

Okvirni plan i program studentske prakse

Tjedan	Ponedjeljak	Utorak	Srijeda	Četvrtak	Petak
1.	Upoznavanje i uvod u OOP kratko ponavljanje osnovnim principa objektno-orijentiranog programiranja	WebAPI HTTP protokol, Request/response, CRUD GIT	Baze podataka ponavljanje osnovnih pojmova o bazama podataka i relacija među bazama, upoznavanje s Npgsql-om	Multilayer arhitektura Upoznavanje sa pojmom multilayer arhitekture	Asinkrono programiranje Upoznavanje sa pojmom i primjena
2.	Dependency injection Upoznavanje sa pojmom DI-a, kako implementirati DI te upoznavanje sa Autofac-om			Izrada backend dijela projektnog zadatka	
3.	Izrada backend dijela projektnog zadatka			HTML, CSS Ponavljanje osnovnih pojmova	Javascript Ponavljanje osnovnih koncepata
4.	Uvod u React Upoznavanje s osnovnim konceptima React-a te izrada prve React aplikacije.	React Izrada klasnih i funkcijskih komponenti.	React state/MobX Upoznavanje s pojmom state-a te upravljanje state-om.	Axios Spajanje backend dijela projekta s frontend dijelom aplikacije.	React Router Upoznanje s bibliotekom React Router i kreiranje ruta u aplikaciji.
5.	Izrada frontend dijela zadatka				Završetak projekta i prezentiranje projekta

Pozdrav studenti,

Šaljem vam okvirni plan i program prakse koja započinje u ponedjeljak, **20. siječnja 2025.** godine. Plan je okviran jer će ovisiti o vašem napretku tijekom prakse. Napominjem da se dinamika realizacije, osobito vezano uz backend dio zadatka, može prilagoditi. Naime, ukoliko se pojave izazovi s tim dijelom, postoji mogućnost da će njegova izrada trajati dulje, dok bi u slučaju dobrog napretka taj dio mogao biti završen i ranije. Ovaj plan predstavlja samo kratak pregled aktivnosti i zadataka koje ćemo obraditi tijekom prakse.

Za komunikaciju tijekom prakse koristit ćemo alate kao što su **Zoom**, **Skype** i **Slack**. Ukoliko nemate Skype račun, molim vas da ga kreirate. Također, aplikaciju **Slack** je potrebno instalirati prije početka prakse. Pozivnicu za Slack poslat ću vam na e-mail adrese koje ste koristili prilikom prvotnog javljanja. Praksa će trajati 200 sati u 5 tjedana tj. 25 radnih dana po 8 h dnevno. Planirani završetak prakse je 21.02.2025.

Prvi dan prakse bit će posvećen upoznavanju s alatima koje ćete koristiti, detaljnijem predstavljanju plana i programa te ponavljanju prethodno stečenih znanja iz objektno orijentiranog programiranja (OOP). Praksa je osmišljena tako da tijekom prvog tjedna svakodnevno dobivate teme za obradu. Na početku svakog dana ću vas uvesti u predviđenu temu, nakon čega ćete samostalno istraživati i izraditi jednostavan projekt vezan uz tu temu.

U prvim tjednima backend i frontend edukacije, fokus će biti na individualnom radu kako biste stekli osnovu i samopouzdanje. Nakon odrađenog teorijskog gradiva uz praktičnu primjenu na malom individualnom projektnom zadatku, započet ćemo s grupnim radom na konkretnom projektnom zadatku.

S projektnim zadatkom upoznat ćemo vas već na samom početku prakse. Ipak, potičem vas da razmislite o potencijalnim temama za projekt. Ako imate želju ili ideju za projektnu temu, a ostatak tima se s njom složi, rado ćemo prilagoditi projektni zadatak u tom smjeru. Nije nužno da tema bude ona koju ćemo vam mi predložiti, već je važno da svi članovi tima budu zainteresirani i angažirani oko zajedničkog odabira.

