ddd* is the number of degrees, *mm* the minutes, *ss* the seconds and *dir* an indication for East or West, respectively E or W. Some examples: `62:13:30:E`, `5:6:0:W` and `118:0:0:E`. Make sure to add a value - possibly zero - for seconds.
- **Latitude** A text defining the geographic latitude. Format is the same as for Longitude with the exception for *dir*, which for latitude is an indication for North or South, respectively N or S.
- **Data** A text defining the date. The format is `yyyy/mm/dd` where *yyyy* is the year, *mm* the month and *dd* the day. For dates before the year zero, use astronomical years. Some examples: `2022/9/26`, `1/1/1` (January 1 in the year 1 CE) and `-10000/2/2` (February 2 in the astronomical year -10000 or the historical year 10001 BCE).
- **Calendar** A character indicating the calender. Use G for the Gregorian calendar or J for the Julian calendar.
- **Time** A text indicting the time. The format is `hh:mm:ss` where *hh* is the hour, *mm* the minute and *ss* the second. The notation is 24-hour based. Some examples `13:49:30`, `1:1:0` and `12:30:00`. Make sure to add a value - possibly zero - for seconds.
- **Zone** A value that indicates the offset from Greenwich Time. Use a positive or negative number, fractions are allowed, do not use comma's but dots.
- **Dst** An indication for Daylight Saving time. Use a value for indicate the difference in hours. In most cases this will be the value 1. Fractions are allowed, do not use comma's but dots. A zero value indicates that there was no dst.

An example of a valid line:

```
1234,Jan,6:52:31:E,52:12:37:N,1953/1/29,G,8:37:30,1,0
```

You can add spaces fore or after the comma's to make the line more readable. Do not pace spaces inside the values.

An example with added spaces:

```
1234, Jan, 6:52:31:E, 52:12:37:N, 1953/1/29, G, 8:37:30, 1, 0
```

Enigma expects that the first line of the file will contain header inforamtion, like:

```
Id,Name,longitude,latitude,date,cal,time,zone,dst
```

This line is always ignored so do not put data on the first line.

- ***Location of the files***

The files are saved in a folder structure. The start folder is defined in the settings, default it is : c:\enigma_ar\data

A csv-file that has been imported is copied to *c:\enigma_ar\data\[name]\csv* and a json file to *c:\enigma_ar\data\[name]\json*.

The name for the dataset is used instead of *[name]*.

- ***Overview of imported data files***

Menu: Data -> Overview Datafiles

Data files that you already imported will show up in this view.

It contains the files that have been imported into the Enigma environment.

The overview only contains the names of the imported data files.

- ***Performing an import***

Menu: Data -> Import data

To import data, you need to select a file in the correct csv-format and define a unique name for the data. This name is used to define the data in research projects.

To select a file you can use the button **Browse for file**. This will open a standard window to find and select a file. The selected file will show in the field after 'Select the file with data'.

After completing this information, you can click the button **Import file**.

If you did not enter all required information, or if you used a name for the data that is already in use, you will get a popup window with an explanation of what is wrong.

If no errors occurred, a text that clarifies the result is shown in the filed underneath 'Result of the import'.

After a successful import, you can either perform another import or click the button **Close**.

If you change your mind and want to skip the import, click the button **Cancel**.

- ## Project import

- ### *Types of controlgroups*

  Currently there is one type of controlgroup: *Standard shifting of location, date, and time*. In the document https://nvwoa.nl/txt/20200628controlegroepen.pdf (in dutch, will soon be translated) you will find a thorough description of this way of generating controlgroups.

- ### *Randomization*

  Randomization is an essential part of generating controlgroups. Most programs use a pseudo random number generator, resulting in data being not fully random. That is sufficient for gaming etc., but for research we prefer real random number generators. Enigma uses such a real random number generator, based on the 'entropy' (random internal data) of the system.

- ### *Multiplication factor*

  If a dataset is relatively small this will also result in a small control group. This easily leads to unreal effects. To avoid this, it is possible to multiply the control group data. This has the effect that the control group gives a better estimation of the expected data in the research population.

