THE FUTURE OF KDE

KDE 5 is going to be magical. KDE contributor **Jos Poortvliet** tells us about its development, its organisation and what we can expect.

KDE technology goes much further than its humble beginnings in 1996, when we started out building a desktop environment. KDE today has many hundreds of active developers. They not only make a desktop, now called Plasma Desktop, but also a variant for tablets (Plasma Active), and TVs (Plasma Media Centre). Even the humble Plasma Netbook is already five years old. Meanwhile, KDE applications have gone beyond simple clocks and calculators – we have a full office suite, mail and calendaring, video and image editors and much more.

KDE applications are being ported to multiple platforms – from Windows and Mac to Android. And our libraries (KDE Frameworks) are going modular, making them freely available to a far wider audience than just KDE developers. Today, KDE is no longer just a Unix desktop environment. KDE is our people and our technologies; Plasma, Applications and Frameworks.

"KDE is no longer just a desktop environment – KDE is our people and our technologies."

Plasma was conceived as the next generation of KDE's desktop technology. Its architecture was drafted in 2006 and 2007, and the goal of the developers was to build a modular base suitable for multiple different user interfaces. This may seem an obvious goal today, when everyone is talking about the convergence of high-resolution displays, tablets, mobile phones, media centres and so on, but KDE is still unique in its ability to unify the different form factors at a code level.

Plasma

Plasma is the desktop component that most people think of when they hear the words 'KDE 4', and it took some time to mature. This was in part due to its ambitious design, but also because the technologies it's built upon were not mature enough for its needs. This is still a problem today, and while it's very stable the 4.x series has workarounds to deal with the deficiencies in the platforms below it.

This is where the next generation of Plasma technology comes in; Plasma Next. Sebastian Kügler (aka Sebas), team lead at Blue Systems and at the very heart of the current group of Plasma developers

simply puts it, future Plasma is going to be more than new technology, "We don't want to pass the opportunity to fix what nags us and our users. Improvements in details mean that we listen to our users, a large portion of whom do not want to be the subject of UI experiments, but who require a reliable system that supports and improves the personal workflows they have almost brought to perfection."

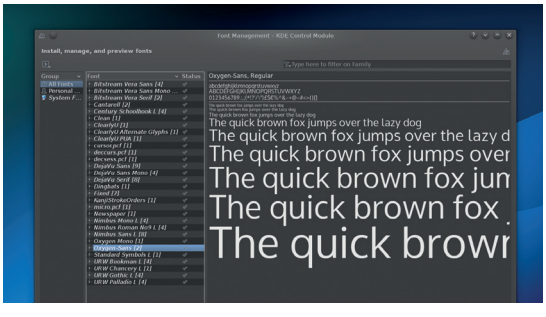
With Plasma Next the team can start working on bringing seamless switching of workspaces when moving from device to device. For example, plugging a keyboard and mouse into a tablet can trigger Plasma to transform its tablet-and-touch optimised UI into the desktop interface. But these advanced features do not take away from the familiar interface. As Sebas continues, "The Plasma team is fully aware of the value of established workflows of computer users and the need to not disrupt them. This means that there will be minimal feature loss or changes in the setup of the desktop. Just butter-smooth performance, a polished look and more flexibility."