Za prvi dan bih željela da instalirate sljedeće programe na svoja računala (ukoliko ih još nemate instalirane):

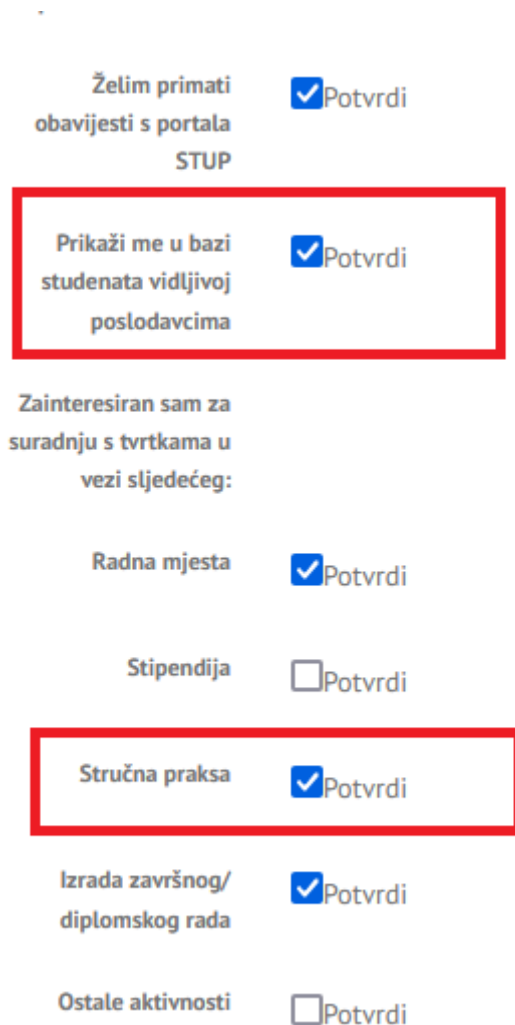
1. **Visual Studio 2022** (community verziju je moguće skinuti ukoliko imate vaše ettaedu podatke s faxa)
2. **Visual studio Code**
3. **SourceTree**
4. **Postman**
5. **Node.js**
6. **DBeaver ili neki drugi drugi alat za administraciju baza podataka**

Ukoliko nemate račun na **GitHubu**, svakako ga kreirajte jer će vam biti potrebno.

U nastavku dostavljam popis literature koja vam može poslužiti kao podrška u učenju i rješavanju projektnog zadatka. Nemojte se obeshrabriti količinom materijala – navedeni su različiti resursi, uključujući knjige, tutorijale, video materijale i blogove, kako bi svatko od vas mogao pronaći sadržaj koji mu najbolje odgovara.

Uputnica je dokument koji vam je potreban kako biste pravno mogli boraviti u prostorima zgrade te vas molim da ju ishodite prije početka prakse. Upute za ishođenje ću objasniti ispod:

[FERIT studenti] Molim da se prijavite putem STUP-a i odaberete Mono praksu, ukoliko to već niste učinili. Ako praksu niste prijavili ili je ne vidite na dostupnoj listi, povratnomi se javite kako bih vam mogla predložiti Mono praksu te pokrenuti postupak za izdavanje uputnice u što kraćem roku. Napominjem da je, kako bih vam uopće mogla predložiti praksu, potrebno **urediti** svoj STUP **Profil** te označite interes za praksu, kao što je prikazano na priloženoj slici.



Želim primati obavijesti s portala STUP ☒ Potvrđi

Prikaži me u bazi studenata vidljivoj poslodavcima ☒ Potvrđi

Zainteresiran sam za suradnju s tvrtkama u vezi sljedećeg:

Radna mjesta ☒ Potvrđi

Stipendija ☐ Potvrđi

Stručna praksa ☒ Potvrđi

Izrada završnog/diplomskog rada ☒ Potvrđi

Ostale aktivnosti ☐ Potvrđi

[MATHOS studenti] Posjedovanje uputnice je potrebno za pristupanje praksi tako da molim da ju što prije ishodite na fakultetu.

Molim vas da ovo shvatite ozbiljno jer je to dokument koji vam je potreban za boravak u prostorima zgrade.

Vidimo se u ponedjeljak 20.01. u 8 h! Adresa je IT Park 1, Osijek.