- ### *Performing an import*

  Before you can create a project, a datafile already needs to have been imported. If you did not yet import a datafile, please do so now. Menu: Data - Import Data.

- ### Description of the project

  To define the project you need to provide a name, an identification and a description. All these fields are obligatory.

  - In Name for project you enter the name you want to use for your project.
  - In Description you can enter additional information about the project, typically a short description of your intended research.

- ### Control group

  Defining a project includes the creation of data for a control group. You can define the type of controlgroup and a multiplication factor.

See the initial part of this paragraph in the User manual.

- **Datafile to be used**

  Select a datafile from the list of available datafiles.

- **Saving the project**

  If you click the button **Save**, Enigma will check your input and mark any incorrect input fields with a yellow color. If there are no errors, a folder structure for this project, a datafile and a control file are generated. If during this process an error occurs, you will receive a popup about the error.
  Otherwise you will receive a confirmation popup. After closing this popup you will return to the main screen.

Doing research

To support research, Enigma needs to:

- Import data (population data).
- Define a project which includes:
  - A project defionition.
  - A copy of the data.
  - A generated control group.
- One or more tests that will be performed using the population data and the control group data.

- ***Folder structure***

  The following folder structure is in use:

  - Root of Enigma data, typically c:\enigma_ar\
    - data
      - separate folders for each data set
        - csv: a copy of the original data
        - json: the same data converted to Json format.
    - project
      - separate folders for each project
        - file: controldata.json: the control group data.
        - file: project.json: definition for the project
        - file: testdata.json: the population data.
        - folder: results

- separate folders for each test, a name that describes the test method that was used, followed by a date/time stamp in the format *yyyy/mm/dd HH:mm:ss*.
  - in each folder the calculated charts for the test-data and for the control-data, respectively *charts_testdata.json* and charts_*controldata.json*. Also the counts: *counts.json*.

- ***Projects overview***

  After selecting Research in the dashboard, Enigma shows a screen with new screen to handle research projects.

  This screen shows an overview of existing projects. If you did not yet define a project, the overview of projects will be empty.

  In the menu you can check the current settings: **General - Settings**, and check of change the Configuration: **General - Configuration**.

  To check the available data sets, use the menu **Data - Available data sets**. You can import a new data set via the menu **Data - Import data**.

  Before you can define a new project, you already must have imported a dataset. To define a new project use the menu **Research Projects - Add new project** or the button **New**. A project needs to have access to one data set. If you want to use multiple data sets you will need to define multiple projects.

  You can start research on an existing project by selecting the project in the list and clicking the button **Open**. A new screen will appear that will ask you to select a method to perform a test.

- ***Test with project***

  In the upper half of this screen, you will see details about the current project, including the dataset that will be used and the type of control group.

  The bottom half of the screen shows the available test methods. You can perform a method, using the data set for this project, by selecting it in the list and clicking the button **Perform test**. In subsequent screens you will be asked for more details. The type of details will depend on the type of the selected test.

  Please note that your options will be limited to the definitions as defined in the configuration. If you did not include a specific celestial body or aspect in the configuration, you cannot use it in your test. And orbs in the configuration remain active. If you want to check, or change, the configuration, you can click the button **Configuration**. This will open the standard screen to define a configuration and you can change this. After closing this screen, the new configuration will be immediately active.

- ***Select points to include for test***

  For each test, you will need to define the points to include in the test. The screen shows all points in a list, points that are not selected in the current configuration are not shown.

  If you are missing a point you need to redefine the configuration: click the button **Cancel** to close this window and return to the overview of tests, where you can also open the configuration window.

  You can select one or more points by clicking them. Deselect by clicking again. You can select/ deselect all points by clicking the checkbox **Select all points**.

  With the checkbox **Include all cusps** you can include all cusps but this option is only available for specific types of research. Please note that Ascendant and MC can also be selected, for quadrant systems you have to be aware of this effect.

  Click the button **OK** to start the calculations.