Visual Design Group

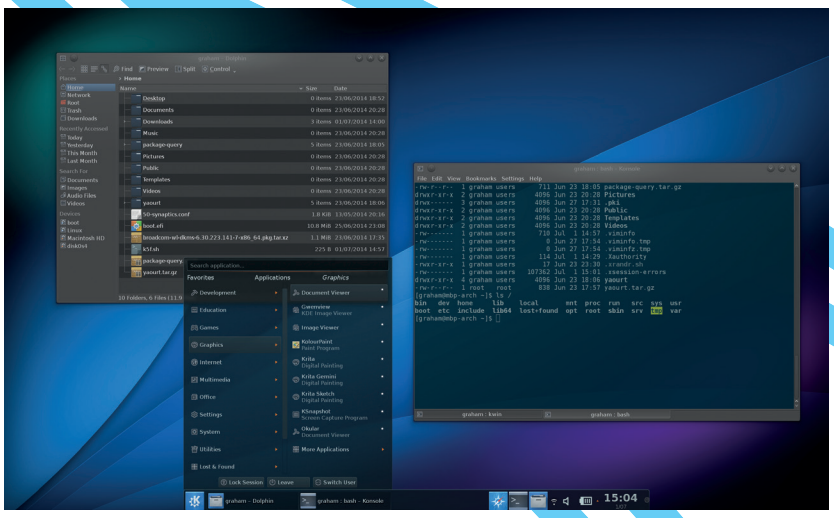
The idea behind the Visual Design Group (VDG) was to build a team in KDE that would focus on design. This is done in a rather novel way, led by the enthusiasm of Jens Reuterberg, a FOSS enthusiast and designer from Sweden. He calls it: "a social experiment. On the one hand the goal is to create a stunning visual design for Plasma Next, on the other the plan is to create a community of designers and make design a 'thing' within Plasma and KDE and open Source in general."

"I want to change the way we look at people and stop dividing them into experts and 'everyone else'. I want to tear down those barriers and makes us all feel included, like we're a part [of a whole], like I felt on the first sprint I was at. I want to change the way we handle design and this work is a test for that."

Since the inception of the design team, work has been done in many areas. There have been new icons and improvements to existing design elements of KDE software, but the majority of work has been focused on Plasma Next. A widget theme, a cursor them and new icons are all in the pipeline, but the team also looks at interaction design and workflows in the interface, working together with the KDE usability team.



The new Oxygen font is part of providing a unified visual front for the desktop design.



KDE 4 has become a fantastic desktop, and KDE 5 shouldn't break any of the good work that has been put into getting the desktop this far

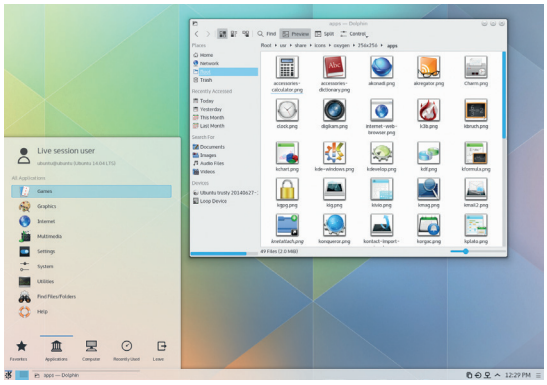
Heiko Tietze, a specialist at User Prompt GmbH usability consultants, explains the role of the usability team: "Having the ordinary user in the brainstorm, as well as ambitious designers acclimatised to a different environment, sometimes leads to strange results."

"Some people may just dislike the currently popular flat design, for instance, but others have to struggle with accessibility. And the next wants to keep the workflow as it is. The usability guys put on the brakes in case of ideas that have large-scale effects. Violations of the present interaction are a major product risk and need to be tested in advance."

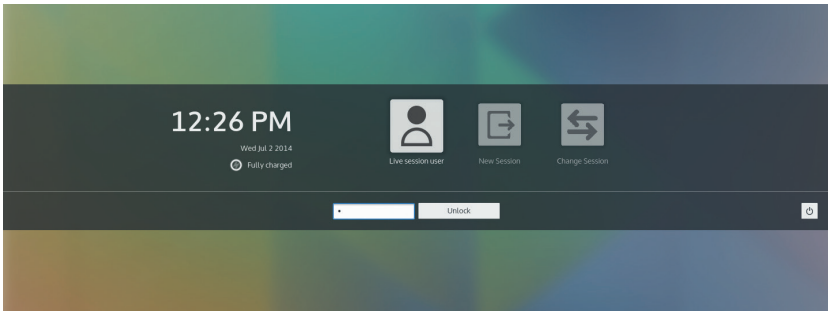
"One focus of the work of the usability team is the involvement of users," adds Björn Balazs, owner of User Prompt and contributor to the KDE usability team. "Even before we start working on an application we conduct surveys to understand how users are going to benefit from the application. If needed we use online tools to sort and prioritise information. We then present sketches, clickable mockups or screencasts of our ideas to give users the possibility to give feedback. In this way improve the interaction design based on real feedback from a large base of users as the coding of the application goes along."

