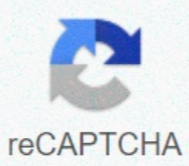
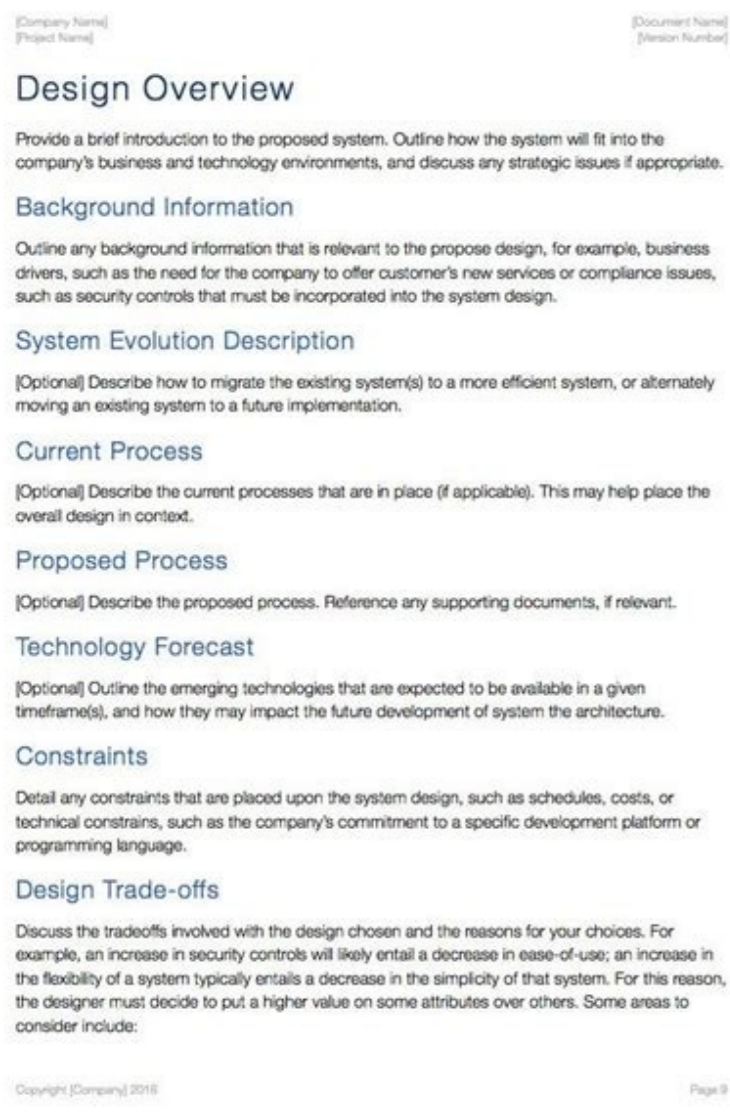