- ***Research results***

  The results of the research are show in tabular format. Of course these results depend on the type of test that you performed. You will see two tabs, one for **Test data** and one for **Control data**. Each of these tabs shows the result of the respective countings.

  These results are automatically saved to disk as a text file. At the bottom of the screen you will find the location of the files for test data and for control data.

- ## Details per test

  The different tests have some screens in common, for instance for the definition of celestial points that will be part of the test. These screens have been described in the preceding paragraph.

  In this paragraph you will find specifics per type of test.

- ***Count positions in signs***

  todo

- ***Count positions in houses***

  todo

- ***Count aspects***

  todo

- ***Count unaspected celestial points***

  todo

- ***Count occupied midpoints***

  If you perform this test you will see the usual screen to select points to include in the test. The option 'Include all cusps' will be disabled as Enigma does not calculate midpoints for cusps. You can select the mundane points MC and ascendant. If you selected Vertex and/or Eastpoint in the configuration you can also select these points.

  You need to select at least three points.

- **Enter details for midpoints**

  In this screen you define additional details for midpoints.

- **Dial size**

  You can calculate midpoints in different *dials*. A dial is a division of the zodiac in zero, 4 or 8 parts. A finer division is not yet possible in Enigma but will be added in release 0.3.

  You can select one of the following dials:

  - **360°**: no division.
  - **90°**: a division by 4.
  - **45°**: a division by 8.

- **Orb**

  You can define your own orb. As the number of midpoints can be quite high, it makes sense to use a relatively small orb, typically smaller than 2° if you use a 360° dial and smaller for the other dials.

  The orb should be defined in positive numeric values, the minutes should be between 0 and 59. The maximum total size is 9°59'. However, such a large orb probably does not make any sense. If your orb is not correctly defined you will be warned with a popup after pressing the OK-button.

- **Result screen**

  After entering the details Enigma will calculate the occupied midpoints and show the results in a scrollable list. The format is as follows:

  ```
  Sun      / Jupiter       = Moon     12
  ```

  This indicates that the Moon is 12 times at the midpoint of Sun and Jupiter.

  Only midpoints with a count larger than zero are shown.

  The results are also saved to disk, for the location check the text at the bottom of the list.

- ***Count harmonic conjunctions***

  Starting a test to count harmonic conjunctions will first show the usual screen to select points to include in the test. The option 'Include all cusps' will be disabled as Enigma does not calculate harmonics for cusps. You can select the mundane points MC and ascendant. If you selected Vertex

and/or Eastpoint in the configuration you can also select these points.

You need to select at least one point.

- **Enter details for harmonics**

In this screen you define additional details for harmonics.

- **Harmonic number**

You need to enter the number of the harmonic. In most cases this will be an integer value but Enigma also supports fractional numbers. There is no limit, you can calculate the harmonics in the range of thousands. Of course this might effect the accuracy of the results.

If your harmonic number is not correctly defined you will be warned with a popup after pressing the OK-button.

- **Orb**

You can define your own orb in positive numeric values, the minutes should be between 0 and 59. The maximum total size is 9°59'.

If your orb is not correctly defined you will be warned with a popup after pressing the OK-button.

- **Result screen**

After entering the details Enigma will calculate the harmonic conjunctions and show the results in a scrollable list. The format is as follows:

```
Harmonic Saturn      /  Radix Neptune     8
```

This indicates that the harmonic position of Saturn forms a conjunction with the radix position of Neptune in 8 of the charts.

Only harmonic conjunctions with a count larger than zero are shown.

The results are also saved to disk, for the location check the text at the bottom of the list.