Usability

Apart from working directly with developers and training them, the usability team has been reworking KDE's Human Interface Guidelines. According to Heiko, "KDE as a whole has to have a common



KDE 4 makes it difficult to work with HiDPI screens whereas the new Plasma desktop should make full use of your monitor's known DPI, whatever its physical size.



KDE 5's new flat look is very fashionable at the moment, but we like it.

branding, which is up to the designers, but also a unique and consistent way of interaction. As a first step to get there, we pushed the old human interface guideline to a new level, together with the Visual Design Group, which was working on the presentation side of things."

KDE Frameworks

Experiences in the world of mobile and web applications have shown that users are far more likely to start using features and appreciate small batches of them instead of large dumps. Short release cycles can bring bugfixes and improvements to users much faster. On the other hand, most users of KDE access their software and updates through the downstream distributions, which are on slower release cycles even though they have repositories for updated software.

Albert Astals Cid, from the KDE release team, points out, "This discussion needs to include the distributions as much as the upstream developers. And in any case, both KDE release infrastructure and promotion will have to be adjusted as well."

This discussion was started on the community list by Mario Fux, release team member and better known as the organiser of the famous 'Randa' meetings. His proposals, based on extensive discussions with key members of the release team and developers, include:

- Cleaning up the core set of KDE applications.
- Grouping releases in a regular but non-mandatory cadence.
- Making the KDE Applications 4.15 release a Long Term Supported one, moving to Frameworks 5 after that.

The trend towards shorter release cycles requires many questions to be answered before it becomes feasible in practice. But a move to Frameworks 5 is certain to happen at some point – the question is when, not if. Albert highlights the main problem, "We need to move to KF5 since we don't have the manpower to keep supporting both 4 and 5 versions of apps; but we can't rush the move to KF5 since we can't afford bad quality. My thinking goes between killing the KDE 4.x applications release concept and switching to a "KDE Applications 2014" release concept, where apps can either be 4- or 5-based and making 4.14 a very long supported release with the ability to add small new features while we do releases of 5 with the apps that are ready. The first helps with making sure apps move to 5 when they are ready and not rushed. It has the problem that some people will

Activities and Widgets are still a central part of the future of KDE, but the way you interact with them is being refined.

KDE e.V. Most of the mystery surrounding KDE's organisation is thanks to German law

You can't talk about KDE and governance without bringing up KDE e.V. (eingetragener Verein or registered association). This German non-profit is the legal organisation behind the KDE community, and it plays several important roles. Initially set up to handle funding for KDE's conferences, the e.V. now organises events all over the world, from Camp KDE and Lakademy in the Americas to conf.kde.in in India. In addition, many Developer Sprints, usually with about 5–15 people, are supported, as are the annual meetings in Randa in the Swiss Alps, which can attract 40–60 developers. It also provides legal services and pays for infrastructure such as servers.

But the eV is also an agent of change, as Cornelius Schumacher, president of KDE e.V. and long-time KDE contributor explains: "KDE e.V. provides a place where core KDE contributors come together and discuss a wide variety of subjects.

"In the last eight years or so, KDE e.V. has been the major driver behind increasing the number of developer sprints and has created the Fiduciary Licensing Agreement, which allows it to re-license KDE code when needed, while protecting developers' interests. The Code of Conduct originated with KDE e.V., as did the Community Working Group, which helps deal with communication issues."