Materijali:

Git

- General - <https://git-scm.com/doc>
- How Git works: <https://app.pluralsight.com/library/courses/mastering-git>
- GitHub for Windows Users - https://mva.microsoft.com/en-US/training-courses/github-for-windows-users-16749?l=KTNeW39wC_6006218965
- Git Succinctly - <https://www.syncfusion.com/ebooks/git>
- GitFlow - <https://www.atlassian.com/git/tutorials/comparing-workflows/gitflow-workflow>

C#

- C# Fundamentals for Absolute Beginners - https://mva.microsoft.com/en-US/training-courses/c-fundamentals-for-absolute-beginners-16169?l=Lvld4EQIC_2706218949
- C# Programming Yellow Book - <http://www.robmiles.com/c-yellow-book/>
- Naming guidelines - <https://docs.microsoft.com/en-us/dotnet/standard/design-guidelines/naming-guidelines>
- C# tutorial for beginners - <https://www.youtube.com/playlist?list=PLAC325451207E3105>
- Programming with C# - Objective 1.1 Multithreading and asynchronous processing - <https://www.youtube.com/watch?v=RhLLxew4-TY>

OOP via C#

- General - <http://www.c-sharpcorner.com/UploadFile/84c85b/object-oriented-programming-using-C-Sharp-net/>
- General - <https://www.youtube.com/watch?v=e7Yj6vLyYOI>

Async/await

- <https://msdn.microsoft.com/library/hh191443%28vs.110%29.aspx?f=255&MSPPErr=-2147217396>
- <https://blog.stephencleary.com/2012/02/async-and-await.html>

Architecture

- Design Patterns - <http://www.dofactory.com/net/design-patterns>
- Design Patterns in general: <https://app.pluralsight.com/library/courses/patterns-library>
- Composition over inheritance - http://en.wikipedia.org/wiki/Composition_over_inheritance
- Multilayered architecture
 - General - http://en.wikipedia.org/wiki/Multilayered_architecture
 - Onion architecture- <http://jeffreypalermo.com/blog/onion-architecture-part-4-after-four-years/>
 - Multilayered architecture - <http://www.codeproject.com/Articles/552487/Understanding-Multilayered-Architecture-in-NET>
 - Multilayered Architectures in .Net-Web - <http://mono.hr/pdf/Multi-Layered%20Architectures%20in%20.Net-Web.pdf>
 - Multilayered Architectures in .Net Workshop-Web - <http://mono.hr/pdf/Multi-layered%20Architectures%20in%20.Net%20Workshop-Web.pdf>
 - Example: <https://github.com/MonoSoftware/DIPracticeLayeredArchitecture>

Dependency Injection

- General
 - <https://docs.microsoft.com/en-us/aspnet/core/fundamentals/dependency-injection>
 - <https://msdn.microsoft.com/en-us/library/ff921152.aspx>
- (Ninject based) - <http://www.mono.hr/Pdf/Dependency-Injection-in-practice-CodeCAMP.pdf>
- (AutoFac based) - <https://autofac.readthedocs.io/en/latest/getting-started/index.html>
- Examples: <https://github.com/MonoSoftware/DependencyInjectionInPractice> (Follow tags for step by step guide)
 - Dependency Injection in ASP.NET Core 2.0 - <https://code.msdn.microsoft.com/Dependency-Injection-in-ce9c8edb>
 - Dependency Injection - <https://channel9.msdn.com/Shows/Visual-Studio-Toolbox/Dependency-Injection>

ORMs

- SQL
 - SQL Database Fundamentals - https://mva.microsoft.com/en-US/training-courses/sql-database-fundamentals-16944?l=w7qq6nAID_6805121157
 - Introduction to SQL - <https://app.pluralsight.com/library/courses/introduction-to-sql>
 - SQL Queries Succinctly - https://www.syncfusion.com/ebooks/sql_queries_succinctly
- EF (Entity Framework)
 - Entity Framework Core - https://www.syncfusion.com/ebooks/entity_frame_work_core_succinctly
 - Home of EF - <http://www.asp.net/entity-framework>
 - An Introduction to Entity Framework with Rowan Miller - <https://channel9.msdn.com/Blogs/Seth-Juarez/An-Introduction-to-Entity-Framework-with-Rowan-Miller>

Repository Pattern

- Repository pattern, done right - <http://www.codeproject.com/Articles/526874/Repositorypluspattern-cplusedoneplusright>
- Repository and Unit of Work Patterns - <http://www.asp.net/mvc/overview/older-versions/getting-started-with-ef-5-using-mvc-4/implementing-the-repository-and-unit-of-work-patterns-in-an-asp-net-mvc-application>
- Unit of Work - a Design Pattern - <https://mono.software/2017/01/13/unit-of-work-a-design-pattern/>

Entry level books (ASP.NET MVC, ASP. NET Web API, Entity framework, Angular JS ...)