Appendix

House systems

Enigma supports the following house systems:

- **Placidus** is based on the proportional time that the point of the house cusp has traveled. Cusp 11 for instance, should have traveled 1/3 of the time it is above the horizon.
- **Koch**, also called *Birthplace Houses* or *GOH***)** divides the time for daily movement of the MC and calculates the ascendant for each time.
- **Porphyri** trisects the quadrants that are formed by MC, Ascendant, IC and Descendant.
- **Regiomontanus** divides the equator in equal ports and draws great circles through the division points that intersect the ecliptic.
- **Campanus** divides the celestial globe into equal parts by drawing great circles from north to south. These circles intersect the ecliptic.
- **Alcabitius** is comparable to *Porphyri*, but it trisects the quadrants of the equator.
- The **Topocentric** system constructs and divides a cone that represents the rotation of the earth.
- **Krusinski** is comparable to *Campanus* but it divides the celestial globe looking from points that are perpendicular to the ascendant-descendant.
- **APC** (Ascendant Parallel Circle) divides a small circle through the ascendant and parallel to the equator and projects the results to the ecliptic, looking from the north to the south. Cusps of this system are not oppositional.
- **Morin** divides the equator and draws great circles to the poles of the ecliptic. MC and ascendant are not equal to cusps 10 and 1, and the results do not change if the geographic latitude changes.
- The **Whole sign** system uses the sign on the ascendant as the first house, and then subsequent signs as houses 2, etc.
- **Equal from Ascendant** calculates houses of 30 degrees, starting from the ascendant. The MC is not equal to cusp 10.
- **Equal from MC** also calculates houses of 30 degrees, but starts with the

MC. The ascendant is not equal to cusp 1.

- **Equal from 0 Aries** considers the houses to be equal to the signs and starts the first house with the sign Aries. MC and ascendant will not be equal with cusp 10 and 1.
- **Vehlow** is comparable with *Equal from Ascendant,* but it starts 15 degrees before the ascendant. MC and ascendant will not be equal with cusp 10 and 1.
- **Axial Rotation** (also called *Zariel*) divides the equator in 12 equal parts, starting from the right ascension of the MC. Position circles from the north and south and perpendicular to the equator, define then cusps. The ascendant is not equal to cusp 1. The results do not change because of geographic latitude.
- The **Horizon system** (also called *Zenith system*) divides the horizon in equal parts, starting in the east. It defines the cusps by drawing great circles, perpendicular to the horizon. Cusp 1 is not equal to the ascendant, cusp 7 is the Vertex.
- **Carter** divides the equator in 12 equal parts, starting with the right ascension of the ascendant. It defines the cusps by converting the positions in right ascension to lonigitude. The MC is not equal to cusp 10.
- **Gauquelin** has the same approach as *Placidus,* but counts 36 houses and uses a clockwise direction.
- The **SunShine system** by Bob Makranski trisects the semi arcs of the Sun and defines the cusps by drawing great circles from north to south and through the division points.
- **SunShine (Treindl)** has the same approach as the *SunShine system* with a slightly different approach by Alois Treindl.
- **Pullen (sinusoidal delta)**, an approach by Walter Pullen that is comparable to Porphyri. Pullen bases the size of the succeeding houses 2, 5, 8 and 11 on a sine-wave, such that the size of the succeeding houses reflects the relative size of the quadrants.
- **Pullen (sinusoidal ratio)** is an improvement on *Pullen (sinusoidal delta)*.
- **Sripati**, as *Porphyri,* but with the cusps as midpoint between the last and the current house.

In future releases of Enigma I will add many more house systems but this has a low priority. I will realize this only after publishing release 1.0.

Ayanamsha's

Enigma supports an extensive set of Ayanamsha's.
The most important ones are:

- **Fagan**, as proposed by Cyril Fagan and Ronald Bradley.
- **Lahiri**, official standard in India.
- **DeLuce**, based on the supposed birth date of Jesus.
- **Raman**, the ayanamsha according to B. V. Raman
- **Krishnamurti**, proposed by K.S. Krishnamurti, assumes that the ayanamsha was zero in 291 CE, probably the date of the equinox.
- **Djwhal Kuhl**, assumes that the age of Aquarius starts in 2117.
- **Huber**. The mean ayanamsha as found in Babylonian texts and calculated by the historian Peter Huber.
- **Galactic Center 0 Sag**, Dieter Koch proposes to put the Galactic Center at 0 degrees Sagittarius.
- **True Chitrapaksha** starts at 180 degrees from the longitude of Spica.
- **Galactic Center (Brand)**. Rafael Gil Brand proposes to start with the Galactic Center and defines this as the golden section between 0 degrees Scorpio and zero degrees Aquarius.
- **Galactic Center 0 Cap**. David Cochrane puts the Galactic Center at 0 degrees Capricorn.