Each year, KDE developers get together at the Akadamy conference. Last year's event was in Bilbao, while this year's is in Brno, Czech Republic. Photo CC-BY-SA: Knut Yrvin

A recent example of KDE's ongoing improvement efforts is the KDE Manifesto. This has been a long time coming, but Kévin Ottens, a core KDE contributor instrumental to the KDE Frameworks 5 efforts got it to the finish line.

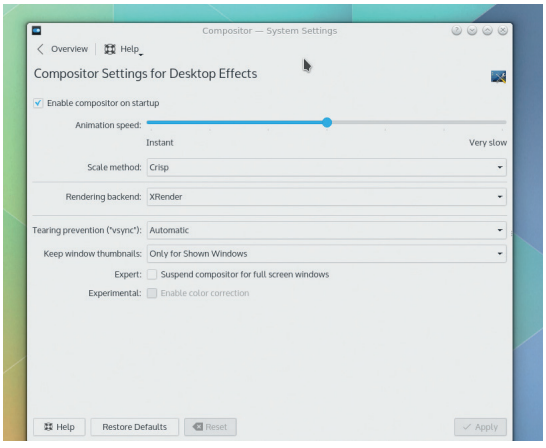
The Manifesto explicitly defines the KDE community's values and commitments to each other. The importance of this can hardly be overstated – knowing who you are and what you want helps you make decisions but also shows others what you are about. The KDE Manifesto made plain what was involved in being part of the KDE Community, including the benefits and the ways we operate.

As Kevin said, "Something like the KDE Manifesto was necessary because we're an extremely self-organised community. At some point you need some form of regulation, and since we wouldn't like something bureaucratic, relying on culture and values instead is a much better match."

prefer to keep doing features in their 4 version and will delay the port to KDE 5 indefinitely."

The 4.x series will be with us for the time being, and a Frameworks 5 series will be available at some point in parallel. Regardless of the series, applications will work fine under any desktop. Developers want to ensure that migration is not an issue.

When KDE began more than 15 years ago, development was application-driven. Libraries were intended to share work, making development easier and faster. New functionality in the libraries was added based on simple rules. For example, if a particular functionality was used in more than one place, it was put into a shared library. Today, the KDE libraries provide high-level functionality like toolbars and menus, spell checking and file access. They are also used to fix or work around issues in Qt and other libraries that KDE software depends upon. Distributed as a single set of interconnected libraries, they form a common codebase for (almost) all KDE applications. The KDE Frameworks – designed as drop-in Qt Addon libraries — will enrich Qt as a development environment. The Frameworks can simplify, accelerate and reduce the cost of Qt development by eliminating the need to reinvent key functions.



As Linux graphics moves away from X11, KDE's compositor will support Wayland without too much effort.

All change

Qt is growing in popularity. Ubuntu is building on Qt and QML for Ubuntu Phone and planning to move over the desktop in the future. The LXDE desktop and GCompris projects are in the process of porting over to Qt. Subsurface (a divelog project made famous by having Linus Torvalds as core contributor) has had its first Qt based release. With Frameworks, KDE is getting closer to Qt, benefiting both, as well as more and more users and developers.

But in all this change, it is crucial that the KDE community preserves what makes it work well. KDE has gotten where it is today by the culture and practices of today. Like in any community, these are hidden rules that enables KDE to pool the knowledge of so many brilliant people, and without too much politics, to make the best decisions possible. This includes well known Free Software soft rules like Who Codes, Decides, RTFM, Talk is Cheap and Just Do It, but also very KDE-like rules such as Assume Good Intentions and Respect the Elders. And, as Kevin Ottens points out, "just like in the French *Liberté*, *Egalité*, *Fraternité*, the rules are inseparable and interdependent. They are what makes KDE such an amazing place, full of creativity, innovation and fun."