- <https://www.syncfusion.com/resources/techportal/ebooks>

ASP.NET MVC & WebAPI

- ASP.NET Core - Beginner - https://mva.microsoft.com/en-US/training-courses/aspnet-core-beginner-18153?l=VM5gy36dE_6611787171
- ASP.NET Core API - <https://app.pluralsight.com/library/courses/asp-dotnet-core-api-building-first>
- Little ASP.NET Core Book - <https://s3.amazonaws.com/recaffeinate-files/LittleAspNetCoreBook.pdf>
- ASP.NET WebAPI <https://www.syncfusion.com/resources/techportal/details/ebooks/webapi>

HTML

- HTML5 & CSS3 Fundamentals: Development for Absolute Beginners - https://mva.microsoft.com/en-US/training-courses/html5-css3-fundamentals-development-for-absolute-beginners-14207?l=Y4COscFfB_7500115888
- How to Code in HTML5 and CSS3 - <http://howtocodeinhtml.com/>
- HTML, CSS, JS - <https://app.pluralsight.com/library/courses/html-css-javascript-big-picture/>

JavaScript

- JavaScript Fundamentals for Absolute Beginners - https://mva.microsoft.com/en-US/training-courses/javascript-fundamentals-for-absolute-beginners-14194?l=L4Y1btUxE_900115881
- Pluralsight Javascript Path, you can do the Javascript Skill IQ test beforehand - <https://app.pluralsight.com/paths/skills/javascript>
- JavaScript Succinctly - <https://www.syncfusion.com/ebooks/javascript>
- Eloquent JavaScript - https://eloquentjavascript.net/Eloquent_JavaScript.pdf
- How to Learn JavaScript Properly - <http://javascriptissexy.com/how-to-learn-javascript-properly/>
- OOP:
 - Objects - <http://javascriptissexy.com/javascript-objects-in-detail/>
 - Prototype - <http://javascriptissexy.com/javascript-prototype-in-plain-detailed-language/>
 - OOP Concepts - <http://javascriptissexy.com/oop-in-javascript-what-you-need-to-know/>
- Advanced:
 - Variable scope - <http://javascriptissexy.com/javascript-variable-scope-and-hoisting-explained/>
 - Closures - <http://javascriptissexy.com/understand-javascript-closures-with-ease/>
 - this keyword - <http://javascriptissexy.com/understand-javascripts-this-with-clarity-and-master-it/>
 - Callback - <http://javascriptissexy.com/understand-javascript-callback-functions-and-use-them/>
 - Method chaining - <http://javascriptissexy.com/beautiful-javascript-easily-create-chainable-cascading-methods-for-expressiveness/>
 - Apply, Call, Bind methods - <http://javascriptissexy.com/javascript-apply-call-and-bind-methods-are-essential-for-javascript-professionals/>
 - Promises - <https://medium.com/@bluepnume/learn-about-promises-before-you-start-using-async-await-eb148164a9c8>
- Miscellaneous
 - 1. Simple tips - <http://javascriptissexy.com/12-simple-yet-powerful-javascript-tips/>
 - 2. Intermediate and advanced - <http://javascriptissexy.com/learn-intermediate-and-advanced-javascript/>

ReactJs

- React.js Succinctly - https://www.syncfusion.com/ebooks/reactjs_succinctly
- Pluralsight React path, you can do the React Skill IQ test beforehand - <https://app.pluralsight.com/paths/skills/react>
- <https://app.pluralsight.com/library/courses/react-redux-react-router-es6>
- The Road to Learn React - <https://leanpub.com/the-road-to-learn-react>
- Awesome React - <https://github.com/enaqx/awesome-react>
- <https://reactjs.org/tutorial/tutorial.html>
- <https://reactjs.org/docs/hello-world.html>
- <https://reactjs.org/docs/introducing-jsx.html>
- <https://reacttraining.com/react-router/web/guides/philosophy>
- <https://github.com/enaqx/awesome-react#react-general-tutorials>
- <https://mobx.js.org/> or <https://redux.js.org/introduction>
- <https://scrimba.com/g/glearnreact>