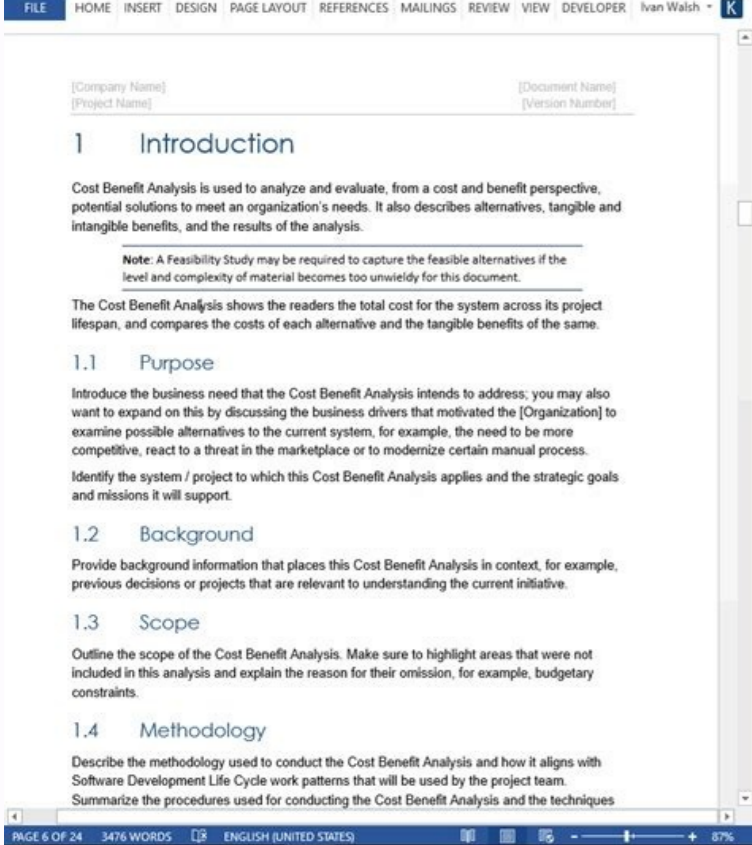
I'm not robot



Continue



The product requirements are translated into technical requirements — what the system needs to accomplish, but now how it does it. [pituzyuduvjaluziyimell.pdf](#) The output of this step is a Technical Requirements Document (TRD). Technical design. This contains a technical description of the solution to the requirements outlined in the previous steps. The TDD is the output of this step. Implementation. This is the stage where the solution is actually built. Testing. The system is tested against the PRD and TRD to ensure that it actually fulfills the specified requirements. Between each of these stages there is typically a review process to ensure that no mistakes were made.



If any errors, misunderstandings, or ambiguities are detected, these must be corrected before proceeding to the next step. This process is highly variable; the set of steps listed here will change on a case-by-case basis. For example: For smaller features that don't involve a lot of complexity, steps 2 and 3 will often be combined into a single document. If the feature involves a large number of unknowns or some level of research, it may be necessary to construct a proof-of-concept implementation before finalizing the technical design. This process also happens at different scales and levels of granularity. A PRD / TRD / TDD may concern the design of an entire system, or just a single feature. In most environments, the process is also cyclic — each design/implement cycle builds on the work of the previous one. The dividing line between TRD and TDD can be a bit blurry at times. For example, suppose you are developing a server that communicates via a RESTful API. If the goal is to conform to an already-established and documented API, then the API specification is part of the requirements and should be referenced in the TRD. If, on the other hand, the goal is to develop a brand new API, then the API specification is part of the design and should be described in the TDD. (However, the requirements document still needs to specify what the API is trying to accomplish.) Writing the TDD These days, it is common practice to write technical docs in a collaborative document system, such as Google Docs or Confluence; however this is not an absolute requirement. The important thing is that there be a way for your team members to be able to make comments on the document and point out errors and omissions. Most TDDs are between one and ten pages. Although there's no upper limit to the length of a TDD, very large documents will be both difficult to edit and hard for readers to absorb; consider breaking it up into separate documents representing individual steps or phases of the implementation. Diagrams are helpful; there are a number of online tools that you can use to embed illustrations into the document, such as draw.io or Lucidchart. You can also use offline tools such as Inkscape to generate SVG diagrams. The document should be thorough; ideally, it should be possible for someone other than the TDD author to implement the design as written. For example, if the design specifies an implementation of an API, each API endpoint should be documented. If there are subtle design choices, they should be called out. Avoid Common Writing Mistakes Probably the most common mistake that I encounter in TDDs is a lack of context. That is, the author wrote down, in as few words as they could manage, how they solved the problem; but they didn't include any information on what the problem was, why it needed to be solved, or what were the consequences of picking that particular solution. Also, it's important to keep in mind who the likely reader is, and what level of understanding they have. If you use a term that the reader might not know, don't be afraid to add a definition for it. It hardly needs to be stated that good grammar and spelling are helpful. Also, avoid the temptation for wordplay or "cute" spelling; while programmers as a class tend to like playing around with language, I've seen more than one case where excessive frivolity ended up costing the team wasted effort because of misunderstandings. It's all right to use occasional humor or choose colorful, memorable names for features and systems, since that helps people remember them. But don't let your desire to show off how clever you are become a distraction. Speaking of names, choose them carefully; as Mark Twain once wrote, "Choose the right word, not it's second cousin." There's a tendency for engineers with poor vocabularies to use the same generic terms over and over again for different things, leading to overloading and confusion. For example, naming a class "DataManager" is vague and tells you nothing about what it actually does; by the same token a package or directory named "utils" could contain virtually anything. Consult a thesaurus if you need to find a better word, or better, a specialized synonym database such as WordNet. TDD Template When writing a TDD, it can be helpful to start with a standard template. The following is a template that I have used in a number of projects. [365 sex positions](#) Note that this template should be customized where needed; you are free to delete sections which don't apply, add additional sections, or rename headings as appropriate.