For more information, check the documentation of the Swiss Ephemeris at https://www.astro.com/swisseph/swisseph.htm , chapter 2.8 *Sidereal Ephemerides for Astrology*.

Observer positions

Enigma supports three *observer positions*. An observer position is the location of a (fictive) observer that registers the positions of the celestial bodies.

You can select one of the following observer positions:

- **Geocentric**: the observer is in the center of the earth. A somewhat unlikely position, but it is the de facto standard in astrology.
- **Topocentric**: the observer stands firmly on the earth crest. This is the only position that is physically possible. The positions of the celestial

bodies will differ slightly from the geocentric position because of the effect of parallax. It will affect the Moon (up to about a degree) most. The other celestial bodies will differ only a few arc seconds.

- **Heliocentric**: Enigma calculates the positions as seen from the Sun. The positions of the houses, Sun, Moon, lunar nodes and lunar apsides (Black Moon) are not available, but the Earth is.

Projection to the ecliptic

We calculate the ecliptical position of a celestial body by projecting this body to the ecliptic, using an arc that is perpendicular to the ecliptic.
There is one exemption to this rule. The Dutch *School of Ram* calculates the positions with an arc that is oblique to the ecliptic and runs from the north point to the south point. The effect is that it will correctly place the planets in the houses; it solves the latitude problem. The consequence is that the ecliptical positions of planets with higher latitude, typically Moon and Pluto, will fluctuate during the day significantly.
If you want to use the techniques of the School of Ram, you can select **Oblique Longitude** as *Type of projection to the ecliptic*. In all other cases, select **Standard (two-dimensional)**.

Planets and other celestial points

Enigma will always calculate the **classical planets** (Sun up to Saturn), MC and Ascendant. All other points are optional.
You can add many other points to the calculation:

- **Modern planets**: Uranus, Neptune and Pluto. (I'll call Pluto a planet).
- **Mundane points**: Vertex and Eastpoint.
- **Arabic parts**: Pars Fortunae, both with and without sect.
- **Mathematical points**: Mean Node and True Node, the vernal point (Zero Aries) and three calculations for the apogee of the Moon: Mean, Corrected and Interpolated. The corrected version is according to the most recent lunar theories. I will add the apogee according to Duval in release 0.3 (approximated calculation by Cees Jansen).
- **Centaurs**: Chiron, Nessus and Pholus.

- **Plutoids**: Huya, Varuna, Ixion, Quaoar, Haumea, Eris, Sedna, Orcus and Makemake.
- **Planetoids**: Ceres, Pallas, Juno, Vesta, Hygieia and Astraea.
- **Hypothetical points and planets**:
    - **Uranian**: Cupido, Hades, Zeus and Kronos (according to Alfred witte). Apollon, Ademetos, Vulcanus and Poseidon (according to Friedrich Sieggrün).
    - **School of Ram**: Persephone, Hermes and Demeter.
    - **Transpluto**, also called Isis.
    - **Carteret**: Vulcanus and Perpsephone, as proposed by Jean Carteret, become available in Enigma release 0.3.

Defining orbs

Orbs for aspects

An orb for an aspect can depend on many factors. Enigma takes two of these factors into account: the points that form an aspect and the aspect itself.

In the configuration, you define a base orb (Configuration, tab general, Base orb for aspects). The base orb is the maximum orb that is possible.

Also in the configuration, you define an orb percentage for each point in the chart. If you want to use the full orb, you enter 100, and for a smaller orb, a smaller percentage. You will probably use a large percentage for fast moving points and a smaller percentage for slower moving points.
To check if an aspect is within orb, Enigma combines the percentages of both points that form the aspect. It choses the highest value. The idea is that the speed of the fastest point defines the orb.
An example:
The Moon will have a large orb as it moves fast. Pluto will have a small orb. If the percentage of the Moon is 100% and the percentage for Pluto is 50%, you do not want the mean value of 75% as the speed of the Moon is defining the exactness of the aspect.

Aspects also have an orb percentage that you define in the configuration.
The effective orb is the percentage of the point with the highest percentage, combined with the percentage of the aspect.

Some examples, using a base-orb of 10 degrees:

Sun: 100%, Neptune 50% —> 100% for the points.
Conjunction: 100%, effective orb 100% of 10 degrees is 10 degrees.

Uranus: 50%, Eris 40% —> 50% for the points.
Semi-quintile: 30%, effective orb 15% of 10 degrees is 1.5 degree.

Orbs for midpoints

In version 0.1, Enigma supports a configurable base orb for midpoints. In version 0.3, it will be possible to define different orbs for different midpoint dials.

Orbs for harmonics

In the Research module, you can test for conjunctions between radix points and harmonic points. You can enter the orb that you want to use in your research.

Orbs in research

In research projects, you use the orbs as defined in the configuration.

Format for data-files

Enigma 0.1 supports only one type of data-file.
Version 0.2 will add support for data from the Gauquelin archives and data for progressions.

You can create your own data-file using the csv format (Comma Separated Values). This is a simple text file with one line per chart. You need to separate the different values with a comma. Make sure you use a real text-editor and not

Word, LibreOffice or another word processor. Examples of a text-editor: NotePad (available in Windows), Notepad++ (more powerful, download it for free from: https://notepad-plus-plus.org/).

An example of the first lines of data-file:

```
Id,Name,longitude,latitude,date,cal,time,zone,dst
107, Leonardo da Vinci, 10:55:0:E, 43:47:0:N, 1452/4/14, J, 21:40,
0.7277778, 0
108, Albrecht Dürer, 11:04:0:E, 49:27:0:N, 1471/5/21, J, 11:00, 0.7377778,
0
109, Michelangelo Buonarotti, 11:59:0:E, 43:39:0:N, 1475/3/6, J, 1:45,
0.7988888, 0
```

You can copy the first line. Do not skip it, as Enigma will always skip this first line automatically.
The lines starting with 107, 108 and 109 contain the real data.
Each line contains 9 fields that correspond to the labels used in the first line:

- **Id**, a unique identifier. It can be a number or other identification.
- **Name**. A description text for the chart. The name, or a code, if you would like to keep the data anonymous.
- **Latitude**. Geographical latitude in the format *dd:mm:ss:D*. For *dd* enter the degrees, for *mm* the minutes and for *ss* the seconds. Replace *D* with *'E'* for eastern longitude or *'W'* for western longitude. Use colons between all items.
- **Longitude**. Geographical longitude in the same format as for Latitude. Replace *D* with *'N'* for northern latitude or *'S'* for southern latitude.
- **Date**. Birthdate, or date for an event in the format *yyyy/mm/dd*. For *yyyy* enter the year, for *mm* the month and for *dd* the date. Use a forward slash between all items.
- **Cal**. The calendar. For most charts, this will be Gregorian: use the character *'G'*. If the time reckoning was according to the Julian Calendar, use *'J'*.
- **Time**. Time for the birth or for an event. Use the format *hh:mm:ss* or *hh:mm*. For *hh* enter the hour, for *mm* the minutes and for *ss* the seconds. Seconds are optional. Use colons between all items.
- **Zone**. Enter the correction for the time zone. This is a number, possibly with a fraction. Always use a dot between integer part and fraction.
- **DST**. Shows if daylight saving time applies. Use *0* for no DST and *1* for DST.

Save your data-file, preferably with the extension .csv at a location of your

liking. You can import the data-file in Enigma. If one or more charts are using a wrong format, Enigma will recognize this and create a report with the offending lines.

Controlgroups

If you create a project, Enigma will automatically add control groups.